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Patricia L. Sawyer

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Patricia L. Sawyer Langley Research Center Hampton, Virginia



Scientific and Technical Information Office

SUMMARY

A numerical procedure has been developed to determine geometric view factors between connected infinite strips occluded by any number of infinite circular cylinders. The procedure requires a two-dimensional cross-sectional model of the configuration of interest. The two-dimensional model consists of a convex polygon enclosing any number of circles. Each side of the polygon represents one strip, and each circle represents a circular cylinder. A description and listing of a computer program based on this procedure are included in this report. The program calculates geometric view factors between individual strips and between individual strips and the collection of occluding cylinders.

INTRODUCTION

Most comprehensive thermal analyzers which deal with radiation (such as MITAS (ref. 1)) require, as part of their input, geometric view factors which define the fraction of radiant energy emanating from one surface and intercepted by another. Reliable computer programs (such as CONFAC II (ref. 2)) are available for calculating geometric view factors for many complex configurations, and geometric view factors for simple configurations can be obtained from tables or calculated by hand. However, a simple method is not currently available for calculating geometric view factors for surfaces occluded by multiple arbitrarily located circular cylinders. This configuration is frequently encountered in heater arrays with tubular elements and can be analyzed with sufficient accuracy for many applications by using a two-dimensional model.

This report describes a numerical procedure to determine geometric view factors between connected infinite strips that enclose any number of arbitrarily located circular cylinders. The computer program which performs the computation and its input requirements are described, and a demonstration problem and a listing of the program are included.

SYMBOLS

Values are given in both SI and U.S. Customary Units. The measurements and calculations were made in U.S. Customary Units.

- C center of tube
- C_{V-J} configuration factor from view point V to region J
- D₁,D₂ two endpoints of destination region
- D₁D₂ destination region
- F_{I-J} geometric view factor from region I to region J

М	distance in x-direction from view point to center of occluding tube
N	distance in y-direction from view point to center of occluding tube
N _{reg}	number of regions
Nvp	number of view points in region
→ n	vector normal to source region at view point
P1, P2	two endpoints of unshadowed portion of destination region
P ₁ P ₂	unshadowed portion of destination region
r	radius of tube
s ₁ ,s ₂	two endpoints of source region
$\overline{s_1s_2}$	source region
T ₁ ,T ₂	two points of tangency
V	view point
X,Y	global axis system
x'	line passing through view point parallel to X-axis
Y'	line passing through view point parallel to Y-axis
x,y	global coordinates
α	angle formed by normal to source region at view point and $\overline{\mathrm{VP}_1}$, measured clockwise
α2	angle formed by normal to source region at view point and $\overline{\text{VP}_2}$, measured counterclockwise
$\theta_{\mathbf{C}}$	angle from X' to \overline{VC}
θ _n	angle from X' to n
θ _{Ρ1}	angle from X' to $\overline{VP_1}$
$\theta_{\mathbf{P_2}}$	angle from X' to $\overline{VP_2}$
$\theta_{\mathbf{T_1}}$	angle from X' to $\overline{VT_1}$
$\theta_{\mathbf{T_2}}$	angle from X' to $\overline{VT_2}$
Δθ	$= \theta_{C} - \theta_{T_{1}}$

Subscripts:

- D destination region
- S source region
- T tubes
- V view point

GENERAL DESCRIPTION OF NUMERICAL PROCEDURE

A numerical procedure was developed to compute geometric view factors between connected infinite strips that enclose any number of arbitrarily located circular cylinders. The procedure requires a two-dimensional cross-sectional model of the configuration of interest. The two-dimensional model consists of a convex polygon enclosing any number of circles, hereafter called tubes. Each side of the polygon represents one strip, and the tubes represent the circular cylinders. Any number of strips and cylinders may be defined in the model with no change to the computer program itself, because computer memory is dynamically allocated according to problem size. There is, of course, a maximum number of strips and tubes that may be analyzed within the user's computer memory allotment.

ANALYSIS

The geometric view factors required as input in most comprehensive thermal analyzers may be approximated for many applications by geometric view factors based on a two-dimensional cross-sectional model of the configuration of interest. A typical cross-sectional model of a pentagonal enclosure with three arbitrarily located circular cylinders is illustrated in figure 1. In the two-dimensional analysis, geometric view factors are required from each side of the pentagon to each remaining side and also from each side to the collection of circles. Since a geometric view factor represents the fraction of radiant energy emanating from one region which is intercepted by another, one side of the model must be considered a "source" region while all others are in turn considered "destination" regions. In figure 1, region S_1S_2 is the source region, region D_1D_2 is the destination region, and the geometric view factor

The equation for this geometric view factor involves an integration over the source region, which is performed using a closed-form approach when occlusion is not present. In complicated configurations, however, the integration is performed by dividing the source region into a finite number of subregions and averaging the geometric view factors from all subregions. The energy emanating from each of the subregions is considered constant over that subregion, so a representative point, called a view point, at the center of the subregion may be used as the energy source in the computation. The fraction of total energy emanating from this view point which is intercepted by the destination region is called the configuration factor from the point to the

region. Hence, the geometric view factor from a source region to a destination region is the average of configuration factors from a finite number of view points spaced evenly along the source region. The number of view points used in computation may be increased to improve the accuracy of the resulting geometric view factor.

When there is no occlusion between source and destination regions, this computation is relatively simple to perform. If no tubes are present in the triangle formed by the view point and the endpoints of the destination region, then the destination region receives all radiant energy cast in its direction from the view point. If tubes are present in the triangle, however, the tubes intercept a fraction of this energy, and the configuration factor to that destination region is proportionately reduced. The triangle formed by the view point and the ends of the destination region is called the look wedge. When occlusions are present, the configuration factor from a view point to the destination region is equal to the sum of the configuration factors from that view point to each unshadowed portion of the destination region. In figure 1, the occluding tubes obscure only the ends of the destination region; therefore, only one unshadowed portion must be considered. An unshadowed portion within a look wedge is always defined by the edges of the look wedge or by lines tangent to occluding tubes from the view point.

To determine which tubes lie inside the look wedge, angles from X' to the lines from the view point to the two points of tangency must be computed. Figure 2 shows the geometry used to compute the angles θ_{T_1} and θ_{T_2} to the tangent lines. In the figure, M represents the distance in the x-direction from V to the center C of the tube, N represents the distance in the y-direction, and r is the radius of the tube. By trigonometric manipulation,

$$\cos \theta_{T_1} = \frac{M\sqrt{M^2 + N^2 - r^2} + rN}{M^2 + N^2}$$

and

$$\cos \theta_{\rm T_2} = \frac{M\sqrt{M^2 + N^2 - r^2} - rN}{M^2 + N^2}$$

These cosines and the corresponding sines are used to compute the two angles. A comparison of the angles defining the look wedge and the angles to the tangent lines of each tube identifies occluding tubes for the look wedge. These angles are then used to define the unshadowed portions of the destination region to which the configuration factors must be computed.

A configuration factor $C_{V-\overline{P_1P_2}}$ from a view point V on a source region to an unshadowed region $\overline{P_1P_2}$ may be computed according to the following formula (ref. 3, p. 141):

$$C_{V-\overline{P_1P_2}} = \frac{1}{2} (\sin \alpha_1 + \sin \alpha_2)$$

where α_1 and α_2 are angles formed by the normal to the source region at V and lines connecting V and the two ends of region P_1P_2 . Angle α_1 is measured clockwise from the normal and α_2 is measured counterclockwise. Figure 3 illustrates the angles necessary for the computation of this configuration factor.

For each view point, configuration factors from the view point to all unshadowed portions of the destination region are summed to obtain the configuration factor C_{V-D} from the view point to the destination region. The mean of configuration factors from all view points in the source region is the geometric view factor F_{S-D} from the source region to the destination region; that is,

$$\mathbf{F}_{S-D} = \frac{1}{N_{VP}} \sum_{V=1}^{N_{VP}} C_{V-D}$$

37

where N_{vp} is the number of view points in the source region. A geometric view factor is computed in a similar manner for every source and destination region within the enclosure. The energy conservation principle dictates that

$$\sum_{D=1}^{N_{reg}} F_{S-D} + F_{S-T} = 1$$

where N_{reg} is the number of regions defined in the polygonal model. Therefore, the view factor F_{S-T} from the source region to the collection of occluding tubes may also be calculated.

This analysis may be generalized for nonconvex arrangements of regions. In this case, the possibility of occluding regions as well as occluding tubes must be taken into consideration, but the concept of summation of configuration factors to unshadowed regions remains the same.

IMPLEMENTATION OF NUMERICAL PROCEDURE

Computer Program

Program VIEWFAC computes geometric view factors according to the analysis just described. It was written in FORTRAN Extended 4.6 language for a Control Data CYBER computer under network operating system (NOS) 1.2. The program occupies 22076 octal locations in memory, and additional memory is required for the storage of arrays of problem-related data. The dynamic allocation of blank common allows the user to specify memory requirements as a function of the problem size according to the following formula:

 $(Memory required)_8 \approx 22076_8 + ((No. of regions)^2 + 5(No. of regions + No. of tubes))_8$

A simplified flow chart of program VIEWFAC is shown in figure 4. Input data required by the program are (1) the number of regions and tubes in the model, (2) coordinates of the endpoints of each region, (3) the number of subregions into which each region is to be divided, (4) coordinates of each tube center, and (5) the radius of each tube. Details of data input are given in appendix A, and a listing of the program is presented in appendix B. The program prints out the input data, computed geometric view factors, and also an area-weighted geometric view factor (AF), which may be used to check reciprocity within the model.

Many check cases were used to verify the computer program; two of them are shown in figure 5. The reciprocity between regions was demonstrated with the check case shown in figure 5(a) in which there were no occluding tubes present. The check case in figure 5(b) verified the detection of an occluding tube and the subsequent computation of configuration factors to unoccluded subregions. These cases are simple enough to be analyzed with a hand calculator in order to check the values generated by the program.

Demonstration Problem

The problem chosen to demonstrate the use of program VIEWFAC is one configuration of a quartz-lamp radiant heater currently in use in thermal structures research at the Langley Research Center. (See fig. 6.) The heater consists of an array of quartz lamps. The arrangement of the lamps - number of lamps, distance between lamps, and number of rows of lamps - may be varied according to the particular application. In the demonstration problem, 41 pairs of lamps were arranged in a single row, and a cross section of half of the symmetric array (41 lamps) was modeled for the analysis.

The area surrounding the array was divided into regions. The purpose of the heater analysis was to determine the heat flux uniformity near the ends of the array; therefore, the area near the end was modeled in more detail. Figure 6(a) shows the region definitions, and figure 6(b) shows the position of the row of lamps between the upper and lower regions. Region 22, located along the line of symmetry, actually represented the half of the heater which was not modeled for analysis. In the demonstration problem, all regions were divided into 10 subregions, except regions 10 and 20 which were divided into 120 subregions because of their longer length. A listing of program input and output for this problem is included in appendix C. Figure 7 shows the effect of occlusion by the tubes on the geometric view factors from a typical lower region, region 4, to upper regions. The difference in the values with and without occlusion is a measure of the amount of energy intercepted by the tubes between region 4 and the upper regions.

For each region I,

 $(Area_{I})(View Factor_{I-Lamps}) = (Area_{Lamps})(View Factor_{Lamps-I})$

Therefore, the geometric view factors from each region to the lamps are also an indication of the amount of radiant energy that each region receives from the lamps. A comparison of these values indicated that the amount of radiant energy received from the lamps near the end of the heater was significantly less than that received nearer the center line. These results are shown graphically in figure 8.

CONCLUDING REMARKS

A numerical procedure has been developed to determine geometric view factors between connected infinite strips occluded by any number of infinite, arbitrarily located, circular cylinders. A description of the procedure, a listing of the computer program based on this procedure, and a discussion of a demonstration problem are given. Taking into account possible occlusion by the cylinders, the computer program calculates the geometric view factors between the individual strips. The program also calculates the geometric view factors between the individual strips and the collection of occluding cylinders.

Langley Research Center National Aeronautics and Space Administration Hampton, VA 23665 July 19, 1978

APPENDIX A

INPUT REQUIRED FOR PROGRAM VIEWFAC

The input data for program VIEWFAC are defined in this appendix. The list-directed read capability of FORTRAN is used for all input; therefore, data values on each card must be separated by commas or blanks and may be positioned anywhere within the 80 columns. Real-type data values must contain a decimal point. A data value must be input for every variable read; a blank card or field does not cause variables to be set to zero.

Input cards are of the following five types and must appear in the order discussed:

- The <u>configuration card</u> contains one value (NCONFIG, an integer-type variable) which specifies the number of configurations to be analyzed. For each configuration, a set of the following four types of cards must be input.
- The <u>title card</u> contains up to 80 characters describing the configuration to be analyzed. This card may be blank but must be present.
- The <u>problem-size card</u> contains two values (NREG and NTUBE, integer-type variables) specifying the number of regions and tubes to be defined in this configuration. If no tubes are present in the configuration, a zero may be input for NTUBE.
- A <u>region-definition card</u> must be input for each region defined in the configuration. Each card contains five values:
 - The x-coordinate of the first endpoint of the region (REGX), a realtype variable).
 - (2) The y-coordinate of the first endpoint of the region (REGY1, a realtype variable).
 - (3) The x-coordinate of the second endpoint of the region (REGX2, a realtype variable).
 - (4) The y-coordinate of the second endpoint of the region (REGY2, a realtype variable).
 - (5) The number of subregions into which the region is to be divided (IDELREG, an integer-type variable). A view point is automatically located at the midpoint of each subregion during the computation of the configuration factor for the region.

Either end of the region may be designated the first end. The x- and y-coordinates of the endpoints are relative to a global origin defined by the user for the entire configuration.

- A <u>tube-definition card</u> must be input for each tube defined in the configuration. Each card contains three values:
 - (1) The x-coordinate of the center of the tube (TUBX, a real-type variable).
 - (2) The y-coordinate of the center of the tube (TUBY, a real-type variable).
 - (3) The radius of the tube (TUBRAD, a real-type variable).

The x- and y-coordinates at the center of the tube are also relative to the global origin defined by the user. If NTUBE is input as zero on the problem-size card, no tube-definition cards should be input.

A listing of input for a demonstration problem is contained in appendix C.

LISTING OF PROGRAM VIEWFAC

```
PROGRAM VIEWFAC(INPUT, OUTPUT)
C
С
   THIS PROGRAM CALCULATES VIEW FACTORS FROM ONE REGION
С
    TO ANOTHER WHEN THE SECOND SURFACE MAY BE OCCLUDED
С
    BY ONE OR MORE ROUND OBJECTS
C
      COMMON /CON/ PI
      COMMON /POINTER/ KREGX1, KREGY1, KREGX2, KREGY2, KDELREG, KTUBX, KTUBY,
        KTUBRAD, KTUBIN, KVFRE
      COMMON /LIMITS/ NCONFIG, NREG, NTUBE, TITLE(8)
      COMMON ICORE(1)
      DIMENSION CORE(1)
      EQUIVALENCE (CORE, ICORE)
С
C CALCULATE CONSTANTS
      PI = ACOS(-1.)
C
C CONFIGURATION CASE LOOP
      READ *,NCONFIG
      DD 100 I=1, NCONFIG
      CALL PROBSIZ
      CALL INPUT (CORE(KREGX1),CORE(KREGY1),CORE(KREGX2),CORE(KREGY2),
        ICORE(KDELREG), CORE(KTUBX), CORE(KTUBY), CORE(KTUBRAD))
      CALL FACTOR (CORE(KREGX1), CORE(KREGY1), CORE(KREGX2), CORE(KREGY2),
        ICORE(KDELREG), CORE(KTUBX), CORE(KTUBY), CORE(KTUBRAD),
     •
        CORE(KTUBIN), CORE(KVFRE), NREG, NTUBE)
      CALL PRINT (CORE(KVFRE), NREG, CORE(KREGX1), CORE(KREGY1),
       CORE(KREGX2),CORE(KREGY2))
 100 CONTINUE
С
      STOP
      END
```

```
SUBROUTINE FACTOR (REGX1, REGY1, REGX2, REGY2, IDELREG, TUBX, TUBY,
     TUBRAD, TUBIN, VFRE, NREG, NTUBE)
C
С
   THIS SUBROUTINE CALCULATES VIEW FACTORS FROM EACH REGION TO
C
    ALL OTHER REGIONS
C
      DIMENSION VFRE(NREG,1)
      DIMENSION REGX1(1), REGX2(1), REGY1(1), REGY2(1), TUBX(1), TUBY(1)
      DIMENSION IDELREG(1)
      DIMENSION TUBRAD(1)
      DIMENSION TUBIN(3,1)
С
C LOOP ON SOURCE REGION
      DD 300 ISREG=1, NREG
      NVP=IDELREG(ISREG)
C
С
 LOOP ON DESTINATION REGION
      DO 200 IDREG=1, NREG
С
  DO NOT COMPUTE VF FROM ELEMENT TO ITSELF
С
      VFRE(ISREG, IDREG)=0.
      IF (IDREG.EQ.ISREG) GDTD 200
      VFVPSUM=0.
С
 LOOP ON VIEW POINT
С
      DO 100 IVP=1,NVP
C
C
 FIND COORDINATES OF CURRENT VIEW POINT IN SOURCE REGION
С
   AND ANGLE TO NORMAL OF SOURCE REGION
      CALL VPINFD (REGX1(ISREG), REGY1(ISREG), REGX2(ISREG), REGY2(ISREG),
     NVP, IVP, XP, YP, SNORM)
С
С
 FIND ANGLES FROM VIEW POINT TO ENDS OF DESTINATION REGION
      CALL LOOKWDG (XP,YP,REGX1(IDREG),REGY1(IDREG),REGX2(IDREG),
        REGY2(IDREG), ANG1, ANG2)
С
С
 CHECK IF VIEW POINT AND DESTINATION REGION ARE COLINEAR
      IF (ANG2-ANG1.LE.1.E-10) GOTO 200
C
C
 IDENTIFY TUBES IN LOOK WEDGE, COMPUTE ANGLES TO THEM, AND ORDER THEM
      CALL TUBID (XP, YP, ANG1, ANG2, TUBX, TUBY, TUBRAD, TUBIN, NTUBIN)
C
C
   TEST FOR TOTAL OCCLUSION FROM THIS VIEW POINT
      IF (NTUBIN.LE.NTUBE) GOTO 50
      VFVPVAL=0.
      GOTO 60
С
 COMPUTE VIEW FACTOR CONTRIBUTION FROM CURRENT VIEW POINT
   50 CALL VFVP (TUBIN, VFVPVAL, NTUBIN, ANG1, ANG2, SNORM)
   60 VFVPSUM=VFVPSUM+VFVPVAL
  100 CONTINUE
      VFRE(ISREG, IDREG) = VFVPSUM/FLOAT(NVP)
  200 CONTINUE
  300 CONTINUE
С
      RETURN
      END
```

```
SUBROUTINE INPUT (REGX1, REGY1, REGX2, REGY2, IDELREG, TUBX, TUBY,
       TUBRAD)
C
   THIS SUBROUTINE DEFINES AND PRINTS CONFIGURATIONS OF
                                                                   1
C
C
    REGIONS AND TUBES
C
      COMMON /LIMITS/ NCONFIG, NREG, NTUBE, TITLE(8)
      DIMENSION REGX1(1), REGX2(1), REGY1(1), REGY2(1), TUBX(1), TUBY(1)
      DIMENSION IDELREG(1)
      DIMENSION TUBRAD(1)
C
 REGION DEFINITION
С
      DO 10 I=1, NREG
      READ *, REGX1(I), REGY1(I), REGX2(I), REGY2(I), IDELREG(I)
   10 CONTINUE
C
C TUBE DEFINITION
      IF (NTUBE.EQ.0) GOTO 25
      DO 20 I=1, NTUBE
      READ *, TUBX(I),TUBY(I),TUBRAD(I)
   20 CONTINUE
С
C PRINT
   25 PRINT 1000
 1000 FORMAT (1X,27HCONFIGURATION DEFINITION:
        //28x,4HEND1,36x,4HEND2,19x,10HND. REGION /
     • 2X, 8HREG. NO., 7X, 8HX-COORD., 12X, 8HY-COORD.,

    12X,8HX-COORD., 12X,8HY-COORD.,

     • 6X, 10HINCREMENTS /)
      DO 30 I=1.NREG
      PRINT 1001, I, REGX1(I), REGY1(I), REGX2(I), REGY2(I), IDELREG(I)
 1001 FORMAT (3X, I5, 5X, F15, 5, 5X, F15, 5, 5X, F15, 5, 5X, F15, 5, 5X, I5)
   30 CONTINUE
      IF (NTUBE.EQ.0) GOTO 50
      PRINT 1002
 1002 FORMAT (/28X, 6HCENTER /2X, 8HTUBE NO.,7X,8HX-COORD.,12X,
        8HY-COORD.,13X,6HRADIUS/)
     .
      DO 40 I=1,NTUBE
      PRINT 1003,I,TUBX(I),TUBY(I),TUBRAD(I)
 1003 FORMAT (3X, 15, 5X, F15, 5, 5X, F15, 5, 5X, F15, 5)
   40 CONTINUE
C
   50 RETURN
      END
```

```
SUBROUTINE LOCATE (XP, YP, TX, TY, TRAD, ANGT1, ANGT2)
C
С
  THIS SUBROUTINE COMPUTES THE ANGLES FROM THE CURRENT VIEW POINT TO
С
   THE CURRENT TUBE RADIUS
С
      COMMON /CON/ PI
С
C COMPUTE COSINES
      DISTX=TX-XP
      DISTY=TY-YP
      DISTX2=DISTX+DISTX
      DISTY2=DISTY=DISTY
      TRAD2=TRAD+TRAD
      RAD=SQRT(DISTX2+DISTY2-TRAD2)
С
   TEST FOR TUBE TOUCHING VIEW POINT
      IF (RAD.LT.(1.E-10)) GOTO 10
      TERM1=(DISTX=RAD)/(DISTX2+DISTY2)
      TERM2 = (TRAD*DISTY)/(DISTX2+DISTY2)
      COST1=TERM1+TERM2
      COST2=TERM1-TERM2
      SINT1=(DISTY-TRAD*COST1)/RAD
      SINT2=(DISTY+TRAD+CUST2)/RAD
Ĉ
C COMPUTE ANGLES
      ANGT1=ACOS(COST1)
      ANGT2 = ACOS(COST2)
      IF (SINT1.LT.O.) ANGT1=PI+PI-ANGT1
      IF (SINT2.LT.O.) ANGT2=PI+PI-ANGT2
      GOTO 20
С
   IF TUBE IS TOUCHING VIEW POINT, SET BOTH ANGLES=0.
C
   10 ANGT1=0.
      ANGT2=0.
      GOTO 30
С
Ĉ
 ORDER ANGLES
   20 IF (ANGT1.LT.ANGT2) RETURN
      DUM = ANGT1
      ANGT1=ANGT2
      ANGT2=DUM
С
C
   CHECK FOR ANGLE ASTRIDE X AXIS
      IF ((ANGT2-ANGT1).LT.PI) GOTO 30
      DUM = ANGT2
      ANGT2=PI+PI+ANGT1
      ANGT1 = DUM
С
   30 RETURN
      END
```

```
SUBROUTINE LOOKWDG(XP, YP, X1, Y1, X2, Y2, ANG1, ANG2)
С
 THIS SUBROUTINE CALCULATES THE ANGLES FORMING THE
С
   LOOK WEDGE FROM THE CURRENT VIEW POINT TO THE DESTINATION ELEMENT
C
С
      COMMON /CON/ PI
Ĉ
C
 ANGLE TO FIRST EDGE
      DELX = X1 - XP
      DELY=Y1-YP
      DENOM=SQRT(DELX+DELX+DELY+DELY)
      COS1=DELX/DENOM
      SIN1=DELY/DENOM
      ANG1=ACOS(COS1)
      IF (SIN1.LT.O.) ANG1=PI+PI-ANG1
С
C ANGLE TO SECOND EDGE
      DELX=X2-XP
      DELY=Y2-YP
      DENOM=SQRT(DELX+DELX+DELY+DELY)
      COS2=DELX/DENOM
      SIN2=DELY/DENOM
      ANG2 = ACOS(COS2)
      IF (SIN2.LT.O.) ANG2=PI+PI-ANG2
С
С
 ORDER ANGLES
      IF (ANG1.LT.ANG2) GOTO 10
      DUM=ANG1
      ANG1=ANG2
      ANG2=DUM
С
   CHECK FOR ANGLE ASTRIDE X AXIS
С
   10 IF ((ANG2-ANG1).LT.PI) RETURN
      DUM=ANG2
      ANG2=PI+PI+ANG1
      ANG1=DUM
С
      RETURN
      END
```

•

```
SUBROUTINE PRINT (VFRE, NREG, REGX1, REGY1, REGX2, REGY2)
С
С
 THIS SUBROUTINE PRINTS VIEW FACTORS FROM EACH REGION TO ALL OF THE
С
   OTHERS, AND TO THE TUBES
С
      DIMENSION REGX1(1), REGX2(1), REGY1(1), REGY2(1)
      DIMENSION VFRE(NREG, 1)
С
      PRINT 1000
 1000 FORMAT (1H1)
      DD 200 ISREG=1, NREG
      PRINT 1001, ISPEG
 1001 FORMAT (/1X,25HVIEW FACTORS FROM REGION ,13)
      SAREA=SQRT(((REGX1(ISREG)-REGX2(ISREG))**2)+((REGY1(ISREG)-
     •
        REGY2(ISREG))**2))
      SUM=0.
      DO 100 IDREG=1,NREG
      AF=SAREA*VFRE(ISREG, IDREG)
      PRINT 1002, IDREG, VFRE(ISREG, IDREG), AF
 1002 FORMAT (5X,10HTO REGION ,13,2H= ,F8.5,6H, AF= ,F15.5)
      SUM=SUM+VFRE(ISREG,IDREG)
  100 CONTINUE
      AFS=SAREA*SUM
      VFTUB=1.-SUM
      AFT=VFTUB+SAREA
      PRINT 1003, SUM, AFS, VFTUB, AFT
 1003 FORMAT (5X,18HTO ALL ELEMENTS = ,F9.5,6H AF= ,F15.5/
     • 5X,11HTO TUBES = ,F8.5,7H, AF= ,F15.5)
  200 CONTINUE
C
      RETURN
      END
```

```
SUBROUTINE PROBSIZ
С
C
   THIS SUBROUTINE DEFINES THE SIZE OF THE PROBLEM
С
    AND FIXES POINTERS TO BEGINNING LOCATIONS OF THE
С
    ARRAYS NEEDED FOR COMPUTATIONS
C
      COMMON /POINTER/ KREGX1, KREGY1, KREGX2, KREGY2, KDELREG, KTUBX, KTUBY,
     KTUBRAD, KTUBIN, KVFRE
      COMMON /LIMITS/ NCONFIG, NREG, NTUBE, TITLE(8)
C
C CASE TITLE
      READ 1000, TITLE
 1000 FORMAT (8A10)
      PRINT 1001, (TITLE(I), I=1,8)
 1001 FORMAT (1H1, 7HCASE: ,8A10/1X,5H----,//)
С
C LIMITS
      READ *, NREG, NTUBE
      PRINT 1002, NREG, NTUBE
 1002 FORMAT (1X, 16HNO. OF REGIONS= , 15, /1X, 14HNO. OF TUBES= , 15//)
C
C ARRAY POINTERS FOR DYNAMIC CORE ALLOCATION
      KREGX1=1
      KREGY1=KREGX1+NREG
      KREGX2=KREGY1+NREG
      KREGY2=KREGX2+NREG
      KDELREG=KREGY2+NREG
      KTUBX=KDELREG +NREG
      KTUBY=KTUBX+NTUBE
      KTUBRAD=KTUBY+NTUBE
      KTUBIN=KTUBRAD+NTUBE
      KVFRE=KTUBIN+(NTUBE*3)
C
      RETURN
      END
```

```
SUBROUTINE RSORT (NROW, NCOL, ISC, B)
С
С
   THIS SUBROUTINE PERFORMS A KEY BUBBLE SORT,
С
    ORDERING THE COLUMNS IN INCREASING ORDER
    ACCORDING TO THE VALUES IN A KEY ROW
С
C
      DIMENSION B(NROW, NCOL)
С
С
   TEST FOR TRIVIAL CASE OF ONE COLUMN
      IF (NCOL.EQ.1) RETURN
С
С
   SORT
      NSRT=NCOL-1
      DO 100 I=1, NSRT
      IEND=NCOL+1-I
      DO 50 J=2, IEND
      ITEST=J-1
      IF (B(ISC, J).GE.B(ISC, ITEST)) GOTO 50
      DO 20 K=1, NROW
      SAVE=B(K,J)
       B(K_{J}) = B(K_{J}) = TEST
       B(K, ITEST)=SAVE
   20 CONTINUE
   50 CONTINUE
  100 CONTINUE
Ĉ
       RETURN
       END
      SUBROUTINE SUMMER (VFVPVAL, ANG1, ANG2, SNORM)
С
C
   THIS SUBROUTINE SUMS SINES OF ANGLES FORMED BY THE
С
    NORMAL TO THE SOURCE REGION AND THE EDGES OF THE
С
    DESTINATION REGION
С
      COMMON /CON/ PI
C
      IF ((ANG1.LE.SNORM).AND.(ANG2.GE.SNORM)) GOTD 10
C
C
   NORMAL LIES DUTSIDE TWD ANGLES
      PHI1=ABS(ANG1-SNORM)
      PHI2=2.*PI-ABS(ANG2-SNURM)
      GOTO 20
С
C
   NORMAL LIES BETWEEN TWO ANGLES
   10 PHI1=ABS(ANG1-SNORM)
      PHI2=ABS(ANG2-SNORM)
C
   20 SINTERM=SIN(PHI1)+SIN(PHI2)
      VFVPVAL=VFVPVAL+.5*ABS(SINTERM)
С
      RETURN
      END
```

```
SUBROUTINE TUBID (XP, YP, ANG1, ANG2, TUBX, TUBY, TUBRAD, TUBIN, NTUBIN)
С
C THIS SUBROUTINE IDENTIFIES TUBES IN THE CURRENT LOOK WEDGE AND SORTS
С
   THEM ACCORDING TO THEIR POSITION IN THE WEDGE
С
      COMMON /LIMITS/ NCONFIG, NREG, NTUBE, TITLE(8)
      COMMON /CON/ PI
      DIMENSION TUBIN(3,1)
      DIMENSION TUBRAD(1)
      DIMENSION TUBX(1), TUBY(1)
С
C IDENTIFY TUBES IN THE LOOK WEDGE
      NTUBIN=0
      IF (NTUBE.EQ.0) GOTO 20
      DO 10 ITUBE=1,NTUBE
      CALL LOCATE (XP,YP,TUBX(ITUBE),TUBY(ITUBE),TUBRAD(ITUBE),ANGT1,

    ANGT2)

С
   TEST FOR TOTAL OCCLUSION
С
      IF ((ANGT1.EQ.ANGT2).AND.(ANGT1.EQ.O.)) GOTO 15
C
С
   ADJUST FOR ONE OR MORE ANGLES ASTRIDE X AXIS
      IF ((ANG2.GE.(PI+PI)).AND.(ANGT1.LT.(ANG2-(PI+PI))))GOTO 2
      IF ((ANG2.LT.(PI+PI)).AND.(ANGT2.GT.(PI+PI))) GOTO 3
      GOTO 5
С
С
   LOOK WEDGE ASTRIDE X AXIS, TUBE IS IN WEDGE BUT NOT ASTRIDE
    2 ANGT1=PI+PI+ANGT1
      ANGT2=PI+PI+ANGT2
      GOTO 5
С
С
   TUBE ASTRIDE X AXIS, LOOK WEDGE NOT ASTRIDE
    3 ANGT1=0.
      ANGT2=ANGT2-(PI+PI)
C
С
   COMPARE ANGLES AND LOAD TABLE OF OCCLUDING TUBES
    5 IF (ANGT1.GT.ANG2) GOTO 10
      IF (ANGT2.LT.ANG1) GDTO 10
      NTUBIN = NTUBIN+1
      TUBIN(1,NTUBIN)=ITUBE
      TUBIN(2,NTUBIN)=ANGT1
      TUBIN(3, NTUBIN) = ANGT2
   10 CONTINUE
С
C SORT TABLE OF TUBES AND ANGLES
      IF (NTUBIN.LE.1) GOTO 20
      CALL RSDRT (3, NTUBIN, 2, TUBIN)
      GOTO 20
С
С
   TOTAL OCCLUSION DUE TO TUBE TOUCHING VIEW POINT.
   SET NTUBIN.LT.NTUBE TO FLAG THIS.
С
   15 NTUBIN≠NTUBE+1
С
   20 RETURN
      END
```

```
SUBROUTINE VFVP (TUBIN, VFVPVAL, NTUBIN, ANG1, ANG2, SNORM)
С
C THIS SUBROUTINE COMPUTES THE CONTRIBUTION OF THE CURRENT VIEW POINT
   TO THE VIEW FACTOR FROM THE CURRENT SOURCE REGION TO THE CURRENT
С
С
   DESTINATION REGION
С
      DIMENSION TUBIN(3,1)
С
   INITIALIZE SUM
С
      VFVPVAL=0.
С
C EXAMINE EACH TUBE IN LOOK WEDGE
      IF (NTUBIN.NE.O) GOTO 10
      CALL SUMMER (VFVPVAL, ANG1, ANG2, SNORM)
      GOTO 200
   10 DO 100 IT=1, NTUBIN
      ANGT1=TUBIN(2,IT)
      ANGT2=TUBIN(3,IT)
      IF ((ANGT1.LE.ANG1).AND.(ANGT2.LE.ANG1)) GUTO 100
      IF ((ANGT1.LE.ANG1).AND.(ANGT2.GE.ANG2)) GOTO 200
      IF ((ANGT1.GT.ANG1).AND.(ANGT2.LT.ANG2)) GDTD 50
      IF ((ANGT1.LE.ANG1).AND.(ANGT2.LT.ANG2)) GOTO 60
      IF ((ANGT1.GT.ANG1).AND.(ANGT2.GE.ANG2)) GOTO 70
С
 TUBE IS TOTALLY WITHIN LOOK WEDGE
С
   50 CALL SUMMER (VFVPVAL, ANG1, ANGT1, SNORM)
      ANG1 = ANGT2
      GOTO 100
C
C TUBE OCCLUDES FIRST PART OF LOOK WEDGE
   60 ANG1=ANGT2
      GOTO 100
С
C TUBE OCCLUDES LAST PART OF LOOK WEDGE
   70 CALL SUMMER (VEVPVAL, ANG1, ANGT1, SNORM)
      GOTO 200
  100 CONTINUE
   ADD IN CONTRIBUTION FROM LAST PART OF LOOK WEDGE
С
      CALL SUMMER (VFVPVAL, ANG1, ANG2, SNORM)
C
  200 RETURN
      END
```

```
SUBROUTINE VPINFO (X1,Y1,X2,Y2,NVP,IVP,XP,YP,SNORM)
С
C THIS SUBROUTINE COMPUTES THE X-Y COORDINATES OF THE CURRENT VIEW POINT
С
      COMMON /CON/ PI
С
      IF (IVP.NE.1) GDTO 100
C
   COMPUTE ANGLE TO NORMAL OF SOURCE REGION
С
      DELX=X2-X1
      DELY=Y2-Y1
      IF (DELY.EQ.O.) GOTU 10
      TANDRM=-DELX/DELY
      SNORM=ATAN(TANORM)
      IF (SNORM.LE.O.) SNORM=PI+SNORM
      GOTO 20
   10 SNORM=PI*.5
С
C COMPUTE X-Y INCREMENT FOR NEW VIEW POINT ON FIRST PASS THROUGH
С
   SUBROUTINE
   20 XINC = (X2 - X1)/FLOAT(NVP)
      YINC=(Y2-Y1)/FLOAT(NVP)
      XP = X1 + XINC * .5
      YP=Y1+YINC+.5
      RETURN
C
  100 XP=XP+XINC
      YP = YP + YINC
C
      RETURN
      END
```

APPENDIX C

DEMONSTRATION PROBLEM

In this appendix, the input required and the printout generated by program VIEWFAC is given for a demonstration problem. The problem is a quartz-lamp radiant heater consisting of an array of 41 pairs of lamps. A two-dimensional model of the heater is shown in figure 6.

A closed area around the lamps was divided into 22 regions. Geometric view factors were computed from each region to each other region, from each region to all other regions, and from each region to the lamps. The view factors were required as input to the MITAS thermal analyzer (ref. 1) used to determine the heat flux near the edges of the heater.

This problem required 23535 octal memory locations and 93.315 seconds of execution time on a Control Data CYBER 173 computer system.

Program Input

Configuration card: 1

TITLE CARD: QUARTZ LAMP RADIANT HEATER, 2-TUBE CONFIGURATION

Problem-size card: 22 41

Region-definition cards:

0. 0).	.75 0.	10	
0.75 (). 1	.95 0.	10	
1.95 (). 3	.15 0.	10	
		.35 0.		
		.55 0.		
		•75 0.		
		.95 0.		
		.15 0.		
		.35 0.		
		24.75		0
		•75		
0.75	2.38	1.95	2.38	10
		3.15		10
		4.35		10
		5.55		
		6.75		
		7.95		
		9.15		
		10.35		
		24.75		
		2.3		
		24.75		

Tube-definition cards:

•53700000	1.62700000	.12300000
.96300000	1.62700000	.12300000
1.73700000	1.62700000	.12300000
2.16300000	1.62700000	.12300000
2.93700000	1.62700000	.12300000
3.36300000	1.62700000	.12300000
4.13700000	1.62700000	.12300000
4.56300000	1.62700000	.12300000
5.33700000	1.62700000	.12300000
5.76300000	1.62700000	.12300000
6.53700000	1.62700000	.12300000
6.96300000	1.62700000	.12300000
7.73700000	1.62700000	.12300000
8.16300000	1.62700000	.12300000
8.93700000	1.62700000	.12300000
9.36300000	1.62700000	.12300000
10.13700000	1.62700000	.12300000
10.56300000	1.62700000	.12300000
11.33700000	1.62700000	•12300000
11.76300000	1.62700000	.12300000
12.53700000	1.62700000	.12300000
12.96300000	1.62700000	.12300000
13.73700000	1.62700000	.12300000
14.16300000	1.62700000	.12300000
14.93700000	1.62700000	.12300000
15.36300000	1.62700000	.12300000
16.13700000	1.62700000	.12300000
16.56300000	1.62700000	.12300000
17.33700000 17.76300000	1.62700000 1.62700000	.12300000
18.53700000	1.62700000	.12300000 .12300000
18.96300000	1.62700000	•12300000
19.73700000	1.62700000	.12300000
20.16300000	1.62700000	.12300000
20.93700000	1.62700000	.12300000
21.36300000	1.62700000	.12300000
22.13700000	1.62700000	.12300000
22.56300000	1.62700000	.12300000
23.33700000	1.62700000	.12300000
23.76300000	1.62700000	.12300000
24.53700000	1.62700000	.12300000

Program Output

CASE: QUARTZ LAMP RADIANT HEATER, 2-TUBE CONFIGURATION

NO. OF REGIONS= 22 NO. OF TUBES= 41

.

,

CONFIGURATION DEFINITION:

	END1	
REG. ND.	X-COORD.	Y-COORD.
1	0.00000	0.00000
2	•75000	0.00000
3	1.95000	0.00000
4	3.15000	0.00000
5	4.35000	0.00000
6	5.55000	0.00000
7	6.75000	0.00000
8	7.95000	0.00000
9	9.15000	0.00000
10	10.35000	0.00000
11	0.00000	2.38000
12	•75000	2.38000
13	1.95000	2.38000
14	3.15000	2.38000
15	4.35000	2.38000
16	5.55000	2.38000
17	6.75000	2.38000
18	7.95000	2.38000
19	9.15000	2.38000
20	10.35000	2.38000
21	0.00000	0.00000
22	24.75000	0.00000

	END2	NO. REGIO	
X-COORD.	Y-COORD	INCREMENT	12
.75000	0.0	0000 10	
1,95000	0.0	0000 10	
3.15000	0.0	0000 10	
4.35000	0.0	0000 10	
5.55000	0.0	0000 10	
6.75000	0.0	0000 10	
7.95000	0.0	0000 10	
9.15000	0.0	0000 10	
10.35000	0.0	0000 10	
24.75000	0.0	0000 120	
• 75000	2.3	8000 10	
1.95000	2.3	8000 10	
3.15000	2.3	8000 10	
4.35000	2.3	8000 10	
5.55000	2.3	8000 10	
6.75000	2 • 3	8000 10	
7.95000	2.3	8000 10	
9.15000		8000 10	
10,35000	2.3	8000 10	
24.75000		8000 120	
0.00000		8000 10	
24.75000	2.3	8000 10	

•

	CENTE	ER	
TUBE NO.	X-COORD.	Y-COORD.	RADIUS
1	• 53700	1.62700	.12300
2	•96300	1.62700	.12300
3	1.73700	1.62700	.12300
4	2.16300	1.62700	.12300
5	2.93700	1.62700	.12300
6	3.36300	1.62700	.12300
7	4.13700	1.62700	.12300
8	4.56300	1.62700	•12300
9	5.33700	1.62700	•12300
10	5.76300	1.62700	.12300
11	6.53700	1.62700	.12300
12	6.96300	1.62700	•12300
13	7.73700	1.62700	•12300
14	8.16300	1.62700	•12300
15	8.93700	1.62700	•12300
16	9.36300	1.62700	.12300
17	10.13700	1.62700	.12300
18	10.56300	1.62700	.12300
19	11.33700	1.62700	•12300
20	11.76300	1.62700	•12300
21	12.53700	1.62700	.12300
22	12.96300	1.62700	.12300
.23	13.73700	1.62700	•12300
24	14.16300	1.62700	.12300
25	14.93700	1.62700	•12300
26	15.36300	1.62700	•12300
27	16.13700	1.62700	•12300
28	16.56300	1.62700	.12300
29	17.33700	1.62700	.12300
30	17.76300	1.62700	.12300
31	18.53700	1.62700	.12300
32	18.96300	1.62700	.12300
33	19.73700	1.62700	.12300
34	20.16300	1.62700	.12300
35	20.93700	1.62700	.12300
36	21.36300	1.62700	.12300
37	22.13700	1.62700	.12300
38	22.56300	1.62700	.12300
39	23.33700	1.62700	.12300
40	23.76300	1.62700	.12300
41	24.53700	1.62700	.12300

VIEW F.	ACTORS F	ROMR	EGION 1		
	REGION	1=	0.00000,	AF=	0.00000
	REGION	2 =	0.00000,	A F =	0.00000
	REGION	3 =	0.00000,	AF=	0.00000
	REGION	4 =	0.00000,	AF=	0.00000
	REGION	5 =	0.00000,	AF =	0.00000
	REGION	6 =	0.00000,	AF=	0.00000
	REGION	7=	0.00000,	AF=	0.00000
	REGION	8 =	0.00000,	AF=	0.00000
	REGION	9=	0.00000,	AF=	0.00000
	REGION	10=	0.00000,	AF=	0.00000
	REGION	11=	.09347,	AF=	.07010
	REGION	12 =	.11781,	AF=	•08836
	REGION	13=	.03160,	AF=	.02370
	REGION	14=	.02465,	AF=	.01848
	REGION	15=	.00544,	AF=	.00408
	REGION	16=	.00004,	AF=	.00003
	REGION	17=	.00052,	AF=	.00039
TO	REGION	18=	0.00000,	AF=	0.00000
	REGION	19=	0.00000,	AF=	0.00000
		20=	0.00000,	AF=	0.00000
	REGION	21=	.42307,	AF=	• 31731
	REGION		.00097,	AF=	.00072
	ALL ELE				•52317
TO			0244, AF=		• 22683
••		• •			
VIEW F	ACTORS F	R DM R	EGION 2		
	ACTORS F REGION			AF=	0.00000
TO	REGION	1 =	0.00000,	AF= AF=	0.00000
TO To	REGION REGION	1= 2=	0.00000, 0.00000,	AF=	0.00000
TO TO TO	REGION REGION REGION	1= 2= 3=	0.00000, 0.00000, 0.00000,	AF = AF =	0.00000 0.00000
TO TO TO TO	REGION REGION REGION REGION	1= 2= 3= 4=	0.00000, 0.00000, 0.00000, 0.00000,	AF = AF = AF =	0.00000 0.00000 0.00000
TO TO TO TO TO	REGION REGION REGION REGION REGION	1= 2= 3= 4= 5=	0.00000, 0.00000, 0.00000, 0.00000, 0.00000,	AF = AF = AF = AF =	0.00000 0.00000 0.00000 0.00000
TO TO TO TO TO TO	REGION REGION REGION REGION REGION REGION	1= 2= 3= 4= 5= 6=	0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000,	AF = AF = AF = AF = AF =	0.00000 0.00000 0.00000 0.00000 0.00000
TO TO TO TO TO TO	REGION REGION REGION REGION REGION REGION	1= 2= 3= 4= 5= 6= 7=	0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000,	AF = AF = AF = AF = AF = AF =	0.00000 0.00000 0.00000 0.00000 0.00000 0.00000
TO TO TO TO TO TO TO	REGION REGION REGION REGION REGION REGION REGION	1= 2= 3= 4= 5= 6= 7= 8=	0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000,	AF = AF = AF = AF = AF = AF = AF =	0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000
TO TO TO TO TO TO TO TO	REGION REGION REGION REGION REGION REGION REGION REGION	1= 2= 3= 4= 5= 6= 7= 8= 9=	0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000,	AF = AF = AF = AF = AF = AF = AF = AF =	0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000
TO TO TO TO TO TO TO TO	REGION REGION REGION REGION REGION REGION REGION REGION	1= 2= 3= 4= 5= 6= 7= 8= 9= 10=	0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000,	AF = AF = AF = AF = AF = AF = AF = AF =	0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000
TO TO TO TO TO TO TO TO TO	REGION REGION REGION REGION REGION REGION REGION REGION REGION	1= 2= 3= 4= 5= 6= 7= 8= 9= 10= 11=	0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000,	AF = AF = AF = AF = AF = AF = AF = AF =	0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.05617
TO TO TO TO TO TO TO TO TO	REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION	1= 2= 3= 4= 5= 6= 7= 8= 9= 10= 11= 12=	0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.04681, .15461,	AF = AF = AF = AF = AF = AF = AF = AF =	0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.05617 .18553
TO TO TO TO TO TO TO TO TO TO	REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION	1= 2= 3* 4= 5= 6* 7= 8= 9= 10= 11= 12* 13=	0.00000, 0.0000, 0.000, 0.0000, 0.0000, 0.0000, 0.0000, 0.0000, 0.0000, 0.0000, 0.000, 0.000, 0.0000, 0.0000, 0.0000, 0.0000, 0.000, 0.000, 0.000, 0.0000, 0.0000, 0.000,000,	AF = AF = AF = AF = AF = AF = AF = AF =	0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.05617 .18553 .10951
TO TO TO TO TO TO TO TO TO TO TO	REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION	1= 2= 3= 4= 5= 6= 7= 8= 9= 10= 11= 12= 13= 14=	0.00000, 0.0000, 0.000, 0.0000, 0.0000, 0.0000, 0.0000, 0.0000, 0.0000, 0.0000, 0.000, 0.000, 0.0000, 0.0000, 0.0000, 0.0000, 0.000, 0.000, 0.000, 0.0000, 0.0000, 0.0000, 0.0000, 0.000,000,	AF = AF = AF = AF = AF = AF = AF = AF =	0.00000 0.000000
TO TO TO TO TO TO TO TO TO TO TO	REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION	1= 2= 3* 4= 5* 6* 7= 8= 9* 10= 11= 12* 13= 14= 15=	0.00000, 0.0000, 0.000, 0.0000, 0.0000, 0.0000, 0.0000, 0.0000, 0.0000, 0.000, 0.000, 0.0000, 0.0000, 0.0000, 0.0000, 0.0000, 0.0000, 0.000, 0.000, 0.0000, 0.0000, 0.0000, 0.0000, 0.0000, 0.0000, 0.0000, 0.000, 0.000, 0.0000,0000,0000,0000,000,	AF = AF = AF = AF = AF = AF = AF = AF =	0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.05617 .18553 .10951 .03842 .02377
TO TO TO TO TO TO TO TO TO TO TO TO	REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION	1= 2= 3= 4= 5= 6= 7= 8= 9= 10= 11= 12= 13= 14= 15= 16=	0.00000, 0.0000, 0.000, 0.0000, 0.0000, 0.0000, 0.0000, 0.0000, 0.0000, 0.000, 0.000, 0.0000, 0.0000, 0.0000, 0.0000, 0.0000, 0.0000, 0.000, 0.000, 0.0000,0000,0000,0000,0000,000,	AF = AF = AF = AF = AF = AF = AF = AF =	0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.05617 .18553 .10951 .03842 .02377 .00446
TO TO TO TO TO TO TO TO TO TO TO TO	REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION	1= 2= 3= 4= 5= 6= 7= 8= 9= 10= 11= 12= 13= 14= 15= 16= 17=	0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.0126, 0.03202, 0.01981, 0.00371, 0.0050,	AF = = AFF = = = = = = = = = = = = = = = = = =	$\begin{array}{c} 0.00000\\ 0.00000\\ 0.00000\\ 0.00000\\ 0.00000\\ 0.00000\\ 0.00000\\ 0.00000\\ 0.00000\\ 0.00000\\ 0.05617\\ .18553\\ .10951\\ .03842\\ .02377\\ .00446\\ .00060 \end{array}$
TO TO TO TO TO TO TO TO TO TO TO TO TO T	REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION	1= 2= 3= 4= 5= 6= 7= 8= 9= 10= 11= 12= 13= 14= 15= 16= 17= 18=	0.00000, 0.0000, 0.000, 0.0000, 0.0000, 0.0000, 0.0000, 0.0000, 0.0000, 0.000, 0.000, 0.000, 0.0000, 0.0000, 0.0000, 0.000, 0.000, 0.000, 0.0000, 0.0000, 0.000,000,	AF = = = = = = = = = = = = = = = = = = =	$\begin{array}{c} 0.00000\\ 0.00000\\ 0.00000\\ 0.00000\\ 0.00000\\ 0.00000\\ 0.00000\\ 0.00000\\ 0.00000\\ 0.00000\\ 0.05617\\ .18553\\ .10951\\ .03842\\ .02377\\ .00446\\ .00060\\ .00039 \end{array}$
TO TO TO TO TO TO TO TO TO TO TO TO TO T	REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION	1= 2= 3= 4= 5= 6= 7= 8= 9= 10= 11= 12= 13= 14= 15= 16= 17= 18= 19=	0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.4681, .15461, .09126, .03202, .01981, .00371, .00050, .00032, 0.00000,	AF = = AFF = = = = = = = = = = = = = = = = = =	$\begin{array}{c} 0.00000\\ 0.00000\\ 0.00000\\ 0.00000\\ 0.00000\\ 0.00000\\ 0.00000\\ 0.00000\\ 0.00000\\ 0.00000\\ 0.05617\\ .18553\\ .10951\\ .03842\\ .02377\\ .00446\\ .00046\\ .00060\\ .00039\\ 0.00000 \end{array}$
TO TO TO TO TO TO TO TO TO TO TO TO TO T	REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION	1= 2= 3= 4= 5= 6= 7= 8= 9= 10= 11= 12= 13= 14= 15= 16= 17= 18= 19= 20=	0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.4681, .15461, .09126, .03202, .01981, .00371, .00050, .00032, 0.00000,	AF = AF = AF = AF = AF = AF = AF = AF =	$\begin{array}{c} 0.00000\\ 0.00000\\ 0.00000\\ 0.00000\\ 0.00000\\ 0.00000\\ 0.00000\\ 0.00000\\ 0.00000\\ 0.00000\\ 0.05617\\ .18553\\ .10951\\ .03842\\ .02377\\ .00446\\ .00060\\ .00039\\ 0.00000\\ 0.00000\\ \end{array}$
TO TO TO TO TO TO TO TO TO TO TO TO TO T	REGION REGION	1= 2= 3= 4= 5= 6= 7= 8= 9= 10= 11= 12= 13= 14= 15= 16= 17= 18= 19= 20= 21=	0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.24667,	AF== AFF===============================	0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.05617 .18553 .10951 .03842 .02377 .00446 .00060 .00039 0.00000 0.00000 0.00000 .29600
TO TO TO TO TO TO TO TO TO TO TO TO TO T	REGION REGION	1= 2= 3= 4= 5= 6= 7= 8= 9= 10= 11= 12= 13= 14= 15= 16= 17= 18= 19= 20= 21= 22=	0.00000, 0.0000, 0.000, 0.0000, 0.0000, 0.0000, 0.0000, 0.000, 0,000, 0.000,000,	AFF= = = = = = = = = = = = = = = = = = = =	$\begin{array}{c} 0.00000\\ 0.00000\\ 0.00000\\ 0.00000\\ 0.00000\\ 0.00000\\ 0.00000\\ 0.00000\\ 0.00000\\ 0.00000\\ 0.05617\\ .18553\\ .10951\\ .03842\\ .02377\\ .00446\\ .003842\\ .02377\\ .00446\\ .00060\\ .00039\\ 0.00000\\ 0.00000\\ .29600\\ .00126\end{array}$
TO TO TO TO TO TO TO TO TO TO TO TO TO T	REGION REGION	1= 2= 3= 4= 5= 6= 7= 8= 9= 10= 11= 12= 13= 14= 15= 16= 17= 18= 19= 20= 21= 22= MENTS	0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.24667, 00105,	AF = AF = AFF	0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.05617 .18553 .10951 .03842 .02377 .00446 .00060 .00039 0.00000 0.00000 0.00000 .29600

VTEW E	ACTORS P	-	EGION 3		
	REGION	1=	0.00000,	AF=	0.00000
TO	REGION	2 =	0.00000,	AF=	0.00000
TO	REGION	3=	0.00000,	AF=	0.00000
TO	REGION	4 =	0.00000,	AF=	0.00000
TO	REGION	5 =	0.00000,	AF=	0.00000
TO	REGION	6=	0.00000,	AF=	0.00000
TO	REGION		0.00000,	AF=	0.00000
TO	REGION	8 =	0.00000,	AF=	0.00000
TO	REGION	9≖	0.00000,	AF=	0.00000
TO	REGION	10=	0.00000,	AF=	0.00000
TO	REGION	11=	.02955,	AF=	.03546
TO	REGION	12=	.09126,	AF=	.10951
TO	REGION	13=	.15461,	AF=	.18553
TO	REGION	14=	.09126,	AF=	•10951
TO	REGION	15=	.03202,	AF=	.03842
TO	REGION	16=	.01981,	AF=	.02377
TO	REGION	17=	.00371,	AF=	•02377
TO	REGION	18=	.00050,	AF=	•00060
TO	REGION	19=	.00032,	AF=	•00039
TO	REGION	20±	0.00000	AF=	0.00000
TO	REGION	21=	.10253,	AF=	
TO	REGION	22=	•00117,	AF- AF=	•12303 •00140
TO	ALL ELE				
TO					•63209 •56791
10	TUBES =	• • •	7326, AF=		• 30791
VIEW F	ACTORS F	ROMR	EGIDN 4		
	ACTORS F Region	ROM R 1=	EGIDN 4 0.00000,	AF=	0.00000
				AF = AF =	0.00000 0.00000
TO	REGION	1 =	0.00000,		
TO TO	REGION REGION	1= 2=	0.00000 <i>,</i> 0.00000 <i>,</i>	AF=	0.0000
T 0 T 0 T 0	REGION REGION REGION	1= 2= 3=	0.00000 <i>,</i> 0.00000 <i>,</i> 0.00000 <i>,</i>	A F = A F =	0.00000 0.00000
T O T O T O T O	REGION REGION REGION REGION	1 = 2 = 3 = 4 =	0.00000, 0.00000, 0.00000, 0.00000,	AF = AF = AF =	0.00000 0.00000 0.00000
TO TO TO TO TO	REGION REGION REGION REGION REGION	1= 2 * 3 = 4 = 5 =	0.00000, 0.00000, 0.00000, 0.00000, 0.00000,	AF = AF = AF = AF =	0.00000 0.00000 0.00000 0.00000
T 0 T 0 T 0 T 0 T 0 T 0	REGION REGION REGION REGION REGION	1= 2 * 3 * 5 = 6 =	0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000,	AF= AF= AF= AF= AF=	0.00000 0.00000 0.00000 0.00000 0.00000
T 0 T 0 T 0 T 0 T 0 T 0 T 0	REGION REGION REGION REGION REGION REGION	1 = 2 * 3 * 4 = 5 = 6 = 7 =	0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000,	AF= AF= AF= AF= AF= AF=	0.00000 0.00000 0.00000 0.00000 0.00000 0.00000
TO TO TO TO TO TO TO TO	REGION REGION REGION REGION REGION REGION REGION	1= 2 = 3 = 4 = 5 = 6 = 7 = 8 =	0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000,	AF= AF= AF= AF= AF= AF= AF=	0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000
TO TO TO TO TO TO TO TO	REGION REGION REGION REGION REGION REGION REGION	1= 2= 3= 4= 5= 6= 7= 8= 9= 10=	0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000,	AF= AF= AF= AF= AF= AF= AF=	0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000
TO TO TO TO TO TO TO TO TO	REGION REGION REGION REGION REGION REGION REGION REGION	1= 2= 3= 4= 5= 6= 7= 8= 9= 10=	0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000,	AF= AF= AF= AF= AF= AF= AF= AF= AF=	0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000
TO TO TO TO TO TO TO TO TO	REGION REGION REGION REGION REGION REGION REGION REGION REGION	1= 2= 3= 4= 5= 6= 7= 8= 9= 10= 11=	0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000,	AF= AF= AF= AF= AF= AF= AF= AF= AF=	0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.02222
TO TO TO TO TO TO TO TO TO	REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION	1= 2= 3= 4= 5= 6= 7= 8= 9= 10= 11= 12=	0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.01852, .03202,	AF= AF= AF= AF= AF= AF= AF= AF= AF= AF=	0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.02222 .03842
TO TO TO TO TO TO TO TO TO TO TO	REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION	1= 2* 3* 4= 5= 6= 7= 8* 9= 10= 11= 12= 13=	0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.01852, .03202, .09126,	AF= AF= AF= AF= AF= AF= AF= AF= AF= AF=	$\begin{array}{c} 0.00000\\ 0.00000\\ 0.00000\\ 0.00000\\ 0.00000\\ 0.00000\\ 0.00000\\ 0.00000\\ 0.00000\\ 0.00000\\ 0.02222\\ .03842\\ .10951 \end{array}$
TO TO TO TO TO TO TO TO TO TO TO	REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION	1= 2* 3= 4= 5= 6= 7= 8* 9= 10= 11= 12= 13= 14=	0.00000, 0.0000, 0.000, 0.0000, 0.0000, 0.0000, 0.0000, 0.0000, 0.0000, 0.0000, 0.000, 0.000, 0.0000, 0.0000, 0.0000, 0.0000, 0.000, 0.000, 0.000, 0.0000, 0.0000, 0.0000, 0.000,000,	AF= AF= AF= AF= AF= AF= AF= AF= AF= AF=	$\begin{array}{c} 0.00000\\ 0.00000\\ 0.00000\\ 0.00000\\ 0.00000\\ 0.00000\\ 0.00000\\ 0.00000\\ 0.00000\\ 0.00000\\ 0.00000\\ 0.02222\\ 0.03842\\ 0.0842\\ 0.10951\\ 0.18553 \end{array}$
TO TO TO TO TO TO TO TO TO TO TO	REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION	1= 2* 3* 4= 5= 6= 7= 8* 9* 10= 11= 12* 13= 14= 15*	0.00000, 0.0000, 0.0000, 0.0000, 0.0000, 0.0000, 0.00000, 0.00000, 0.00000, 0.00000, 0.0000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.0000, 0.0000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.0000, 0.00000, 0.00000, 0.00000, 0.00000, 0.0000, 0,0000, 0.0000,0000,00000,000,	AF= AF= AF= AF= AF= AFF= AFF= AFF= AFF=	$\begin{array}{c} 0.00000\\ 0.00000\\ 0.00000\\ 0.00000\\ 0.00000\\ 0.00000\\ 0.00000\\ 0.00000\\ 0.00000\\ 0.00000\\ 0.02222\\ 0.03842\\ 0.10951\\ 0.18553\\ 0.10951 \end{array}$
TO TO TO TO TO TO TO TO TO TO TO TO TO	REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION	1= 2= 3= 4= 5= 6= 7= 8= 9= 10= 11= 12= 13= 14= 15= 16=	0.00000, 0.0000, 0000, 0.0000,0000,0000,0000,0000,0000,0000,000,0000	AF= AF= AF= AF= AFF= AFF= AFF= AFF= AFF	$\begin{array}{c} 0.00000\\ 0.00000\\ 0.00000\\ 0.00000\\ 0.00000\\ 0.00000\\ 0.00000\\ 0.00000\\ 0.00000\\ 0.02222\\ .03842\\ .10951\\ .18553\\ .10951\\ .03842 \end{array}$
TO TO TO TO TO TO TO TO TO TO TO TO TO	REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION	1= 2= 3= 4= 5= 6= 7= 8= 9= 10= 11= 12= 13= 14= 15= 16= 17= 18=	0.00000, 0.0000, 0.0000,000,	AF= AF= AF= AF= AF= AFF= AFF= AFF= AFF=	0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.02222 .03842 .10951 .18553 .10951 .03842 .02377
TO TO TO TO TO TO TO TO TO TO TO TO TO T	REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION	1= 2= 3= 4= 5= 6= 7= 8= 9= 10= 11= 12= 13= 14= 15= 16= 17= 18= 19=	0.00000, 0.0000, 0.0000,0000,0000,0000,0000,0000,0000,0000,000,0000	AF= AFF= AFF= AFF= AFF= AFFF= AFFF= AFFF= AFF= AFF= AFF= AFF= AFF=	$\begin{array}{c} 0.00000\\ 0.00000\\ 0.00000\\ 0.00000\\ 0.00000\\ 0.00000\\ 0.00000\\ 0.00000\\ 0.00000\\ 0.02222\\ 0.03842\\ 10951\\ 18553\\ 10951\\ 0.3842\\ 02377\\ 00446 \end{array}$
TO TO TO TO TO TO TO TO TO TO TO TO TO T	REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION	1= 2= 3= 4= 5= 6= 7= 8= 10= 11= 12= 13= 14= 15= 16= 17= 18= 20=	0.00000, 0.0000, 0.0000,0000,0000,0000,0000,000,	AF== AFF===============================	$\begin{array}{c} 0.00000\\ 0.00000\\ 0.00000\\ 0.00000\\ 0.00000\\ 0.00000\\ 0.00000\\ 0.00000\\ 0.00000\\ 0.00000\\ 0.02222\\ 0.03842\\ 10951\\ 18553\\ 10951\\ 0.3842\\ 02377\\ 00446\\ 00060\\ \end{array}$
TO TO TO TO TO TO TO TO TO TO TO TO TO T	REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION	1= 2= 3= 4= 5= 6= 7= 8= 9= 10= 11= 12= 13= 14= 15= 16= 17= 18= 20= 21=	0.00000, 0.0000, 0.0000,0000, 0.0000,000,	AF= AFF= AFF== AFFF=== AAAAAAAAAAAAAAAA	$\begin{array}{c} 0.00000\\ 0.00000\\ 0.00000\\ 0.00000\\ 0.00000\\ 0.00000\\ 0.00000\\ 0.00000\\ 0.00000\\ 0.00000\\ 0.02222\\ 0.03842\\ 0.03842\\ 0.03842\\ 0.03842\\ 0.03842\\ 0.03842\\ 0.03842\\ 0.00060\\ 0.00039 \end{array}$
TO TO TO TO TO TO TO TO TO TO TO TO TO T	REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION	1= 2 = 3 = 4 = 5 = 6 = 7 = 8 = 10 = 11 = 12 = 13 = 14 = 15 = 16 = 17 = 18 = 20 = 21 = 22 =	0.00000, 0.0000, 0.0000,0000,0000,000,	AF== AFF===============================	$\begin{array}{c} 0.00000\\ 0.00000\\ 0.00000\\ 0.00000\\ 0.00000\\ 0.00000\\ 0.00000\\ 0.00000\\ 0.00000\\ 0.00000\\ 0.02222\\ 0.03842\\ 0.03842\\ 0.03842\\ 0.03842\\ 0.03842\\ 0.03842\\ 0.03842\\ 0.03867\\ 0.0060\\ 0.0039\\ 0.05867\\ \end{array}$
TO TO TO TO TO TO TO TO TO TO TO TO TO T	REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION	1= 2= 3= 4= 5= 6= 7= 8= 9= 10= 11= 12= 13= 14= 15= 16= 17= 18= 20= 21= 22= MENTS	0.00000, 0.0000, 0.0000,0000,0000,000,	AF== AFF===============================	$\begin{array}{c} 0.00000\\ 0.00000\\ 0.00000\\ 0.00000\\ 0.00000\\ 0.00000\\ 0.00000\\ 0.00000\\ 0.00000\\ 0.00000\\ 0.02222\\ 0.03842\\ 0.03842\\ 0.03842\\ 0.03842\\ 0.03842\\ 0.0377\\ 0.0446\\ 0.0060\\ 0.0039\\ 0.5867\\ 0.0156\end{array}$

VIEW F	ACTORS F	ROMR	EGION 5		
TO	REGION	1=	0.00000,	AF=	0.00000
TO	REGION	2 =	0.00000,	AF=	0.00000
το	REGION	3=	0.00000,	AF=	0.00000
TO	REGION	4 =	0.00000,	AF=	0.00000
TO	REGION	5=	0.00000,	AF=	0.00000
то		6=	0.00000,	AF=	0.00000
TO	REGION	7=	0.00000,	AF=	0.00000
TO	REGION	8 =	0.00000,	AF=	0.00000
TO	REGION	9 =	0.00000,	AF=	0.00000
TO	REGION	10=	0.00000,	AF=	0.00000
	REGION	11=	•00043	AF=	•00052
TO	REGION	12=	.01981,	AF=	.02377
TO	REGION	13=	.03202,	AF=	.03842
TO	REGION	14=	.09126,	AF=	.10951
TO	REGION	15=	.15461,	AF=	•18553
TO	REGION	16=	.09126,	AF=	.10951
TO	REGION	17=	•03202	AF=	•03842
ŤO	REGION	18 =	.01981,	AF=	.02377
TO	REGION	19=	.00371,	AF=	.00446
TO	REGION	20=	•00083,	AF=	.00099
TO	REGION	21=	.03069,	AF=	.03682
TO	REGION		.00147,	AF=	.00176
TO	ALL ELE				• 57350
TO	TUBES =		2209, AF=	71 AF-	•62650
10	IODED -	• • •	22079 AT-		• 02 0 7 0
VIEW E	ACTORS F		FGTON 6		
	ACTORS F REGION			AF=	0.00000
το	REGION	1 =	0.00000,	AF= AF=	0.00000
TO TO	REGION Region	1 = 2 =	0.00000,	AF=	0.00000
TO TO TO	REGION REGION REGION	1 = 2 = 3 =	0.00000, 0.00000, 0.00000,	AF= AF=	0.00000 0.00000
T 0 T 0 T 0 T 0	REGION REGION REGION REGION	1 = 2 = 3 = 4 =	0.00000, 0.00000, 0.00000, 0.00000,	AF= AF= AF=	0.00000 0.00000 0.00000
TO TO TO TO TO	REGION REGION REGION REGION REGION	1 = 2 = 3 = 4 = 5 =	0.00000, 0.00000, 0.00000, 0.00000, 0.00000,	AF= AF= AF= AF=	0.00000 0.00000 0.00000 0.00000
T 0 T 0 T 0 T 0 T 0 T 0	REGION REGION REGION REGION REGION REGION	1 = 2 = 3 = 4 = 5 = 6 =	0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000,	AF= AF= AF= AF= AF=	0.00000 0.00000 0.00000 0.00000 0.00000
TO TO TO TO TO TO TO	REGION REGION REGION REGION REGION REGION	1 = 2 = 3 = 4 = 5 = 6 = 7 =	0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000,	AF= AF= AF= AF= AF= AF=	0.00000 0.00000 0.00000 0.00000 0.00000 0.00000
TO TO TO TO TO TO TO	REGION REGION REGION REGION REGION REGION REGION	1 = 2 = 3 = 4 = 5 = 6 = 7 = 8 =	0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000,	AF= AF= AF= AF= AF= AF= AF=	0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000
TO TO TO TO TO TO TO TO	REGION REGION REGION REGION REGION REGION REGION REGION	1 = 2 = 3 = 4 = 5 = 6 = 7 = 8 = 9 =	0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000,	AF= AF= AF= AF= AF= AF= AF= AF=	0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000
TO TO TO TO TO TO TO TO	REGION REGION REGION REGION REGION REGION REGION REGION REGION	1 = 2 = 3 = 4 = 5 = 6 = 7 = 8 = 9 = 10 =	0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000,	AF= AF= AF= AF= AF= AF= AF= AF= AF=	0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000
TO TO TO TO TO TO TO TO TO	REGION REGION REGION REGION REGION REGION REGION REGION REGION	1 = 2 = 3 = 4 = 5 = 6 = 7 = 8 = 9 = 10 = 11 =	0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000,	AF= AF= AF= AF= AF= AF= AF= AF= AF= AF=	0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000
TO TO TO TO TO TO TO TO TO	REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION	1 = 2 = 3 = 4 = 5 = 6 = 7 = 8 = 9 = 10 = 11 = 12 =	0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00050, .00371,	AF* AFF= AFF= AFF= AFF= AFF= AFF= AFF= A	$\begin{array}{c} 0.00000\\ 0.00000\\ 0.00000\\ 0.00000\\ 0.00000\\ 0.00000\\ 0.00000\\ 0.00000\\ 0.00000\\ 0.00000\\ 0.00000\\ 0.00060\\ .00446 \end{array}$
TO TO TO TO TO TO TO TO TO TO TO	REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION	1 = 2 = 3 = 4 = 5 = 6 = 7 = 8 = 9 = 10 = 11 = 12 = 13 =	0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00050, .00371, .01981,	AF* AFF= AFF= AFF= AFF= AFF= AFF= AFF= A	$\begin{array}{c} 0.00000\\ 0.00000\\ 0.00000\\ 0.00000\\ 0.00000\\ 0.00000\\ 0.00000\\ 0.00000\\ 0.00000\\ 0.00000\\ 0.00000\\ 0.00060\\ .00446\\ .02377\end{array}$
TO TO TO TO TO TO TO TO TO TO TO	REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION	1 = 2 = 3 = 4 = 5 = 6 = 7 = 8 = 9 = 10 = 11 = 12 = 13 = 14 =	0.00000, 0.0000, 0.000, 0.000, 0.0000, 0.0000, 0.0000, 0.0000, 0.000, 0.000, 0.000, 0.0000, 0.0000, 0.0000, 0.000,000,	AF== AFF== AFF=== AFF====== AFF======= AFF========	0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00060 .00446 .02377 .03842
TO TO TO TO TO TO TO TO TO TO TO	REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION	1 = 2 = 3 = 4 = 5 = 6 = 7 = 8 = 9 = 10 = 11 = 12 = 13 = 14 = 15 =	0.00000, 0.0000, 0.000, 0.0000, 0.0000, 0.0000, 0.0000, 0.0000, 0.0000, 0.0000, 0.000, 0.000, 0.0000, 0.0000, 0.0000, 0.0000, 0.000, 0.000, 0.000, 0.0000, 0.0000, 0.0000, 0.000,000,	AFF== AFFF=============================	$\begin{array}{c} 0.00000\\ 0.00000\\ 0.00000\\ 0.00000\\ 0.00000\\ 0.00000\\ 0.00000\\ 0.00000\\ 0.00000\\ 0.00000\\ 0.00000\\ 0.00060\\ .00446\\ .02377\\ .03842\\ .10951 \end{array}$
TO TO TO TO TO TO TO TO TO TO TO TO	REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION	1 = 2 = 3 = 4 = 5 = 6 = 7 = 8 = 9 = 10 = 11 = 12 = 13 = 14 = 15 = 16 =	0.00000, 0.0000, 0.000, 0.0000, 0.0000, 0.0000, 0.0000, 0.0000, 0.0000, 0.000, 0.000, 0.000, 0.0000, 0.0000, 0.0000, 0.000, 0.000, 0.000, 0.0000, 0.000,000,	A F F F F F F F F F F F F F F F F F F F	$\begin{array}{c} 0.00000\\ 0.00000\\ 0.00000\\ 0.00000\\ 0.00000\\ 0.00000\\ 0.00000\\ 0.00000\\ 0.00000\\ 0.00000\\ 0.00000\\ 0.00060\\ 0.00446\\ 0.02377\\ 0.03842\\ 10951\\ 18553 \end{array}$
TO TO TO TO TO TO TO TO TO TO TO TO	REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION	1 = 2 = 3 = 4 = 5 = 6 = 7 = 8 = 9 = 10 = 11 = 12 = 13 = 14 = 15 = 16 = 17 =	0.00000, 0.0000, 0.000, 0.0000, 0.0000, 0.0000, 0.0000, 0.0000, 0.0000, 0.000, 0.000, 0.0000, 0.0000, 0.0000, 0.0000, 0.0000, 0.000, 0.000, 0.000, 0.0000, 0.0000, 0.000,000,	A F F F F F F F F F F F F F F F F F F F	$\begin{array}{c} 0.00000\\ 0.00000\\ 0.00000\\ 0.00000\\ 0.00000\\ 0.00000\\ 0.00000\\ 0.00000\\ 0.00000\\ 0.00000\\ 0.00060\\ 0.00446\\ 0.02377\\ 0.03842\\ 10951\\ 18553\\ 10951 \end{array}$
TO TO TO TO TO TO TO TO TO TO TO TO TO	REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION	1 = 2 = 3 = 4 = 5 = 6 = 7 = 8 = 9 = 10 = 11 = 12 = 13 = 14 = 15 = 16 = 17 = 18 =	0.00000, 0.0000, 0000, 0.0000,0000,000,	A A A A A A A A A A A A A A A A A A A	$\begin{array}{c} 0.00000\\ 0.00000\\ 0.00000\\ 0.00000\\ 0.00000\\ 0.00000\\ 0.00000\\ 0.00000\\ 0.00000\\ 0.00000\\ 0.00060\\ .00446\\ .02377\\ .03842\\ .10951\\ .18553\\ .10951\\ .03842 \end{array}$
TO TO TO TO TO TO TO TO TO TO TO TO TO T	REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION	1 = 2 = 3 = 4 = 5 = 6 = 7 = 8 = 9 = 10 = 11 = 12 = 13 = 14 = 15 = 16 = 17 = 18 = 19 =	0.00000, 0.0000, 0.0000,000,	A A A A A A A A A A A A A A A A A A A	$\begin{array}{c} 0.00000\\ 0.00000\\ 0.00000\\ 0.00000\\ 0.00000\\ 0.00000\\ 0.00000\\ 0.00000\\ 0.00000\\ 0.00000\\ 0.00060\\ .00446\\ .02377\\ .03842\\ .10951\\ .18553\\ .10951\\ .03842\\ .02377\end{array}$
TO TO TO TO TO TO TO TO TO TO TO TO TO T	REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION	1 = 2 = 3 = 4 = 5 = 6 = 7 = 8 = 9 = 10 = 11 = 12 = 13 = 14 = 15 = 16 = 17 = 18 = 19 = 20 =	0.00000, 0.0000, 0.0000,000,	A A A A A A A A A A A A A A A A A A A	0.00000 0.000000 0.000000 0.000000 0.0000000 0.000000 0.000000 0.000000 0.000000
TO TO TO TO TO TO TO TO TO TO TO TO TO T	REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION	1 = 2 = 3 = 4 = 5 = 6 = 7 = 8 = 9 = 10 = 11 = 12 = 14 = 15 = 16 = 17 = 18 = 19 = 20 = 21 =	0.00000, 0.0000, 0.0000,000,	A A A A A A A A A A A A A A A A A A A	$\begin{array}{c} 0.00000\\ 0.0000\\ 0.000\\ 0.000$
TO TO TO TO TO TO TO TO TO TO TO TO TO T	REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION	1 = 2 = 3 = 4 = 5 = 6 = 7 = 8 = 9 = 10 = 11 = 12 = 13 = 14 = 15 = 16 = 17 = 18 = 19 = 20 = 21 = 22 =	0.00000, 0.0000, 0.0000,0000,0000,000,	A A A A A A A A A A A A A A A A A A A	0.00000 0.00000
TO TO TO TO TO TO TO TO TO TO TO TO TO T	REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION	1= 2= 3= 4= 5= 6= 7= 8= 9= 10= 11= 12= 13= 14= 15= 16= 17= 18= 20= 21= 22= MENTS	0.00000, 0.0000, 0.0000,000,	A A A A A A A A A A A A A A A A A A A	$\begin{array}{c} 0.00000\\ 0.0000\\ 0.000\\ 0.000$

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VIEW F	ACTORS F		EGION 7		
	REGION	1=	0.00000,	AF=	0.00000
	REGION	2 =		AF=	0.00000
	REGION	3=	0.00000,	AF=	0.00000
	REGION	4=	0.00000,	AF=	0.00000
	REGION	5=	0.00000,	AF=	0.00000
	REGION)= 6≠	0.00000,	AF=	0.00000
	REGION	7=		AF-	
			0.00000,		0.00000
	REGION	8=	0.00000,	AF=	0.00000
	REGION	9= 10	0.00000,	AF=	0.00000
	REGION	10=	0.00000,	AF=	0.00000
	REGION	11=	.00032,	AF=	•00039
	REGION	12=	.00050,	AF=	.00060
	REGION	13=	.00371,	AF=	.00446
	REGION	14=	.01981,	AF=	.02377
	REGION	15=	.03202,	AF=	.03842
	REGION	16=	.09126,	AF≠	.10951
	REGION	1,7=	•15461,	AF=	•18553
	REGION	18=	.09126,	A F =	.10951
	REGION	19=	.03202,	A F =	•03842
		20=	•02435,	AF =	• 02922
		21=	.01179,	AF=	.01415
	REGION	22=	.00190,	AF≖	.00229
1 0	ALL ELE	MENTS	= .463	56 AF≖	• 55628
TO	TUBES .	• • 5	3644, AF=		.64372
VIEW F	ACTORS F		EGION 8		
VIEW F	REGION	1 =	EGION 8 0.00000,	AF=	0.00000
VIEW F To To	REGION REGION	1 = 2 =	EGIDN 8 0.000009 0.000009	AF=	0.00000
VIEW F To To To	REGION REGION REGION	1 =	EGION 8 0.00000, 0.00000, 0.00000,	AF= AF=	
VIEW F TO TO TO TO	REGIDN REGIDN REGIDN REGIDN	1 = 2 = 3 = 4 =	EGION 8 0.00000, 0.00000, 0.00000, 0.00000,	AF = AF = AF =	0.00000 0.00000 0.00000
VIEW F TO TO TO TO	REGIDN REGIDN REGIDN REGIDN REGIDN	1 = 2 = 3 =	EGION 8 0.00000, 0.00000, 0.00000,	AF= AF=	0.00000 0.00000
VIEW F TO TO TO TO	REGIDN REGIDN REGIDN REGIDN	1 = 2 = 3 = 4 =	EGION 8 0.00000, 0.00000, 0.00000, 0.00000,	AF = AF = AF =	0.00000 0.00000 0.00000
VIEW F TO TO TO TO TO	REGIDN REGIDN REGIDN REGIDN REGIDN	1 = 2 = 3 = 4 = 5 =	EGION 8 0.00000, 0.00000, 0.00000, 0.00000, 0.00000,	AF = AF = AF = AF =	0.00000 0.00000 0.00000 0.00000 0.00000 0.00000
VIEW F TO TO TO TO TO TO	REGION REGION REGION REGION REGION REGION	1 = 2 = 3 = 4 = 5 = 6 =	EGION 8 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000,	AF= AF= AF= AF= AF=	0.00000 0.00000 0.00000 0.00000 0.00000
VIEW F TO TO TO TO TO TO	REGIDN REGIDN REGIDN REGIDN REGIDN REGIDN	1 = 2 = 3 = 4 = 5 = 6 = 7 =	EGION 8 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000,	AF= AF= AF= AF= AF= AF=	0.00000 0.00000 0.00000 0.00000 0.00000 0.00000
VIEW F TO TO TO TO TO TO TO	REGION REGION REGION REGION REGION REGION REGION	1 = 2 = 3 = 4 = 5 = 6 = 7 = 8 =	EGION 8 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000,	AF= AF= AF= AF= AF= AF= AF=	0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000
VIEW F TO TO TO TO TO TO TO TO TO	REGION REGION REGION REGION REGION REGION REGION REGION	1 = 2 = 3 = 5 = 5 = 7 = 8 = 9 =	EGION 8 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000,	AF= AFF= AFF= AFF= AFF= AFF= AFF= AF= AF	0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000
VIEW F TO TO TO TO TO TO TO TO TO	REGION REGION REGION REGION REGION REGION REGION REGION	1 = 2 = 3 = 4 = 5 = 6 = 7 = 8 = 9 = 10 =	EGION 8 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000,	AF= AF= AF= AF= AF= AF= AF= AF=	0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000
VIEW F TO TO TO TO TO TO TO TO TO	REGION REGION REGION REGION REGION REGION REGION REGION REGION	1 = 2 = 3 = 4 = 5 = 6 = 7 = 8 = 9 = 10 = 11 =	EGION 8 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000,	AF== AFF== AFF== AFF== AFF== AFF== AFF== AFF==	0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00039 .00060
VIEW F TO TO TO TO TO TO TO TO TO TO	REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION	1 = 2 = 3 = 4 = 5 = 6 = 7 = 8 = 9 = 10 = 11 = 12 =	EGION 8 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000,	AF= AFF= AFF= AFF= AFF= AFF= AFF= AFF=	0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000
VIEW F TO TO TO TO TO TO TO TO TO TO	REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION	1 = 2 = 3 = 4 = 5 = 6 = 7 = 8 = 9 = 10 = 11 = 12 = 13 =	EGION 8 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000,	AF== AFF== AFF== AFF== AFF== AFF== AFF== AFF==	0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00039 .00060
VIEW F TO TO TO TO TO TO TO TO TO TO TO	REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION	1 = 2 = 3 = 4 = 5 = 6 = 7 = 8 = 9 = 10 = 12 = 13 = 14 =	EGION 8 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000,	AF== AFF=== AFF===== AFF===============	0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00039 00060 .00446
VIEW F TO TO TO TO TO TO TO TO TO TO TO TO	REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION	1 = 2 = 3 = 4 = 5 = 6 = 7 = 8 = 9 = 10 = 11 = 12 = 13 = 14 = 15 =	EGION 8 0.00000, 0.0000, 0.000, 0.0000, 0.0000, 0.0000, 0.0000, 0.0000, 0.0000, 0.0000, 0.000, 0.000, 0.0000, 0.0000, 0.0000, 0.0000, 0.000,000,	AF== AFF== AFF===== AFF====== AFF====== AF========	0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000
VIEW F/ TO TO TO TO TO TO TO TO TO TO TO TO TO	REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION	1 = 2 = 3 = 4 = 5 = 6 = 7 = 9 = 10 = 11 = 12 = 13 = 14 = 15 = 16 =	EGION 8 0.00000, 0.0000,000,	AFF== AFFF=============================	0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00039 00060 000446 02377 03842
VIEW F TO TO TO TO TO TO TO TO TO TO TO TO TO	REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION	1 = 2 = 3 = 4 = 5 = 6 = 7 = 8 = 9 = 10 = 11 = 12 = 14 = 15 = 16 = 17 =	EGION 8 0.00000, 0.0000,000,	A A A A A A A A A A A A A A A A A A A	$\begin{array}{c} 0.00000\\ 0.0000\\ 0.0000\\ 0.0000\\ 0.0000\\ 0.0000\\ 0.0000\\ 0.0000\\ 0.0000\\ 0.0000\\ 0.0000\\ 0.0000\\ 0.0000\\ 0.0000\\ 0.$
VIEW F/ TO TO TO TO TO TO TO TO TO TO TO TO TO	REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION	1 = 2 = 3 = 4 = 5 = 6 = 7 = 8 = 9 = 10 = 11 = 12 = 14 = 15 = 16 = 17 = 18 =	EGION 8 0.00000, 0.0000,000,	A A A A A A A A A A A A A A A A A A A	$\begin{array}{c} 0.00000\\ 0.0000\\ 0.0000\\ 0.0000\\ 0.0000\\ 0.0000\\ 0.0000\\ 0.0000\\ 0.0000\\ 0.0000\\ 0.0000\\ 0.0000\\ 0.0000\\ 0.0000\\ 0.000\\ 0.000\\ 0.0000\\ 0.000$
VIEW F/ TO TO TO TO TO TO TO TO TO TO TO TO TO	REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION	1 = 2 = 3 = 2 = 3 = 3 = 2 = 3 = 2 = 2 = 2	EGION 8 0.00000, 0.0000,000,	A A A A A A A A A A A A A A A A A A A	$\begin{array}{c} 0.00000\\ 0.0000\\ 0.0000\\ 0.0000\\ 0.0000\\ 0.0000\\ 0.0000\\ 0.0000\\ 0.0000\\ 0.0000\\ 0.0000\\ 0.0000\\ 0.0000\\ 0.0000\\ 0.0000\\ 0.000\\ 0.0000\\ 0.0000\\ 0.00$
VIEW F/ TO TO TO TO TO TO TO TO TO TO TO TO TO	REGION REGION	1 = 2 = 3 = 4 = 5 = 6 = 7 = 9 = 10 = 11 = 12 = 14 = 13 = 14 = 15 = 16 = 17 = 18 = 19 = 19 = 12	EGION 8 0.00000, 0.0000,000,	A A A A A A A A A A A A A A A A A A A	$\begin{array}{c} 0.00000\\ 0.0000\\ 0.0000\\ 0.0000\\ 0.0000\\ 0.0000\\ 0.0000\\ 0.0000\\ 0.0000\\ 0.0000\\ 0.0000\\ 0.0000\\ 0.0000\\ 0.0000\\ 0.000$
VIEW F/ TO TO TO TO TO TO TO TO TO TO TO TO TO	REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION	1 = 2 = 3 = 4 = 5 = 6 = 7 = 8 = 10 = 11 = 12 = 14 = 15 = 16 = 17 = 18 = 19 = 20 = 21 = 22 =	EGION 8 0.00000, 0.0000, 0.000, 0.0000,000,	A A A A A A A A A A A A A A A A A A A	$\begin{array}{c} 0.00000\\ 0.0000\\ 0.0000\\ 0.0000\\ 0.0000\\ 0.0000\\ 0.0000\\ 0.0000\\ 0.0000\\ 0.0000\\ 0.0000\\ 0.0000\\ 0.0000\\ 0.0000\\ 0.000\\ 0.000\\ 0.0000\\ 0.0000\\ 0.0000\\ 0.0$
VIEW F/ TO TO TO TO TO TO TO TO TO TO TO TO TO	REGION REGION	1= 2= 3= 4= 5= 6= 7= 8= 10= 11= 12= 14= 15= 14= 15= 16= 17= 18= 20= 21= 22= MENTS	EGION 8 0.00000, 0.0000, 0.000, 0.0000,000,	A A A A A A A A A A A A A A A A A A A	$\begin{array}{c} 0.00000\\ 0.0000\\ 0.0000\\ 0.0000\\ 0.0000\\ 0.0000\\ 0.0000\\ 0.0000\\ 0.0000\\ 0.0000\\ 0.0000\\ 0.0000\\ 0.0000\\ 0.0000\\ 0.000$

	ACTORS F				
	REGION	1 =	0.00000,	AF =	0.00000
TO	REGION	2 =	0.00000,	AF =	0.00000
TO	REGION	3=	0.00000,	AF≠	0.00000
TO	REGION	4 =	0.00000,	AF=	0.00000
TO	REGION	5 =	0.00000,	4F =	0.00000
TO	REGION	6=	0.00000,	AF=	0.00000
TO	REGION	7=	0.00000,	AF =	0.00000
TO	REGION	8 =	0.00000,	AF =	0.00000
TO	REGION	9 =	0.00000,	A F =	0.00000
TO	REGION	10=	0.00000,	AF=	0.00000
το	REGION	11=	0.00000,	AF =	0.00000
TO	REGION	12=	0.00000,	AF=	0.00000
TO	REGION	13=	.00032,	A F =	.00039
то	REGION	14=	•00050 ,	4F =	.00060
TG	REGION	15=	.00371,	AF=	.00446
TO	REGION	16=	.01981,	AF=	•02377
то	REGION	17=	.03202,	AF =	.03842
το	REGION	18 =	.09126,	AF=	.10951
TO	REGION	19=	.15461,	AF=	•18553
	REGION	20=	.14763,	AF=	.17716
TO	REGION	21=	.00654,	AF=	.00785
TO	REGION	22=	.00257,	AF=	.00308
то	ALL ELE	MENTS	= . 458	98 AF=	• 55078
TO	TUBES =	• • 5	4102, AF=		•64922
VIEW FA	CTORS F	ROMR	EGION 10		
TO	REGION	ROM R 1=	EGIDN 10 0.00000,	AF=	0.00000
TO TO	REGION REGION			AF=	0.00000
T 0 T 0 T 0	REGION REGION REGION	1 =	0.00000,	AF= AF=	0.00000 0.00000
T 0 T 0 T 0 T 0	REGION REGION REGION REGION	1 = 2 = 3 = 4 =	0.00000, 0.00000, 0.00000, 0.00000,	AF = AF = AF =	0.00000 0.00000 0.00000
T 0 T 0 T 0 T 0 T 0	REGION REGION REGION REGION REGION	1 = 2 = 3 =	0.00000, 0.00000, 0.00000,	AF = AF = AF = AF =	0.00000 0.00000 0.00000 0.00000
TO TO TO TO TO TO	REGION REGION REGION REGION	1 = 2 = 3 = 4 =	0.00000, 0.00000, 0.00000, 0.00000,	AF≖ AF= AF= AF=	0.00000 0.00000 0.00000
T 0 T 0 T 0 T 0 T 0 T 0 T 0	REGION REGION REGION REGION REGION REGION	1 = 2 = 3 = 4 = 5 =	0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000,	AF = AF = AF = AF = AF = AF =	0.00000 0.00000 0.00000 0.00000
T 0 T 0 T 0 T 0 T 0 T 0 T 0	REGION REGION REGION REGION REGION REGION	1 = 2 = 3 = 4 = 5 = 6 =	0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000,	AF≖ AF= AF= AF=	0.00000 0.00000 0.00000 0.00000 0.00000
TO TO TO TO TO TO TO TO	REGION REGION REGION REGION REGION REGION REGION REGION	1 = 2 = 3 = 4 = 5 = 6 = 7 = 8 = 9 =	0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000,	AF = AF = AF = AF = AF = AF = AF = AF =	0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000
TO TO TO TO TO TO TO TO	REGION REGION REGION REGION REGION REGION REGION	1 = 2 = 3 = 4 = 5 = 6 = 7 = 8 =	0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000,	AF = AF = AF = AF = AF = AF = AF =	0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000
TO TO TO TO TO TO TO TO	REGION REGION REGION REGION REGION REGION REGION REGION	1 = 2 = 3 = 4 = 5 = 6 = 7 = 8 = 9 =	0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000,	AF = AF = AF = AF = AF = AF = AF = AF =	0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000
TO TO TO TO TO TO TO TO TO	REGION REGION REGION REGION REGION REGION REGION REGION	1 = 2 = 3 = 4 = 5 = 6 = 7 = 8 = 9 = 10 =	0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000,	AF = AF = AF = AF = AF = AF = AF = AF =	0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000
TO TO TO TO TO TO TO TO TO TO	REGION REGION REGION REGION REGION REGION REGION REGION REGION	1 = 2 = 3 = 4 = 5 = 6 = 7 = 8 = 9 = 10 = 11 =	0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000,	AF = AF = AF = AF = AF = AF = AF = AF =	0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000
TO TO TO TO TO TO TO TO TO TO TO	REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION	1 = 2 = 3 = 4 = 5 = 6 = 7 = 8 = 9 = 10 = 11 = 12 =	0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000,	AF = = = = = = = = = = = = = = = = = = =	0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000
TO TO TO TO TO TO TO TO TO TO TO	REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION	1 = 2 = 3 = 4 = 5 = 6 = 7 = 8 = 9 = 10 = 11 = 12 = 13 = 14 = 15 =	0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000,	AFF AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA	0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000
TO TO TO TO TO TO TO TO TO TO TO	REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION	1 = 2 = 3 = 4 = 5 = 6 = 7 = 8 = 9 = 10 = 11 = 12 = 13 = 14 =	0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000,	AF = = = = = = = = = = = = = = = = = = =	0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000
TO TO TO TO TO TO TO TO TO TO TO TO TO	REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION	1 = 2 = 3 = 4 = 5 = 6 = 7 = 8 = 9 = 10 = 11 = 13 = 14 = 15 = 16 = 17 =	0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00003, .00007,	A A A A A A A A A A A A A A A A A A A	0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00039 .00099
TO TO TO TO TO TO TO TO TO TO TO TO TO	REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION	1 = 2 = 3 = 4 = 5 = 6 = 7 = 8 = 10 = 11 = 13 = 14 = 15 = 16 =	0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00003, .00003, .00003, .00038,	A A A A A A A A A A A A A A A A A A A	$\begin{array}{c} 0.00000\\ 0.00000\\ 0.00000\\ 0.00000\\ 0.00000\\ 0.00000\\ 0.00000\\ 0.00000\\ 0.00000\\ 0.00000\\ 0.00000\\ 0.00000\\ 0.00000\\ 0.00000\\ 0.00000\\ 0.00009\\ 0.0545 \end{array}$
TO TO TO TO TO TO TO TO TO TO TO TO TO	REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION	1 = 2 = 3 = 4 = 5 = 6 = 7 = 8 = 9 = 10 = 11 = 13 = 14 = 15 = 16 = 17 =	0.00000, 0.0000, 0.0000,0000,000,	A A A A A A A A A A A A A A A A A A A	$\begin{array}{c} 0.00000\\ 0.0000\\ 0.0000\\ 0.0000\\ 0.0000\\ 0.0000\\ 0.0000\\ 0.0000\\ 0.0000\\ 0.0000\\ 0.0000\\ 0.0000\\ 0.0000\\ 0.0000\\ 0.0000\\ 0.0000\\ 0.0000\\ 0.0000\\ 0.000\\ 0$
TO TO TO TO TO TO TO TO TO TO TO TO TO T	REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION	1= 2= 3= 4= 5= 6= 7= 8= 10= 11= 12= 13= 14= 15= 16= 17= 18= 20=	0.00000, 0.0000, 0.0000,0000,000,	A A A A A A A A A A A A A A A A A A A	$\begin{array}{c} 0.00000\\ 0.0000\\ 0.0000\\ 0.0000\\ 0.0000\\ 0.0000\\ 0.0000\\ 0.0000\\ 0.0000\\ 0.0000\\ 0.0000\\ 0.0000\\ 0.0000\\ 0.000\\ 0$
TO TO TO TO TO TO TO TO TO TO TO TO TO T	REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION	1= 2= 3= 4= 5= 7= 8= 10= 11= 12= 14= 15= 16= 17= 18= 20= 21=	0.00000, 0.0000, 0.0000,0000,000,	A A A A A A A A A A A A A A A A A A A	$\begin{array}{c} 0.00000\\ 0.0000\\ 0.0000\\ 0.0000\\ 0.0000\\ 0.0000\\ 0.0000\\ 0.0000\\ 0.0000\\ 0.0000\\ 0.0000\\ 0.0000\\ 0.0000\\ 0.000\\ 0$
TO TO TO TO TO TO TO TO TO TO TO TO TO T	REGION REGION	1 = 2 = 3 = 4 = 5 = 6 = 7 = 9 = 10 = 11 = 13 = 14 = 15 = 16 = 17 = 19 = 21 = 22 =	0.00000, 0.0000, 0.0000,0000,000,	A A A A A A A A A A A A A A A A A A A	$\begin{array}{c} 0.00000\\ 0.0000\\ 0.0000\\ 0.0000\\ 0.0000\\ 0.0000\\ 0.0000\\ 0.0000\\ 0.0000\\ 0.0000\\ 0.0000\\ 0.0000\\ 0.000\\ $
TO TO TO TO TO TO TO TO TO TO TO TO TO T	REGION REGION	1 = 2 = 3 = 4 = 5 = 6 = 7 = 9 = 10 = 11 = 13 = 14 = 15 = 16 = 17 = 19 = 21 = 22 =	0.00000, 0.0000, 0.0000,0000,000,	A A A A A A A A A A A A A A A A A A A	$\begin{array}{c} 0.00000\\ 0.0000\\ 0.0000\\ 0.0000\\ 0.0000\\ 0.0000\\ 0.0000\\ 0.0000\\ 0.0000\\ 0.0000\\ 0.0000\\ 0.0000\\ 0.000\\ 0$
TO TO TO TO TO TO TO TO TO TO TO TO TO T	REGION REGION	1= 2= 3= 4= 5= 6= 7= 9= 10= 12= 14= 15= 15= 16= 17= 19= 20= 21= 21= 21= 21= 21= 21= 21= 21	0.00000, 0.0000, 0.0000,0000,000,	A A A A A A A A A A A A A A A A A A A	$\begin{array}{c} 0.00000\\ 0.0000\\ 0.0000\\ 0.0000\\ 0.0000\\ 0.0000\\ 0.0000\\ 0.0000\\ 0.0000\\ 0.0000\\ 0.0000\\ 0.0000\\ 0.000\\ 0$

VIEW F	ACTORS F	ROM R	EGION 11			
	REGION	1=	.09364,	AF=	•07023	
TO		2 =	.07427,	AF =	.05570	
TO		3=	.04768,	AF=	.03576	
TO		4 =	.02965,	A F =	.02224	
TO	REGION	5 =	.00071,	AF=	• 00054	
TO	REGION	6=	.00080,	AF=	•00060	
	REGION	7=	.00053,	AF=	.00039	
το	REGION	8 =		AF =	0.00000	
	REGION	9 =	0.00000,	AF=	0.00000	
		10=		AF=	0.00000	
TO	REGION	11=	0.00000,	AF =	0.00000	
TO		12=		AF=	0.00000	
TO	REGION	13=		AF=	0.00000	
TO	REGION	14=		AF=	0.00000	
	REGION	15=	0.00000,	AF=	0.00000	
	REGION	16=		AF=	0.00000	
	REGION	17=		AF=	0.00000	
	REGION		0.00000,	AF=	0.00000	
	REGION			AF=	0.00000	
				AF=	0.00000	
ŤO	REGION	21=	•41685,	AF=	• 31264	
	REGION			AF=	.00013	
	ALL ELE			30 AF=	.49822	
	TUBES =		3570, AF=		.25178	
	ACTORS F	ROM RI				
VIEW F	ACTORS F Region	ROM RI 1=		AF=	• 08853	
VIEW FA			EGION 12			
VIEW FA	REGION	1 =	EGION 12 .07378,	AF=	• 08853	
VIEW FA TO TO TO	REGION REGION	1 = 2 =	EGION 12 .07378, .15467,	AF = AF =	•08853 •18561	
VIEW FA TO TO TO TO	REGION REGION REGION	1 = 2 = 3 =	EGION 12 .07378, .15467, .09109,	AF = AF = AF =	•08853 •18561 •10931	
VIEW FA TO TO TO TO TO	REGION REGION REGION REGION	1 = 2 = 3 = 4 =	EGION 12 .07378; .15467; .09109; .03210;	AF = AF = AF = AF =	•08853 •18561 •10931 •03852	
VIEW FA TO TO TO TO TO TO	REGION REGION REGION REGION REGION	1 = 2 = 3 = 4 = 5 =	EGION 12 .07378; .15467; .09109; .03210; .01987;	AF = AF = AF = AF = AF =	• 08853 • 18561 • 10931 • 03852 • 02385	
VIEW F/ TO TO TO TO TO TO TO	REGION REGION REGION REGION REGION REGION REGION	1 = 2 = 3 = 4 = 5 = 6 =	EGION 12 .07378; .15467; .09109; .03210; .01987; .00372;	AF = AF = AF = AF = AF = AF =	•08853 •18561 •10931 •03852 •02385 •00446	
VIEW F/ TO TO TO TO TO TO TO	REGION REGION REGION REGION REGION REGION	1 = 2 = 3 = 4 = 5 = 6 = 7 =	EGION 12 .07378, .15467, .09109, .03210, .01987, .00372, .00051,	AF = AF = AF = AF = AF = AF = AF =	•08853 •18561 •10931 •03852 •02385 •00446 •00061	
VIEW F/ TO TO TO TO TO TO TO	REGION REGION REGION REGION REGION REGION REGION	1 = 2 = 3 = 4 = 5 = 6 = 7 = 8 =	EGION 12 .07378, .15467, .09109, .03210, .01987, .00372, .00051, .00032,	AF = AF = AF = AF = AF = AF = AF =	• 08853 • 18561 • 10931 • 03852 • 02385 • 00446 • 00061 • 00038	
VIEW F/ TO TO TO TO TO TO TO TO	REGION REGION REGION REGION REGION REGION REGION REGION	1 = 2 = 3 = 4 = 5 = 6 = 7 = 8 = 9 =	EGION 12 .07378, .15467, .09109, .03210, .01987, .00372, .00051, .00032, 0.00000,	AF = = = = = = = = = = = = = = = = = = =	• 08853 • 18561 • 10931 • 03852 • 02385 • 00446 • 00061 • 00038 0• 00000	
VIEW F/ TO TO TO TO TO TO TO TO	REGION REGION REGION REGION REGION REGION REGION REGION REGION	1 = 2 = 3 = 4 = 5 = 6 = 7 = 8 = 9 = 10 =	EGION 12 .07378, .15467, .09109, .03210, .01987, .00372, .00051, .00032, 0.00000, 0.00000,	AF = AFF = AFF = AFF = AFF = AFF = AFF =	• 08853 • 18561 • 10931 • 03852 • 02385 • 00446 • 00061 • 00038 0• 00000 0• 00000	
VIEW F/ TO TO TO TO TO TO TO TO TO	REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION	1 = 2 = 3 = 4 = 5 = 6 = 7 = 8 = 9 = 10 = 11 =	EGION 12 .07376; .15467; .09109; .03210; .01987; .00372; .00051; .00032; 0.00000; 0.00000; 0.00000;	AF = = = = = = = = = = = = = = = = = = =	• 08853 • 18561 • 10931 • 03852 • 02385 • 00446 • 00061 • 00038 0• 00000 0• 00000 0• 00000	
VIEW F/ TO TO TO TO TO TO TO TO TO	REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION	1 = 2 = 3 = 4 = 5 = 6 = 7 = 8 = 9 = 10 = 11 = 12 =	EGION 12 .07378, .15467, .09109, .03210, .01987, .00372, .00051, .00032, 0.00000, 0.00000, 0.00000, 0.00000,	AFF = = = = = = = = = = = = = = = = = =	.08853 .18561 .10931 .03852 .02385 .00446 .00061 .00038 0.00000 0.00000 0.00000 0.00000	
VIEW F/ TO TO TO TO TO TO TO TO TO TO TO	REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION	1 = 2 = 3 = 4 = 5 = 6 = 7 = 8 = 9 = 10 = 11 = 12 = 13 =	EGION 12 .07378, .15467, .09109, .03210, .01987, .00372, .00051, .00032, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000,	AFF===================================	08853 18561 10931 03852 02385 00446 00061 00038 0.00000 0.00000 0.00000 0.00000 0.00000	
VIEW F/ TO TO TO TO TO TO TO TO TO TO TO TO	REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION	1 = 2 = 3 = 4 = 5 = 6 = 7 = 8 = 9 = 10 = 11 = 12 = 13 = 14 =	EGION 12 .07378, .15467, .09109, .03210, .01987, .00372, .00051, .00032, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000,	AFFFFFFFFFFFF = = = = = = = = = = = = = = = = = = = 	08853 18561 10931 03852 02385 00446 00061 00038 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000	
VIEW F/ TO TO TO TO TO TO TO TO TO TO TO TO TO	REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION	1 = 2 = 3 = 4 = 5 = 6 = 7 = 8 = 9 = 10 = 11 = 12 = 13 = 14 = 15 =	EGION 12 .07378, .15467, .09109, .03210, .01987, .00372, .00051, .00032, 0.00000, 0.0000, 0.000	A A A A A A A A A A A A A A A A A A A	08853 18561 10931 03852 02385 00446 00061 00038 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000	
VIEW F/ TO TO TO TO TO TO TO TO TO TO TO TO TO	REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION	1 = 2 = 3 * 4 = 5 = 6 * 7 = 8 = 9 = 10 = 11 = 12 = 13 = 14 = 15 = 16 =	EGION 12 .07378, .15467, .09109, .03210, .01987, .00372, .00051, .00032, 0.00000, 0.0000, 0.0000, 0.0000, 0.0000, 0.0000, 0.0000, 0.0000, 0.0000, 0.0000, 0.0000, 0.0000, 0.000	A A A A A A A A A A A A A A A A A A A	08853 18561 10931 03852 02385 00446 00061 00038 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000	
VIEW F/ TO TO TO TO TO TO TO TO TO TO TO TO TO	REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION	1 = 2 = 3 = 4 = 5 = 6 = 7 = 8 = 9 = 10 = 11 = 12 = 13 = 14 = 15 = 16 = 17 =	EGION 12 .07378; .15467; .09109; .03210; .01987; .00372; .00051; .00032; 0.00000; 0.0000; 0.0000; 0.0000; 0.0000; 0.0000; 0.0000; 0.0000; 0.0000; 0.0000; 0.0000; 0.0000; 0.0000; 0.0000; 0.0000; 0.0000; 0.000; 0	A A A A A A A A A A A A A A A A A A A	08853 18561 10931 03852 02385 00446 00061 00038 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000	
VIEW F/ TO TO TO TO TO TO TO TO TO TO TO TO TO	REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION	1 = 2 = 3 = 4 = 5 = 6 = 7 = 8 = 9 = 10 = 11 = 12 = 13 = 14 = 15 = 16 = 17 = 18 =	EGION 12 .07378; .15467; .09109; .03210; .01987; .00372; .00051; .00032; 0.00000; 0.0000; 0.0000; 0.0000; 0.0000; 0.0000; 0.0000; 0.0000; 0.0000; 0.0000; 0.0000; 0.0000; 0.0000; 0.0000; 0.0000; 0.0000; 0.00; 0.00; 0.000; 0.000; 0.000; 0.00; 0;	A A A A A A A A A A A A A A A A A A A	08853 18561 10931 03852 02385 00446 00061 00038 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000	
VIEW F/ TO TO TO TO TO TO TO TO TO TO TO TO TO	REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION	1 = 2 = 3 = 4 = 5 = 6 = 7 = 8 = 9 = 10 = 11 = 12 = 13 = 14 = 15 = 16 = 17 = 18 = 19 =	EGION 12 .07378, .15467, .09109, .03210, .01987, .00372, .00051, .00032, 0.00000, 0.0000, 0.0000, 0.0000, 0.0000, 0.0000, 0.0000, 0.0000, 0.0000, 0.0000, 0.0	A A A A A A A A A A A A A A A A A A A	08853 18561 10931 03852 02385 00446 00061 00038 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000	
VIEW F/ TO TO TO TO TO TO TO TO TO TO TO TO TO	REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION	1 = 2 = 3 = 4 = 5 = 6 = 7 = 8 = 9 = 10 = 11 = 12 = 13 = 14 = 15 = 16 = 17 = 18 = 19 = 20 =	EGION 12 .07378, .15467, .09109, .03210, .01987, .00372, .00051, .00032, 0.00000, 0.0000, 0.0000, 0.0000, 0.0000, 0.0000, 0.0000, 0.0000, 0.0000, 0.0000, 0.0000, 0.00	A A A A A A A A A A A A A A A A A A A	08853 18561 10931 03852 02385 00446 00061 00038 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000	
VIEW F/ TO TO TO TO TO TO TO TO TO TO TO TO TO	REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION	1 = 2 = 3 * 4 = 5 = 6 * 7 = 8 = 9 = 10 = 11 = 12 = 13 = 14 = 15 = 16 = 17 = 18 = 19 = 20 = 21 = 22 =	EGION 12 .07378, .15467, .09109, .03210, .01987, .00051, .00032, 0.00000, 0.0000, 0,	A A A A A A A A A A A A A A A A A A A	08853 18561 10931 03852 02385 00446 00061 00038 0.00000	
VIEW F/ TO TO TO TO TO TO TO TO TO TO TO TO TO	REGION REGION	1 = 2 = 3 = 4 = 5 = 6 = 7 = 8 = 9 = 10 = 11 = 12 = 13 = 14 = 15 = 16 = 17 = 18 = 19 = 20 = 21 = 22 = MENTS	EGION 12 .07378, .15467, .09109, .03210, .01987, .00051, .00032, 0.00000, 0.0000, 0,	A A A A A A A A A A A A A A A A A A A	08853 18561 10931 03852 02385 00446 00061 00038 0.000000 0.0000000 0.000000 0.0000000 0.0000000000 0.00000000000000000000000000000000000	

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VIEW F	ACTORS F	ROM R	EGION 13		
	REGION	1 =	.01989,	AF=	.02387
TO	REGION	2 =	.09109,	AF=	•10931
	REGION	3=	.15467,	AF=	.18561
TO	REGION	4 =	.09109,	AF=	.10931
TO	REGION	5 =	.03210,	AF=	.03852
TO	REGION	5= 6=	.01987,	AF=	.02385
TO	REGION	7=	.00372,	AF=	.00446
TO		8=		AF=	.00061
	REGION	0≖ 9≖	.00051,		
TO	REGION		.00032,	AF=	.00038
TO	REGION	10=	0.00000,	AF=	0.00000
TO	REGION	11=	0.00000,	AF =	0.00000
TO	REGION	12=	0.00000,	AF=	0.00000
TO	REGION	13=	0.00000,	AF =	0.00000
TO	REGION	14=	0.00000,	AF =	0.00000
	REGION	15=	0.00000,	AF≖	0.00000
TO	REGION	16=	0.00000,	AF =	0.00000
TO	REGION	17=	0.00000,	AF =	0.00000
TO	REGION	18=	0.00000,	AF=	0.00000
то	REGION	19=	0.00000,	AF=	0.00000
TO	REGION	20=	0.00000,	AF=	0.00000
TO	REGION	21=	.05995,	AF=	.07194
	REGION	22=		AF=	.00025
	ALL ELE			43 AF=	•56811
	TUBES =		2657, AF=		.63189
VIEW F	ACTORS F	ROM R	EGION 14		
	ACTORS F Region			AF=	•01851
TO	REGION	1 =	.01543,	AF = AF =	•01851 •03852
TO TO	REGION Region	1 = 2 =	•01543, •03210,	4 F =	• 03852
T 0 T 0 T 0	REGION REGION REGION	1 = 2 = 3 =	.01543, .03210, .09109,	4 F = 4 F =	•03852 •10931
T O T O T O T O	REGION REGION REGION REGION	1 = 2 = 3 = 4 =	.01543, .03210, .09109, .15467,	AF = AF = AF =	•03852 •10931 •18561
T 0 T 0 T 0 T 0 T 0	REGION REGION REGION REGION REGION	1 = 2 = 3 = 4 = 5 =	.01543, .03210, .09109, .15467, .09109,	AF = AF = AF = AF =	•03852 •10931 •18561 •10931
T 0 T 0 T 0 T 0 T 0 T 0	REGION REGION REGION REGION REGION	1 = 2 = 3 = 4 = 5 = 6 *	.01543, .03210, .09109, .15467, .09109, .03210,	AF = AF = AF = AF = AF =	•03852 •10931 •18561 •10931 •03852
T 0 T 0 T 0 T 0 T 0 T 0 T 0	REGION REGION REGION REGION REGION REGION	1 = 2 = 3 = 4 = 5 = 6 * 7 =	.01543, .03210, .09109, .15467, .09109, .03210, .01987,	AF = AF = AF = AF = AF = AF =	•03852 •10931 •18561 •10931 •03852 •02385
TO TO TO TO TO TO TO	REGION REGION REGION REGION REGION REGION REGION	1 = 2 = 3 = 4 = 5 = 6 = 7 = 8 =	.01543, .03210, .09109, .15467, .09109, .03210, .01987, .00372,	AF = AF = AF = AF = AF = AF = AF =	.03852 .10931 .18561 .10931 .03852 .02385 .00446
TO TO TO TO TO TO TO TO	REGION REGION REGION REGION REGION REGION REGION REGION	1 = 2 = 3 = 4 = 5 = 6 = 7 = 8 = 9 =	.01543, .03210, .09109, .15467, .09109, .03210, .01987, .00372, .00051,	AF = AF = AF = AF = AF = AF = AF = AF =	.03852 .10931 .18561 .10931 .03852 .02385 .00446 .00061
TO TO TO TO TO TO TO TO	REGION REGION REGION REGION REGION REGION REGION REGION	1 = 2 = 3 = 4 = 5 = 6 = 7 = 8 = 9 = 10 =	.01543, .03210, .09109, .15467, .09109, .03210, .01987, .00372, .00051, .00032,	AF = AF = AF = AF = AF = AF = AF = AF =	.03852 .10931 .18561 .10931 .03852 .02385 .00446 .00061 .00038
TO TO TO TO TO TO TO TO TO	REGION REGION REGION REGION REGION REGION REGION REGION REGION	1 = 2 = 3 = 4 = 5 = 6 = 7 = 8 = 9 = 10 = 11 =	.01543, .03210, .09109, .15467, .09109, .03210, .01987, .00372, .00051, .00032, 0.00000,	AF = AF = AF = AF = AF = AF = AF = AF =	.03852 .10931 .18561 .10931 .03852 .02385 .00446 .00061 .00038 0.00000
TO TO TO TO TO TO TO TO TO TO	REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION	1 = 2 = 3 = 4 = 5 = 6 = 7 = 8 = 9 = 10 = 11 = 12 =	.01543, .03210, .09109, .15467, .09109, .03210, .01987, .00372, .00051, .00032, 0.00000, 0.00000,	AF= AFF= AFF= AFF= AFF= AFF= AFF= AFF=	.03852 .10931 .18561 .10931 .03852 .02385 .00446 .00061 .00038 0.00000 0.00000
TO TO TO TO TO TO TO TO TO TO TO	REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION	1 = 2 = 3 = 4 = 5 = 6 = 7 = 8 = 9 = 10 = 11 = 12 = 13 =	.01543, .03210, .09109, .15467, .09109, .03210, .01987, .00372, .00051, .00032, 0.00000, 0.00000, 0.00000,	AFF= AFFF AFFFF AFFFF AAFFF AFFF AFFF FF	.03852 .10931 .18561 .10931 .03852 .02385 .00446 .00061 .00038 0.00000 0.00000 0.00000
TO TO TO TO TO TO TO TO TO TO	REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION	1 = 2 = 3 = 4 = 5 = 6 = 7 = 8 = 9 = 10 = 11 = 12 = 13 = 14 =	.01543, .03210, .09109, .15467, .09109, .03210, .01987, .00372, .00051, .00032, 0.00000, 0.00000, 0.00000, 0.00000,	AFF= AFFF= AFFF= AFFF= AFFF= AFFF= AFF= AFF=	.03852 .10931 .18561 .10931 .03852 .02385 .00446 .00061 .00038 0.00000 0.00000 0.00000 0.00000
TO TO TO TO TO TO TO TO TO TO TO	REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION	1 = 2 = 3 = 4 = 5 = 6 = 7 = 8 = 9 = 10 = 11 = 12 = 13 = 14 = 15 =	.01543, .03210, .09109, .15467, .09109, .03210, .01987, .00372, .00051, .00032, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000,	AFF== AFFF=============================	.03852 .10931 .18561 .10931 .03852 .02385 .00446 .00061 .00038 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000
TO TO TO TO TO TO TO TO TO TO TO TO	REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION	1 = 2 = 3 = 4 = 5 = 6 * 7 = 8 = 9 = 10 = 11 = 13 = 14 = 15 = 16 =	.01543, .03210, .09109, .15467, .09109, .03210, .01987, .00372, .00051, .00032, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000,	A F F F F F F F F F F F F F F F F F F F	03852 10931 18561 03852 02385 00446 00061 00038 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000
TO TO TO TO TO TO TO TO TO TO TO TO	REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION	1 = 2 = 3 = 4 = 5 = 6 = 7 = 8 = 9 = 10 = 11 = 12 = 13 = 14 = 15 = 16 = 17 =	.01543, .03210, .09109, .15467, .09109, .03210, .01987, .00372, .00051, .00032, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000,	A A A A A A A A A A A A A A A A A A A	03852 10931 18561 03852 02385 00446 00061 00038 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000
TO TO TO TO TO TO TO TO TO TO TO TO TO	REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION	1 = 2 = 3 = 4 = 5 = 6 * 7 = 8 = 9 = 10 = 11 = 12 = 13 = 14 = 15 = 16 = 17 = 18 =	.01543, .03210, .09109, .15467, .09109, .03210, .01987, .00372, .00051, .00032, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000,	A A A A A A A A A A A A A A A A A A A	03852 10931 18561 10931 03852 02385 00446 00061 00038 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000
TO TO TO TO TO TO TO TO TO TO TO TO TO	REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION	1 = 2 = 3 = 4 = 5 = 6 * 7 = 8 = 9 = 10 = 11 = 12 = 13 = 14 = 15 = 16 = 17 = 18 = 19 =	.01543, .03210, .09109, .15467, .09109, .03210, .01987, .00372, .00051, .00032, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000,	A A A A A A A A A A A A A A A A A A A	03852 10931 18561 10931 03852 02385 00446 00061 00038 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000
TO TO TO TO TO TO TO TO TO TO TO TO TO T	REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION	1 = 2 = 3 = 4 = 5 = 6 = 7 = 8 = 9 = 10 = 11 = 12 = 13 = 14 = 15 = 16 = 17 = 18 = 19 = 20 =	<pre>.01543, .03210, .09109, .15467, .09109, .03210, .01987, .00372, .00051, .00032, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000,</pre>	A A A A A A A A A A A A A A A A A A A	03852 10931 18561 10931 03852 02385 00446 00061 00038 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000
TO TO TO TO TO TO TO TO TO TO TO TO TO T	REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION	1 = 2 = 3 = 4 = 5 = 6 * 7 = 8 = 9 = 10 = 11 = 12 = 13 = 14 = 15 = 16 = 17 = 18 = 19 = 20 = 21 =	<pre>.01543, .03210, .09109, .15467, .09109, .03210, .01987, .00372, .00051, .00032, 0.00000,</pre>	A A A A A A A A A A A A A A A A A A A	03852 10931 18561 10931 03852 02385 00446 00061 00038 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000
TO TO TO TO TO TO TO TO TO TO TO TO TO T	REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION	1 = 2 = 3 = 4 = 5 = 6 = 7 = 8 = 9 = 10 = 11 = 13 = 14 = 15 = 16 = 17 = 18 = 19 = 20 = 21 = 22 =	.01543, .03210, .09109, .15467, .09109, .03210, .01987, .00372, .00051, .00032, 0.00000, 0.0000,0000,0000,000,	A A A A A A A A A A A A A A A A A A A	03852 10931 18561 03852 02385 00446 00061 00038 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000
TO TO TO TO TO TO TO TO TO TO TO TO TO T	REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION	1 = 2 = 3 = 4 = 5 = 6 = 7 = 8 = 9 = 10 = 11 = 13 = 14 = 15 = 16 = 17 = 18 = 19 = 20 = 21 = 22 =	.01543, .03210, .09109, .15467, .09109, .03210, .01987, .00372, .00051, .00032, 0.00000, 0.0000,0000,0000,000,	A A A A A A A A A A A A A A A A A A A	03852 10931 18561 10931 03852 02385 00446 00061 00038 0.00000
TO TO TO TO TO TO TO TO TO TO TO TO TO T	REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION	1 = 2 = 3 = 4 = 5 = 6 * 7 = 8 = 9 = 10 = 11 = 12 = 13 = 14 = 15 = 16 = 17 = 18 = 20 = 21 = 22 = MENTS	.01543, .03210, .09109, .15467, .09109, .03210, .01987, .00372, .00051, .00032, 0.00000, 0.0000,000,	A F F F F F F F F F F F F F F F F F F F	03852 10931 18561 10931 03852 02385 00446 00061 00038 0.000000 0.000000 0.000000 0.000000 0.000000 0.000000000 0.00000000000000000000000000000000000

VIEW FACTORS FROM REGION 15 TO REGIDN 1= .00342, AF= .00411 TO REGION 2= .01987, AF= .02385 TO REGION 4= .09109, AF= .10931 TO REGION 5= .15467, AF= .10931 TO REGION 6= .09109, AF= .10931 TO REGION 7= .03210, AF= .02385 TO REGION 8= .01987, AF= .02385 TO REGION 8= .01987, AF= .02385 TO REGION 9= .00372, AF= .00446 TO REGION 10= .00082, AF= .000000 TO REGION 12= 0.00000, AF= .0.00000 TO REGION 12= 0.00000, AF= .0.00000 TO REGION 13= 0.00000, AF= .0.00000 TO REGION 15= .0.00000, AF= .0.00000 TO REGION 15= .0.00000, AF= .0.00000 TO REGION 15= 0.00000, AF= .0.00000 TO REGION 16= .0.0000, AF= .0.00000 TO REGION 17= 0.00000, AF= .0.00000 TO REGION 18= .0.00000, AF= .0.00000 TO REGION 12= .00020, AF= .0.00000 TO REGION 22= .00020, AF= .0.00000 TO REGION 22= .00020, AF= .0.00000 TO REGION 2= .00020, AF= .00031 TO ALL ELEMENTS = .45524 AF= .54628 TU TUBES = .54476, AF= .05372 VIEW FACTORS FROM REGION 16 TO REGION 3= .01987, AF= .02385 TO REGION 4= .03210, AF= .03852 TO REGION 3= .01987, AF= .03852 TO REGION 4= .03210, AF= .03852 TO REGION 3= .01987, AF= .02385 TO REGION 3= .00000, AF= .00000 TO REGION 1= .00000, AF= .000000 TO REGION 1= .00000, AF= .00000 TO REGION 1= .000000, AF= .000000 TO REGION 1= .000000, AF= .000000 T						
T0 REGION 1= .00342. AF= .00411 T0 REGION 2= .01967, AF= .02385 T0 REGION 4= .09109, AF= .03852 T0 REGION 5= .15467, AF= .10931 T0 REGION 6= .09109, AF= .10931 T0 REGION 7= .03210, AF= .03852 T0 REGION 7= .03210, AF= .03852 T0 REGION 7= .03210, AF= .02345 T0 REGION 9= .00082, AF= .00046 T0 REGION 10= .00082, AF= .00000 T0 REGION 11= .00000, AF= .0.00000 T0 REGION 12= .00000, AF= .0.00000 T0 REGION 13= .0.0000, AF= .0.00000 T0 REGION 14= .0.0000, AF= .0.00000 T0 REGION 15= .0.0000, AF= .0.00000 T0 REGION 16= .00000, AF= .0.00000 T0 REGION 16= .00000, AF= .0.00000 T0 REGION 16= .0.0000, AF= .0.00000 T0 REGION 18= .0.0000, AF= .0.00000 T0 REGION 18= .0.0000, AF= .0.00000 T0 REGION 18= .0.0000, AF= .0.00000 T0 REGION 20= .00000, AF= .0.00000 T0 REGION 20= .00000, AF= .0.00000 T0 REGION 20= .00000, AF= .0.00000 T0 REGION 22= .00026, AF= .00031 T0 ALL ELEMENTS = .45524 AF= .54628 TU TUBES = .54476, AF=54628 TU TUBES = .54476, AF= .02385 T0 REGION 2= .00109, AF= .00312 T0 REGION 2= .00109, AF= .00352 T0 REGION 5= .09109, AF= .10931 T0 REGION 5= .09109, AF= .00362 T0 REGION 1= .000000, AF= .000000 T0 REGION 1= .000000, AF= .000000 T	VIEW F	ACTORS F	ROM R	EGION 15		
TO REGION 3: .03210, AF: .03852 TO REGION 4: .09109, AF: .10931 TO REGION 5: .15467, AF: .10931 TO REGION 7: .03210, AF: .03852 TO REGION 8: .01987, AF: .03852 TO REGION 9: .00372, AF: .00099 TO REGION 10: .00000, AF: .00000 TO REGION 11: .00000, AF: .00000 TO REGION 12: .00000, AF: .00000 TO REGION 14: .00000, AF: .00000 TO REGION 15: .00000, AF: .00000 TO REGION 15: .00000, AF: .00000 TO REGION 15: .00000, AF: .00000 TO REGION 16: .00000, AF: .00000 TO REGION 16: .00000, AF: .00000 TO REGION 17: .00000, AF: .00000 TO REGION 18: .00000, AF: .00000 TO REGION 18: .00000, AF: .00000 TO REGION 12: .00000, AF: .00000 TO REGION 21: .00621, AF: .00000 TO REGION 22: .00026, AF: .00031 TO ALL ELEMENTS : .45524 AF: .54628 TU TUBES : .54476, AF: .00362 TO REGION 2: .00372, AF: .00446 TO REGION 3: .01987, AF: .02385 TO REGION 4: .03210, AF: .00362 TO REGION 5: .09109, AF: .00362 TO REGION 5: .09109, AF: .00362 TO REGION 6: .15467, AF: .10931 TO REGION 6: .15467, AF: .10931 TO REGION 6: .15467, AF: .10931 TO REGION 6: .00454, AF: .02385 TO REGION 7: .09109, AF: .00362 TO REGION 1: .00000, AF: .00000 TO REGION 1:					AF=	.00411
T0 REGION 4= .09109, AF= .10931 T0 REGION 5= .15467, AF= .18561 T0 REGION 7= .03210, AF= .03852 T0 REGION 7= .03210, AF= .02385 T0 REGION 9= .00372, AF= .00446 T0 REGION 10= .00082, AF= .00000 T0 REGION 11= 0.00000, AF= .00000 T0 REGION 12= 0.00000, AF= .00000 T0 REGION 13= 0.00000, AF= .00000 T0 REGION 15= 0.00000, AF= .00000 T0 REGION 15= 0.00000, AF= .00000 T0 REGION 15= 0.00000, AF= .00000 T0 REGION 16= .000000, AF= .00000 T0 REGION 18= 0.00000, AF= .00000 T0 REGION 18= 0.00000, AF= .000000 T0 REGION 18= 0.00000, AF= .00000 T0 REGION 22= .00026, AF= .00000 T0 REGION 22= .00026, AF= .00031 T0 ALL ELEMENTS = .45524 AF= .54628 TU TUBES = .54476, AF= .02385 T0 REGION 2= .00109, AF= .00446 T0 REGION 2= .00109, AF= .00446 T0 REGION 2= .00197, AF= .00446 T0 REGION 2= .00109, AF= .00446 T0 REGION 2= .00109, AF= .00446 T0 REGION 4= .03210, AF= .003852 T0 REGION 5= .09109, AF= .10931 T0 REGION 5= .09109, AF= .10931 T0 REGION 6= .15467, AF= .18561 T0 REGION 6= .00454, AF= .02385 T0 REGION 6= .00454, AF= .00545 T0 REGION 8= .00200, AF= .00545 T0 REGION 1= 0.00000, AF= .000000 T0 REGION 1= .000000, AF= .000000 T0 REGION 1= .0000	TO	REGION	2 =	•01987 <i>•</i>	AF=	.02385
TO REGION 5= .15467, AF= .18361 TO REGION 6= .09109, AF= .10931 TO REGION 7= .03210, AF= .03852 TO REGION 8= .01987, AF= .02335 TO REGION 10= .00082, AF= .00046 TO REGION 10= .00082, AF= .00000 TO REGION 12= 0.00000, AF= .0.00000 TO REGION 13= 0.00000, AF= .0.00000 TO REGION 15= 0.00000, AF= .0.00000 TO REGION 16= .000000, AF= .0.00000 TO REGION 18= 0.00000, AF= .0.00000 TO REGION 19= .000000, AF= .0.00000 TO REGION 20= 0.00000, AF= .0.00000 TO REGION 21= .00621, AF= .00031 TO REGION 22= .00026, AF= .00031 TO ALL ELEMENTS = .45524 AF= .54628 TU TUBES = .54476, AF= .65372 VIEW FACTORS FROM REGION 16 TO REGION 2= .001372, AF= .00446 TO REGION 2= .00199, AF= .00931 TO REGION 5= .09109, AF= .00931 TO REGION 5= .09109, AF= .10931 TO REGION 6= .15467, AF= .18561 TO REGION 6= .00454, AF= .02385 TO REGION 8= .03210, AF= .003452 TO REGION 1= .00000, AF= .00000 TO REGION 5= .09109, AF= .00931 TO REGION 1= .00000, AF= .00000 TO REGION 1= .00000, AF= .000000 TO REGION 1= .000000, AF= .000000 TO REGION 1= .000000, AF= .000000 TO REGION 1= .000000, A	TO	REGION	3=	.03210,	AF=	.03852
TO REGION 5= .15467, AF= .18361 TO REGION 6= .09109, AF= .10931 TO REGION 7= .03210, AF= .03852 TO REGION 8= .01987, AF= .02335 TO REGION 10= .00082, AF= .00046 TO REGION 10= .00082, AF= .00000 TO REGION 12= 0.00000, AF= .0.00000 TO REGION 13= 0.00000, AF= .0.00000 TO REGION 15= 0.00000, AF= .0.00000 TO REGION 16= .000000, AF= .0.00000 TO REGION 18= 0.00000, AF= .0.00000 TO REGION 19= .000000, AF= .0.00000 TO REGION 20= 0.00000, AF= .0.00000 TO REGION 21= .00621, AF= .00031 TO REGION 22= .00026, AF= .00031 TO ALL ELEMENTS = .45524 AF= .54628 TU TUBES = .54476, AF= .65372 VIEW FACTORS FROM REGION 16 TO REGION 2= .001372, AF= .00446 TO REGION 2= .00199, AF= .00931 TO REGION 5= .09109, AF= .00931 TO REGION 5= .09109, AF= .10931 TO REGION 6= .15467, AF= .18561 TO REGION 6= .00454, AF= .02385 TO REGION 8= .03210, AF= .003452 TO REGION 1= .00000, AF= .00000 TO REGION 5= .09109, AF= .00931 TO REGION 1= .00000, AF= .00000 TO REGION 1= .00000, AF= .000000 TO REGION 1= .000000, AF= .000000 TO REGION 1= .000000, AF= .000000 TO REGION 1= .000000, A	TO	REGION	4 =	.09109,	AF=	.10931
TO REGIDN 7= .03210, AF= .03852 TO REGIDN 8= .01987, AF= .02385 TO REGIDN 10= .00082, AF= .000466 TO REGIDN 11= 0.00000, AF= .00000 TO REGIDN 12= 0.00000, AF= .0.0000 TO REGIDN 13= 0.00000, AF= .0.0000 TO REGIDN 14= 0.00000, AF= .0.0000 TO REGIDN 16= 0.00000, AF= .0.0000 TO REGIDN 16= 0.00000, AF= .0.0000 TO REGIDN 16= 0.00000, AF= .0.00000 TO REGIDN 16= 0.00000, AF= .0.00000 TO REGIDN 18= 0.00000, AF= .0.00000 TO REGIDN 18= 0.00000, AF= .0.00000 TO REGIDN 18= 0.00000, AF= .0.00000 TO REGIDN 20= 0.00000, AF= .0.00000 TO REGIDN 21= .00621, AF= .0.00000 TO REGIDN 22= .00264, AF= .00031 TO ALL ELEMENTS = .45524 AF= .54628 TU TUBES = .54476, AF= .65372 VIEW FACTORS FROM REGIDN 16 TO REGIDN 2= .00372, AF= .00446 TO REGIDN 4= .03210, AF= .00446 TO REGIDN 5= .09109, AF= .10931 TO REGIDN 6= .15467, AF= .02385 TO REGIDN 8= .03210, AF= .00545 TO REGIDN 8= .03210, AF= .00545 TO REGIDN 18= .000000, AF= .00000 TO REGIDN 5= .09109, AF= .00545 TO REGIDN 14= .00000, AF= .00000 TO REGIDN 15= .00000, AF= .00000 TO REGIDN 12= .00000, AF= .00000 TO REGIDN 14= .000000, AF= .00000 TO REGIDN 14= .000000, AF= .00000 TO REGIDN 14= .000000, AF= .000000 TO REGIDN 14= .000000, AF= .00				·15467,	AF=	.18561
T0 REGIDN 7= .03210, AF= .03852 T0 REGIDN 8= .01987, AF= .02385 T0 REGIDN 10= .00082, AF= .00099 T0 REGIDN 11= 0.00000, AF= .00000 T0 REGIDN 12= 0.00000, AF= .00000 T0 REGIDN 13= 0.00000, AF= .00000 T0 REGIDN 14= 0.00000, AF= .00000 T0 REGIDN 16= 0.00000, AF= .00000 T0 REGIDN 18= 0.00000, AF= .00000 T0 REGIDN 18= 0.00000, AF= .00000 T0 REGIDN 18= 0.00000, AF= .00000 T0 REGIDN 12= .00000, AF= .00000 T0 REGIDN 20= .00000, AF= .00000 T0 REGIDN 21= .00621, AF= .00031 T0 ALL ELEMENTS = .45524 AF= .54628 TU TUBES = .54476, AF= .65372 VIEW FACTORS FROM REGIDN 16 T0 REGIDN 2= .00197, AF= .00446 T0 REGIDN 4= .03210, AF= .00446 T0 REGIDN 5= .09109, AF= .10931 T0 REGIDN 6= .15467, AF= .03852 T0 REGIDN 8= .03210, AF= .00545 T0 REGIDN 1= .00000, AF= .00000 T0 REGIDN 5= .09109, AF= .00931 T0 REGIDN 5= .09109, AF= .00931 T0 REGIDN 5= .09109, AF= .00931 T0 REGIDN 10= .00454, AF= .03852 T0 REGIDN 12= .00000, AF= .00000 T0 REGIDN 13= .00000, AF= .00000 T0 REGIDN 14= .000000, AF= .00000 T0 REGIDN 14= .000000, AF= .00000 T0 REGIDN 14= .000000, AF= .000000 T0 REGIDN 14= .000000	TO	REGION	6≖	.09109,	AF=	.10931
TO REGION 9= .00372, AF= .00446 TO REGION 10= .00082, AF= .00099 TO REGION 11= 0.00000, AF= .00000 TO REGION 12= 0.00000, AF= .00000 TO REGION 14= 0.00000, AF= .00000 TO REGION 15= 0.00000, AF= .00000 TO REGION 15= 0.00000, AF= .00000 TO REGION 16= 0.00000, AF= .00000 TO REGION 18= 0.00000, AF= .00000 TO REGION 18= .00000, AF= .00000 TO REGION 19= .00000, AF= .00000 TO REGION 21= .00621, AF= .00745 TO REGION 22= .00026, AF= .00031 TO REGION 22= .00026, AF= .00031 TO REGION 22= .00026, AF= .00031 TO REGION 22= .00026, AF= .00000 TO REGION 22= .00372, AF= .00446 TO REGION 1= .00987, AF= .00446 TO REGION 3= .01987, AF= .00446 TO REGION 5= .09109, AF= .003852 TO REGION 5= .09109, AF= .003852 TO REGION 5= .09109, AF= .10931 TO REGION 5= .09109, AF= .10931 TO REGION 6= .15467, AF= .003852 TO REGION 7= .09109, AF= .003852 TO REGION 8= .03210, AF= .003852 TO REGION 7= .09109, AF= .003852 TO REGION 1= .00000, AF= .003852 TO REGION 1= .00000, AF= .003852 TO REGION 1= .00454, AF= .003852 TO REGION 1= .00454, AF= .00545 TO REGION 12= .00000, AF= .00000 TO REGION 14= .00000, AF= .00000 TO REGION 15= .000000, AF= .000000 TO REGION	TO	REGION		.03210,	AF=	.03852
TO REGION 9= .00372, AF= .00446 TO REGION 10= .00082, AF= .00099 TO REGION 11= 0.00000, AF= .00000 TO REGION 12= 0.00000, AF= .00000 TO REGION 14= 0.00000, AF= .00000 TO REGION 15= 0.00000, AF= .00000 TO REGION 15= 0.00000, AF= .00000 TO REGION 16= 0.00000, AF= .00000 TO REGION 18= 0.00000, AF= .00000 TO REGION 18= .00000, AF= .00000 TO REGION 19= .00000, AF= .00000 TO REGION 21= .00621, AF= .00745 TO REGION 22= .00026, AF= .00031 TO REGION 22= .00026, AF= .00031 TO REGION 22= .00026, AF= .00031 TO REGION 22= .00026, AF= .00000 TO REGION 22= .00372, AF= .00446 TO REGION 1= .00987, AF= .00446 TO REGION 3= .01987, AF= .00446 TO REGION 5= .09109, AF= .003852 TO REGION 5= .09109, AF= .003852 TO REGION 5= .09109, AF= .10931 TO REGION 5= .09109, AF= .10931 TO REGION 6= .15467, AF= .003852 TO REGION 7= .09109, AF= .003852 TO REGION 8= .03210, AF= .003852 TO REGION 7= .09109, AF= .003852 TO REGION 1= .00000, AF= .003852 TO REGION 1= .00000, AF= .003852 TO REGION 1= .00454, AF= .003852 TO REGION 1= .00454, AF= .00545 TO REGION 12= .00000, AF= .00000 TO REGION 14= .00000, AF= .00000 TO REGION 15= .000000, AF= .000000 TO REGION	TO	REGION	8 =	•01987 <i>,</i>	AF=	.02385
TOREGION11= 0.00000 , AF= 0.00000 TOREGION12= 0.00000 , AF= 0.00000 TOREGION14= 0.00000 , AF= 0.00000 TOREGION15= 0.00000 , AF= 0.00000 TOREGION16= 0.00000 , AF= 0.00000 TOREGION16= 0.00000 , AF= 0.00000 TOREGION17= 0.00000 , AF= 0.00000 TOREGION18= 0.00000 , AF= 0.00000 TOREGION20= 0.00000 , AF= 0.00000 TOREGION21= 0.0020 , AF= 0.00000 TOREGION22= 0.0026 , AF= 0.00001 TOREGION22= 0.0026 , AF= 0.00000 TOREGION12= 0.00000 , AF= 0.00000 TOREGION16TO 0.00000 TOREGION16TO 0.00000 TOREGION16 0.00000 0.00000 TOREGION16 0.000000 TOREGION2= 0.00372 , AF= 0.00446 TOREGION1= 0.00000 , AF= 0.000000 TOREGION4= 0.3210 , AF= 0.03852 TOREGION5= 0.02385 0.00000 TOREGION12= 0.00000 , AF= 0.00000 TOREGION12= 0.00000 , AF= 0.00000 TOREGION12= 0.00000 , AF= 0.00000 </td <td>TO</td> <td>REGION</td> <td>9=</td> <td>.00372,</td> <td>AF=</td> <td></td>	TO	REGION	9=	.00372,	AF=	
TDREGION $12 = 0.00000$, $AF = 0.00000$ TDREGION $13 = 0.00000$, $AF = 0.00000$ TDREGION $14 = 0.00000$, $AF = 0.00000$ TDREGION $15 = 0.00000$, $AF = 0.00000$ TDREGION $16 = 0.00000$, $AF = 0.00000$ TDREGION $16 = 0.00000$, $AF = 0.00000$ TDREGION $19 = 0.00000$, $AF = 0.00000$ TDREGIDN $19 = 0.00000$, $AF = 0.00000$ TDREGIDN $20 = 0.00000$, $AF = 0.00000$ TDREGIDN $22 = 0.0026$, $AF = 0.00000$ TDREGIDN $22 = 0.00272$, $AF = 0.00446$ TDREGIDN $2 = 0.0372$, $AF = 0.00466$ TDREGIDN $2 = 0.0372$, $AF = 0.00466$ TDREGIDN $2 = 0.0027$, $AF = 0.0031$ TDREGIDN $2 = 0.0027$, $AF = 0.00000$ TDREGIDN $12 = 0.00000$, $AF = 0.000$	TO	REGION	10=	.00082,	AF=	•00099
TDREGION13=0.00000, AF=0.00000TDREGION14=0.00000, AF=0.00000TDREGION15=0.00000, AF=0.00000TDREGION17=0.00000, AF=0.00000TDREGION18=0.00000, AF=0.00000TDREGION19=0.00000, AF=0.00000TDREGION20=0.00000, AF=0.00000TDREGION22=0.0026, AF=0.0001TDREGION22=0.0026, AF=.00031TDREGION22=0.00000, AF=.653372VIEWFACTORSFROMREGION16TDREGION1=0.00000, AF=.00046TDREGION1=0.00000, AF=.00046TDREGION1=0.00000, AF=.00046TDREGION1=0.00000, AF=.00046TDREGION1=0.00000, AF=.00046TDREGION1=0.00000, AF=.00046TDREGION1=0.00000, AF=.00046TDREGION1=0.00000, AF=.00046TDREGION1=.01987, AF=.10931TDREGION1=.00454, AF=.00545TDREGION1=.00454, AF=.00545TDREGION1=.00000, AF=.00000TDREGION1=.00000, AF=.000000TDREGION1=.000000, AF=	TO	REGION	11=	0.00000,	AF=	0.00000
TOREGION $14 = 0.00000$, $AF = 0.00000$ TOREGION $15 = 0.00000$, $AF = 0.00000$ TOREGION $16 = 0.00000$, $AF = 0.00000$ TOREGION $18 = 0.00000$, $AF = 0.00000$ TOREGION $18 = 0.00000$, $AF = 0.00000$ TOREGION $20 = 0.00000$, $AF = 0.00000$ TOREGION $20 = 0.00000$, $AF = 0.00000$ TOREGION $22 = 0.0026$, $AF = 0.00000$ TOREGION $22 = 0.0026$, $AF = 0.00001$ TOREGION $22 = 0.0026$, $AF = 0.00000$ TOREGION $2 = 0.00272$, $AF = 0.00000$ TOREGION $2 = 0.00274$, $AF = 0.00446$ TOREGION $4 = 0.3210$, $AF = 0.03852$ TOREGION $4 = 0.0210$, $AF = 0.00000$ TOREGION $12 = 0.00000$, $AF =$	TO	REGION	12=	0.00000,	AF=	0.00000
TOREGION $15=$ 0.00000 , $AF=$ 0.00000 TOREGION $16=$ 0.00000 , $AF=$ 0.00000 TOREGION $17=$ 0.00000 , $AF=$ 0.00000 TOREGION $19=$ 0.00000 , $AF=$ 0.00000 TOREGION $20=$ 0.00000 , $AF=$ 0.00000 TOREGION $20=$ 0.00000 , $AF=$ 0.00000 TOREGION $21=$ 0.0026 , $AF=$ 0.00745 TOREGION $22=$ 0.0026 , $AF=$ 0.00001 TOREGION $22=$ 0.0026 , $AF=$ 0.00000 TOREGION $22=$ 0.0026 , $AF=$ 0.00000 TOREGION $22=$ 0.0026 , $AF=$ 0.00000 TOREGION $2=$ 0.0372 , $AF=$ 0.00466 TOREGION $2=$ 0.0372 , $AF=$ 0.00466 TOREGION $3=$ 0.1987 , $AF=$ 0.03852 TOREGION $4=$ 0.3210 , $AF=$ 0.03852 TOREGION $5=$ 0.9109 , $AF=$ 0.03852 TOREGION $12=$ 0.00454 , $AF=$ 0.03852 TOREGION $12=$ 0.00000 , $AF=$ 0.00000 TOREGION $15=$ 0.00000 $AF=$ 0.00000 TORE	TO	REGION	13=	0.00000,	AF=	0.00000
TOREGION $16=$ 0.00000 , $AF=$ 0.00000 TOREGION $17=$ 0.00000 , $AF=$ 0.00000 TOREGION $18=$ 0.00000 , $AF=$ 0.00000 TOREGION $20=$ 0.00000 , $AF=$ 0.00000 TOREGION $21=$ 0.0621 , $AF=$ 0.0001 TOREGION $22=$ 0.0026 , $AF=$ 0.00001 TOREGION $22=$ 0.0026 , $AF=$ 0.0001 TOREGION $22=$ 0.0026 , $AF=$ 0.00001 TOREGION $22=$ 0.0026 , $AF=$ 0.0001 TOREGION $2=$ 0.0026 , $AF=$ 0.00000 TOREGION $2=$ 0.00272 , $AF=$ 0.00446 TOREGION $3=$ 0.1987 , $AF=$ 0.03852 TOREGION $5=$ 0.9109 , $AF=$ 0.03852 TOREGION $8=$ 0.0210 , $AF=$ 0.00285 TOREGION $8=$ 0.0210 , $AF=$ 0.00000 TOREGION $12=$ 0.00200 , $AF=$ 0.00000 TOREGION $12=$ 0.00000 , $AF=$ 0.00000 TOREGION $12=$ 0.00000 , $AF=$ 0.00000 TOREGION $12=$ <	ŤO	REGION	14=	0.00000,	AF=	0.00000
TOREGION $16=$ 0.00000 , $AF=$ 0.00000 TOREGION $17=$ 0.00000 , $AF=$ 0.00000 TOREGION $18=$ 0.00000 , $AF=$ 0.00000 TOREGION $20=$ 0.00000 , $AF=$ 0.00000 TOREGION $21=$ 0.0621 , $AF=$ 0.0001 TOREGION $22=$ 0.0026 , $AF=$ 0.00001 TOREGION $22=$ 0.0026 , $AF=$ 0.0001 TOREGION $22=$ 0.0026 , $AF=$ 0.00001 TOREGION $22=$ 0.0026 , $AF=$ 0.0001 TOREGION $2=$ 0.0026 , $AF=$ 0.00000 TOREGION $2=$ 0.00272 , $AF=$ 0.00446 TOREGION $3=$ 0.1987 , $AF=$ 0.03852 TOREGION $5=$ 0.9109 , $AF=$ 0.03852 TOREGION $8=$ 0.0210 , $AF=$ 0.00285 TOREGION $8=$ 0.0210 , $AF=$ 0.00000 TOREGION $12=$ 0.00200 , $AF=$ 0.00000 TOREGION $12=$ 0.00000 , $AF=$ 0.00000 TOREGION $12=$ 0.00000 , $AF=$ 0.00000 TOREGION $12=$ <	TO	REGION	15=	0.00000,	AF=	0.00000
TO REGION 18= 0.00000, AF= 0.00000 TO REGION 20= 0.00000, AF= 0.00000 TO REGION 21= .00621, AF= .00745 TO REGION 22= .00026, AF= .00745 TO REGION 22= .00026, AF= .00745 TO REGION 22= .00026, AF= .54628 TU TUBES = .54476, AF= .54628 TU TUBES = .54476, AF= .65372 VIEW FACTORS FROM REGION 16 6 TO REGION 2= .00372, AF= .00446 TO REGION 2= .00372, AF= .00446 TO REGION 3= .01987, AF= .02385 TO REGION 4= .03210, AF= .03852 TO REGION 5= .09109, AF= .10931 TO REGION 6= .15467, AF= .03852 TO REGION 7= .09109, AF= .003852 TO REGION 8= .03210, AF= .02385 TO REGION 9= .01987, AF= .02385 TO REGION 10= .00454, AF= .00545 TO REGION 11= 0.00000, AF= .00000 TO REGION 12= 0.00000, AF= .000000 TO REGION 13= 0.00000, AF= .000000 TO REGION 14= 0.00000, AF= .000000 TO REGION 15= 0.00000, AF= .000000 TO REGION 15= 0.00000, AF= .000000 </td <td></td> <td></td> <td></td> <td>0.00000,</td> <td>AF=</td> <td>0.00000</td>				0.00000,	AF=	0.00000
TO REGION 19= 0.00000, AF= 0.00000 TO REGION 20= 0.00000, AF= 0.00000 TO REGION 21= 00026, AF= .00031 TO REGION 22= .00026, AF= .00031 TO ALL ELEMENTS = .45524 AF= .54628 TU TUBES = .54476, AF= .65372 VIEW FACTORS FROM REGION 16 TO REGION 1= 0.00000, AF= .000466 TO REGION 2= .00372, AF= .003652 TO REGION 3= .01987, AF= .03852 TO REGION 5= .05407, AF= .10931 TO REGION 6= .15467, AF= .10931 TO REGION 7= .09109, AF= .003852 TO REGION 8= .03210, AF= .03852 TO REGION 10= .00454, AF= .003852 TO REGION 10= .00454, AF= .000000 <	TO	REGION	17=	0.00000,	AF=	0.00000
TD REGIDN 20= 0.00000, AF= 0.00000 TD REGIDN 21= .00621, AF= .00031 TD REGIDN 22= .00026, AF= .00031 TD ALL ELEMENTS = .45524 AF= .54628 TU TUBES = .54476, AF= .65372 VIEW FACTORS FROM REGIDN 16 TD REGIDN 2= .00372, AF= .00446 TD REGIDN 2= .00372, AF= .00446 TD REGIDN 3= .01987, AF= .02385 TD REGIDN 5= .09109, AF= .03652 TD REGIDN 6= .15467, AF= .18561 TD REGIDN 6= .15467, AF= .03852 TD REGIDN 6= .03210, AF= .003852 TD REGIDN 8= .03210, AF= .003852 TD REGIDN 10= .00454, AF= .00545 TD REGIDN 12= .000000, AF= .000000 TD <td>TO</td> <td>REGION</td> <td>18=</td> <td>0.00000,</td> <td>AF=</td> <td>0.00000</td>	TO	REGION	18=	0.00000,	AF=	0.00000
TO REGION 21= .00621, AF= .00745 TO REGION 22= .00026, AF= .00031 TO ALL ELEMENTS = .45524 AF= .54628 TU TUBES = .54476, AF= .65372 VIEW FACTORS FROM REGION 16 .00000, AF= .000446 TO REGION 2= .00372, AF= .00446 TO REGION 3= .01987, AF= .02385 TO REGION 4= .03210, AF= .03652 TO REGION 5= .09109, AF= .10931 TO REGION 6= .15467, AF= .03852 TO REGION 6= .01987, AF= .02385 TO REGION 7= .09109, AF= .10931 TO REGION 6= .15467, AF= .03852 TO REGION 8= .03210, AF= .03852 TO REGION 10= .00454, AF= .00545 TO REGION 12= .00000, AF= .00000 TO REGION 12= .00000, AF= .000000 TO REGION 12= .00000, AF= .000000 TO REGION 14= .000000, AF= .000000 TO REGION 15= .000000, AF= .000000 TO REGION 15= .000000, AF= .00000	το	REGION	19=	0.00000,	AF=	0.00000
TD REGIDN 22= .00026, AF= .00031 TD ALL ELEMENTS = .45524 AF= .54628 TU TUBES = .54476, AF= .65372 VIEW FACTORS FROM REGION 16 TD REGIDN 1= 0.00000, AF= .00446 TD REGIDN 2= .00372, AF= .00446 TD REGION 3= .01987, AF= .02385 TD REGION 5= .09109, AF= .10931 TD REGION 6= .15467, AF= .10931 TD REGION 6= .15467, AF= .03852 TD REGION 6= .03210, AF= .03852 TD REGION 8= .03210, AF= .03852 TD REGION 8= .03210, AF= .03852 TD REGION 8= .03210, AF= .003852 TD REGION 10= .00454, AF= .00545 TD REGION 11= .000000, AF= .000000	το	REGION	20=	0.00000,	AF=	0.00000
TD REGIDN 22= .00026, AF= .00031 TD ALL ELEMENTS = .45524 AF= .54628 TU TUBES = .54476, AF= .65372 VIEW FACTORS FROM REGION 16 TD REGIDN 1= 0.00000, AF= .00446 TD REGIDN 2= .00372, AF= .00446 TD REGION 3= .01987, AF= .02385 TD REGION 5= .09109, AF= .10931 TD REGION 6= .15467, AF= .10931 TD REGION 6= .15467, AF= .03852 TD REGION 6= .03210, AF= .03852 TD REGION 8= .03210, AF= .03852 TD REGION 8= .03210, AF= .03852 TD REGION 8= .03210, AF= .003852 TD REGION 10= .00454, AF= .00545 TD REGION 11= .000000, AF= .000000	TO	REGION	21=	.00621,	AF=	.00745
TU TUBES = .54476, AF= .65372 VIEW FACTORS FROM REGION 16 10 0.00000, AF= 0.00000 TO REGION 2= .00372, AF= .00446 TO REGION 3= .01987, AF= .02385 TO REGION 4= .03210, AF= .03852 TO REGION 5= .09109, AF= .10931 TO REGION 6= .15467, AF= .18561 TO REGION 7= .09109, AF= .02385 TO REGION 8= .03210, AF= .03852 TO REGION 7= .09109, AF= .003852 TO REGION 8= .03210, AF= .02385 TO REGION 10= .00454, AF= .02385 TO REGION 11= .00000, AF= .00000 TO REGION 12= .000000, AF= .000000 TO REGION 12= .000000, AF= .000000 TO REGION 14= .000000, AF= .000000 TO REGION 15= .000000, AF= .000000 TO REGION 16= .000000, AF= .000000 TO REGION 17= .000000, AF= .000000 TO REGION 18= .000000, AF= .000000 TO REGION 18= .000000,					AF=	.00031
VIEW FACTORS FROM REGION 16 TO REGION 1= 0.00000, AF= 0.00000 TO REGION 2= .00372, AF= .00446 TO REGION 3= .01987, AF= .02385 TO REGION 4= .03210, AF= .03852 TO REGION 5= .09109, AF= .10931 TO REGION 6= .15467, AF= .10931 TO REGION 7= .09109, AF= .10931 TO REGION 8= .03210, AF= .03852 TO REGION 7= .09109, AF= .003852 TO REGION 8= .03210, AF= .03852 TO REGION 9= .01987, AF= .02385 TO REGION 10= .00454, AF= .00545 TO REGION 11= .000000, AF= .000000 TO REGION 12= .000000, AF= .000000 TO REGION 15= .000000, AF= .000000 TO REGION 15= .000000, AF= .000000 TO REGION 16= .000000, AF= .000000 TO REGION 17= .000000, AF= .000000 TO REGION 18= .000000, AF= .000000 TO REGION 19= .000000, AF= .000000 TO RE	το	ALL ELE	MENTS	455	24 AF=	• 54628
TO REGION 1= 0.00000, AF= 0.00000 TO REGION 2= .00372, AF= .00446 TO REGION 3= .01987, AF= .02385 TO REGION 4= .03210, AF= .03852 TO REGION 5= .09109, AF= .10931 TO REGION 6= .15467, AF= .18561 TO REGION 6= .15467, AF= .10931 TO REGION 6= .15467, AF= .10931 TO REGION 7= .09109, AF= .10931 TO REGION 7= .09109, AF= .03852 TO REGION 8= .03210, AF= .03852 TO REGION 8= .03210, AF= .03852 TO REGION 10= .00454, AF= .02385 TO REGION 11= .00000, AF= .000000 TO REGION 12= .00000, AF= .000000 TO REGION 13= .000000, AF= .000000	T 1)	TURES .	. 5	6476. NE=		. 65372
TO REGION 1= 0.00000, AF= 0.00000 TO REGION 2= .00372, AF= .00446 TO REGION 3= .01987, AF= .02385 TO REGION 4= .03210, AF= .03852 TO REGION 5= .09109, AF= .10931 TO REGION 6= .15467, AF= .18561 TO REGION 6= .15467, AF= .10931 TO REGION 6= .15467, AF= .10931 TO REGION 7= .09109, AF= .10931 TO REGION 7= .09109, AF= .03852 TO REGION 8= .03210, AF= .03852 TO REGION 8= .03210, AF= .03852 TO REGION 10= .00454, AF= .02385 TO REGION 11= .00000, AF= .000000 TO REGION 12= .00000, AF= .000000 TO REGION 13= .000000, AF= .000000	10	10063 -	• •			40331L
TO REGION 2= .00372, AF= .00446 TO REGION 3= .01987, AF= .02385 TO REGION 4= .03210, AF= .03852 TO REGION 5= .09109, AF= .10931 TO REGION 6= .15467, AF= .18561 TO REGION 6= .15467, AF= .10931 TO REGION 6= .15467, AF= .10931 TO REGION 7= .09109, AF= .10931 TO REGION 8= .03210, AF= .03852 TO REGION 10= .00454, AF= .02385 TO REGION 11= .00000, AF= .000000 TO REGION 12= .00000, AF= .000000 TO REGION 13= .000000, AF= .000000	10	10023 -	• 5			1 03312
TO REGION 3= .01987, AF= .02385 TO REGION 4= .03210, AF= .03852 TO REGION 5= .09109, AF= .10931 TO REGION 6= .15467, AF= .18561 TO REGION 6= .15467, AF= .10931 TO REGION 6= .02385 .00931 TO REGION 7= .09109, AF= .10931 TO REGION 7= .09109, AF= .03852 TO REGION 8= .03210, AF= .03852 TO REGION 8= .03210, AF= .03852 TO REGION 9= .01987, AF= .02385 TO REGION 10= .00454, AF= .02385 TO REGION 11= .000000, AF= .000000 TO REGION 11= .000000, AF= .000000 TO REGION 12= .000000, AF= .000000 TO REGION 15= .000000, AF= .0000000						
TO REGION 4= .03210, AF= .03852 TO REGION 5= .09109, AF= .10931 TO REGION 6= .15467, AF= .18561 TO REGION 6= .15467, AF= .10931 TO REGION 7= .09109, AF= .10931 TO REGION 7= .09109, AF= .10931 TO REGION 8= .03210, AF= .10931 TO REGION 8= .03210, AF= .003852 TO REGION 9= .01987, AF= .02385 TO REGION 10= .00454, AF= .00545 TO REGION 11= 0.00000, AF= .000000 TO REGION 12= 0.00000, AF= .000000 TO REGION 13= 0.00000, AF= .000000 TO REGION 14= 0.00000, AF= .000000 TO REGION 15= 0.00000, AF= .000000 TO REGION 16= 0.00000, AF= .000000 <td>VIEW F To</td> <td>ACTORS F Region</td> <td>ROM R</td> <td>EGION 16</td> <td></td> <td></td>	VIEW F To	ACTORS F Region	ROM R	EGION 16		
TO REGION 5= .09109, AF= .10931 TO REGION 6= .15467, AF= .18561 TO REGION 7= .09109, AF= .10931 TO REGION 7= .09109, AF= .10931 TO REGION 8= .03210, AF= .03852 TO REGION 9= .01987, AF= .02385 TO REGION 10= .00454, AF= .00545 TO REGION 11= 0.00000, AF= .000000 TO REGION 12= 0.00000, AF= .000000 TO REGION 13= 0.00000, AF= .000000 TO REGION 14= 0.00000, AF= .000000 TO REGION 15= 0.00000, AF= .000000 TO REGION 16= 0.00000, AF= .000000 TO REGION 16= 0.00000, AF= .000000 TO REGION 17= 0.00000, AF= .000000 TO REGION 18= .000000, AF= .000000	VIEW F To To	ACTORS F REGION REGION	ROM R 1=	EGIUN 16 0.00000,		0.00000
TD REGIDN 6= .15467; AF= .18561 TD REGIDN 7= .09109; AF= .10931 TD REGIDN 8= .03210; AF= .03852 TD REGIDN 9= .01987; AF= .02385 TD REGIDN 10= .00454; AF= .00545 TD REGIDN 11= 0.00000; AF= .000000 TD REGIDN 12= 0.00000; AF= .000000 TD REGIDN 12= 0.00000; AF= .000000 TD REGIDN 12= 0.00000; AF= .000000 TD REGIDN 13= 0.00000; AF= .000000 TD REGIDN 14= 0.00000; AF= .000000 TD REGIDN 15= 0.00000; AF= .000000 TD REGIDN 16= 0.00000; AF= .000000 TD REGIDN 17= 0.00000; AF= .000000 TD	VIEW F To To To	ACTORS F REGION REGION REGION	ROM R 1= 2= 3=	EGIUN 16 0.00000, .00372, .01987,	AF= AF=	0.00000 .00446
TD REGIDN 7= .09109, AF= .10931 TD REGIDN 8= .03210, AF= .03852 TD REGIDN 9= .01987, AF= .02385 TD REGIDN 10= .00454, AF= .00545 TD REGIDN 11= 0.00000, AF= .000000 TD REGIDN 12= 0.00000, AF= .000000 TD REGIDN 13= 0.00000, AF= .000000 TD REGIDN 14= 0.00000, AF= .000000 TD REGIDN 15= 0.00000, AF= .000000 TD REGIDN 16= 0.00000, AF= .000000 TD REGIDN 16= 0.00000, AF= .000000 TD REGIDN 17= 0.00000, AF= .000000 TD REGIDN 17= 0.00000, AF= .000000 TD REGIDN 19= .000000, AF= .000000 TD REGIDN 20= .000000, AF= .000000 TD REGIDN 21= .00397, AF= .0047	VIEW F To To To To	ACTORS F REGION REGION REGION REGION	ROM R 1= 2= 3= 4=	EGIUN 16 0.00000, .00372, .01987, .03210,	AF = AF = AF =	0.00000 .00446 .02385 .03852
TO REGION 8= .03210, AF= .03852 TO REGION 9= .01987, AF= .02385 TO REGION 10= .00454, AF= .00545 TO REGION 11= 0.00000, AF= .000000 TO REGION 12= 0.00000, AF= .000000 TO REGION 13= 0.00000, AF= .000000 TO REGION 14= 0.00000, AF= .000000 TO REGION 15= 0.00000, AF= .000000 TO REGION 15= 0.00000, AF= .000000 TO REGION 16= .000000, AF= .000000 TO REGION 16= .000000, AF= .000000 TO REGION 17= .000000, AF= .000000 TO REGION 17= .000000, AF= .000000 TO REGION 17= .000000, AF= .000000 TO REGION 19= .000000, AF= .000000 TO REGION 21= .000000, AF= .	VIEW F To To To To	ACTORS F REGION REGION REGION REGION REGION	ROM R 1= 2= 3= 4= 5=	EGION 16 0.00000, .00372, .01987, .03210, .09109,	ΔF = ΔF = ΔF = ΔF =	0.00000 .00446 .02385 .03852 .10931
TO REGION 9= .01987; AF= .02385 TO REGION 10= .00454; AF= .00545 TO REGION 11= 0.00000; AF= 0.00000 TO REGION 12= 0.00000; AF= 0.00000 TO REGION 13= 0.00000; AF= 0.00000 TO REGION 14= 0.00000; AF= 0.00000 TO REGION 15= 0.00000; AF= 0.00000 TO REGION 16= 0.00000; AF= 0.00000 TO REGION 17= 0.00000; AF= 0.00000 TO REGION 18= 0.00000; AF= 0.00000 TO REGION 20= 0.00000; AF= 0.00000 TO REGION 20= 0.00000; AF= 0.00000 TO REGION 21= .00397; AF= .00476 TO REGION 22= .00029; AF= .00035 TO ALL ELEMENTS = .45333 AF= .54400	VIEW F TO TO TO TO TO	ACTORS F REGION REGION REGION REGION REGION REGION	ROM R 1= 2= 3= 4= 5= 6=	EGION 16 0.00000, .00372, .01987, .03210, .09109, .15467,	AF = AF = AF = AF = AF =	0.00000 .00446 .02385 .03852 .10931
TO REGION 10= .00454, AF= .00545 TO REGION 11= 0.00000, AF= 0.00000 TO REGION 12= 0.00000, AF= 0.00000 TO REGION 13= 0.00000, AF= 0.00000 TO REGION 14= 0.00000, AF= 0.00000 TO REGION 15= 0.00000, AF= 0.00000 TO REGION 16= 0.00000, AF= 0.00000 TO REGION 17= 0.00000, AF= 0.00000 TO REGION 17= 0.00000, AF= 0.00000 TO REGION 19= 0.00000, AF= 0.00000 TO REGION 20= 0.00000, AF= 0.00000 TO REGION 20= 0.00000, AF= 0.00000 TO REGION 21= .00397, AF=	VIEW F TO TO TO TO TO TO	ACTORS F REGION REGION REGION REGION REGION REGION REGION	ROM R 1= 2= 3= 4= 5= 6= 7=	EGION 16 0.00000, .00372, .01987, .03210, .09109, .15467, .09109,	AF = AF = AF = AF = AF = AF =	0.00000 .00446 .02385 .03852 .10931 .18561 .10931
TO REGION 11* 0.00000, AF= 0.00000 TO REGION 12* 0.00000, AF= 0.00000 TO REGION 13* 0.00000, AF= 0.00000 TO REGION 14* 0.00000, AF= 0.00000 TO REGION 15* 0.00000, AF= 0.00000 TO REGION 16* 0.00000, AF= 0.00000 TO REGION 17* 0.00000, AF= 0.00000 TO REGION 18* 0.00000, AF= 0.00000 TO REGION 19* 0.00000, AF= 0.00000 TO REGION 20* 0.00000, AF= 0.00000 TO REGION 21* .00397, AF= .00476 TO REGION 22* .00029, AF= .00035 TO ALL ELEMENTS = .45333 AF= .54400	VIEW F TO TO TO TO TO TO	ACTORS F REGION REGION REGION REGION REGION REGION REGION REGION	ROM R 1= 2= 3= 4= 5= 6= 7= 8=	EGION 16 0.00000, .00372, .01987, .03210, .09109, .15467, .09109, .03210,	AF = AF = AF = AF = AF = AF = AF =	0.00000 .00446 .02385 .03852 .10931 .18561 .10931 .03852
TO REGION 12= 0.00000, AF= 0.00000 TD REGION 13= 0.00000, AF= 0.00000 TO REGION 14= 0.00000, AF= 0.00000 TO REGION 15= 0.00000, AF= 0.00000 TO REGION 16= 0.00000, AF= 0.00000 TO REGION 16= 0.00000, AF= 0.00000 TO REGION 17= 0.00000, AF= 0.00000 TO REGION 18= 0.00000, AF= 0.00000 TO REGION 19= 0.00000, AF= 0.00000 TO REGION 20= 0.00000, AF= 0.00000 TO REGION 21= 0.00000, AF= 0.00000 TO REGION 21= 0.00000, AF= 0.00000 TO REGION 22= 0.0029, AF= .00476 TO REGION 22= 0.0029, AF= .0035 TO ALL ELEMENTS = .45333 AF= .54400	VIEW F TO TO TO TO TO TO TO	ACTORS F REGION REGION REGION REGION REGION REGION REGION REGION	FROM R 1= 2= 3= 4= 5= 6= 7= 8= 9=	EGION 16 0.00000, .00372, .01987, .03210, .09109, .15467, .09109, .03210, .01987,	AF = AF = AF = AF = AF = AF = AF =	0.00000 .00446 .02385 .03852 .10931 .18561 .10931 .03852 .02385
TD REGION 13= 0.00000, AF= 0.00000 TD REGION 14= 0.00000, AF= 0.00000 TD REGION 15= 0.00000, AF= 0.00000 TD REGION 16= 0.00000, AF= 0.00000 TD REGION 17= 0.00000, AF= 0.00000 TD REGION 17= 0.00000, AF= 0.00000 TD REGION 18= 0.00000, AF= 0.00000 TD REGION 19= 0.00000, AF= 0.00000 TD REGION 20= 0.00000, AF= 0.00000 TD REGION 20= 0.00000, AF= 0.00000 TD REGION 20= 0.00000, AF= 0.00000 TD REGION 21= .00397, AF= .00476 TD REGION 22= .00029, AF= .00035 TD ALL ELEMENTS = .45333 AF= .54400	VIEW F TO TO TO TO TO TO TO TO	ACTORS F REGION REGION REGION REGION REGION REGION REGION REGION REGION	ROM R 1= 2= 3= 4= 5= 6= 7= 8= 9= 10=	EGION 16 0.00000, .00372, .01987, .03210, .09109, .15467, .09109, .03210, .01987, .00454,	AF = AF = AF = AF = AF = AF = AF = AF =	0.00000 .00446 .02385 .03852 .10931 .18561 .10931 .03852 .02385 .00545
TO REGION 14= 0.00000, AF= 0.00000 TO REGION 15= 0.00000, AF= 0.00000 TO REGION 16= 0.00000, AF= 0.00000 TO REGION 17= 0.00000, AF= 0.00000 TO REGION 17= 0.00000, AF= 0.00000 TO REGION 18= 0.00000, AF= 0.00000 TO REGION 19= 0.00000, AF= 0.00000 TO REGION 20= 0.00000, AF= 0.00000 TO REGION 21= .00397, AF= .00476 TO REGION 22= .00029, AF= .00035 TO ALL ELEMENTS = .45333 AF= .54400	VIEW F TO TO TO TO TO TO TO TO TO	ACTORS REGION REGION REGION REGION REGION REGION REGION REGION REGION	ROM R 1= 2= 3= 4= 5= 6= 7= 8= 9= 10= 11=	EGION 16 0.00000, .00372, .01987, .03210, .09109, .15467, .09109, .03210, .01987, .00454, 0.00000,	AF = AF = AF = AF = AF = AF = AF = AF =	0.00000 .00446 .02385 .03852 .10931 .18561 .10931 .03852 .02385 .00545 0.00000
TO REGION 15= 0.00000, AF= 0.00000 TO REGION 16= 0.00000, AF= 0.00000 TO REGION 17= 0.00000, AF= 0.00000 TO REGION 18= 0.00000, AF= 0.00000 TO REGION 19= 0.00000, AF= 0.00000 TO REGION 20= 0.00000, AF= 0.00000 TO REGION 20= 0.00000, AF= 0.00000 TO REGION 21= 00397, AF= .00476 TO REGION 22= .00029, AF= .00035 TO ALL ELEMENTS = .45333 AF= .54400	VIEW F TO TO TO TO TO TO TO TO TO	ACTORS F REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION	ROM R 1= 2= 3= 4= 5= 6= 7= 8= 9= 10= 11= 12=	EGION 16 0.00000, .00372, .01987, .03210, .09109, .15467, .09109, .03210, .01987, .00454, 0.00000, 0.00000,	AF = AF = AF = AF = AF = AF = AF = AF =	0.00000 .00446 .02385 .03852 .10931 .18561 .10931 .03852 .02385 .00545 0.00000 0.00000
TO REGION 16= 0.00000, AF= 0.00000 TO REGION 17= 0.00000, AF= 0.00000 TO REGION 18= 0.00000, AF= 0.00000 TO REGION 19= 0.00000, AF= 0.00000 TO REGION 20= 0.00000, AF= 0.00000 TO REGION 20= 0.00000, AF= 0.00000 TO REGION 21= .00397, AF= .00476 TO REGION 22= .00029, AF= .00035 TO ALL ELEMENTS = .45333 AF= .54400	VIEW F TO TO TO TO TO TO TO TO TO TO	ACTORS F REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION	ROM R 1= 2= 3= 4= 5= 6= 7= 8= 9= 10= 11= 12= 13=	EGION 16 0.00000, .00372, .01987, .03210, .09109, .15467, .09109, .03210, .01987, .00454, 0.00000, 0.00000, 0.00000,	AF = AFF = AFF = AFF = AFF = AFF = AFF = AFF = AFF = AFF =	0.00000 .00446 .02385 .03852 .10931 .18561 .10931 .03852 .02385 .00545 0.00000 0.00000 0.00000
TO REGION 17= 0.00000; AF= 0.00000 TO REGION 18= 0.00000; AF= 0.00000 TO REGION 19= 0.00000; AF= 0.00000 TO REGION 20= 0.00000; AF= 0.00000 TO REGION 21= 0.0397; AF= .00476 TO REGION 22= .00029; AF= .00035 TO ALL ELEMENTS = .45333 AF= .54400	VIEW F TO TO TO TO TO TO TO TO TO TO TO	ACTORS F REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION	ROM R 1= 2= 3= 4= 5= 6= 7= 8= 9= 10= 11= 12= 13= 14=	EGION 16 0.00000, .00372, .01987, .03210, .09109, .15467, .09109, .03210, .01987, .00454, 0.00000, 0.00000, 0.00000, 0.00000,	AF= AFF= AFF= AFF= AFF= AFF= AFF= AFF=	0.00000 .00446 .02385 .03852 .10931 .18561 .10931 .03852 .02385 .00545 0.00000 0.00000 0.00000
TO REGION 18= 0.00000, AF= 0.00000 TO REGION 19= 0.00000, AF= 0.00000 TO REGION 20= 0.00000, AF= 0.00000 TO REGION 21= 00397, AF= 0.00476 TO REGION 22= 00029, AF= 00035 TO ALL ELEMENTS = .45333 AF= .54400	VIEW F TO TO TO TO TO TO TO TO TO TO TO TO	ACTORS REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION	ROM R 1= 2= 3= 4= 5= 6= 7= 8= 9= 10= 11= 12= 13= 14= 15=	EGION 16 0.00000, .00372, .01987, .03210, .09109, .15467, .09109, .03210, .01987, .00454, 0.00000, 0.00000, 0.00000, 0.00000,	AF= AFF= AFF= AFF= AFF= AFF= AFF= AFF=	0.00000 .00446 .02385 .03852 .10931 .18561 .10931 .03852 .02385 .00545 0.00000 0.00000 0.00000 0.00000
TO REGION 19= 0.00000, AF= 0.00000 TO REGION 20= 0.00000, AF= 0.00000 TO REGION 21= .00397, AF= .00476 TO REGION 22= .00029, AF= .00035 TO ALL ELEMENTS = .45333 AF= .54400	VIEW F TO TO TO TO TO TO TO TO TO TO TO TO TO	ACTORS REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION	ROM R 1= 2= 3= 4= 5= 6= 7= 8= 9= 10= 11= 12= 13= 14= 15= 16=	EGION 16 0.00000, .00372, .01987, .03210, .09109, .15467, .09109, .03210, .01987, .00454, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000,	AF== AFF=== AFF==== AFF===== AFF========	0.00000 .00446 .02385 .03852 .10931 .18561 .10931 .03852 .02385 .00545 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000
TO REGION 20=0.00000, AF=0.00000TO REGION 21=.00397, AF=.00476TO REGION 22=.00029, AF=.00035TO ALL ELEMENTS =.45333 AF=.54400	VIEW F TO TO TO TO TO TO TO TO TO TO TO TO TO	ACTORS REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION	ROM R 1= 2= 3= 4= 5= 6= 7= 8= 9= 10= 11= 12= 13= 14= 15= 16= 17=	EGION 16 0.00000, .00372, .01987, .03210, .09109, .15467, .09109, .03210, .01987, .00454, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000,	A F = = = = = = = = = = = = = = = = = =	0.00000 .00446 .02385 .03852 .10931 .18561 .10931 .03852 .02385 .00545 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000
TO REGION 21= .00397; AF= .00476 TO REGION 22= .00029; AF= .00035 TO ALL ELEMENTS = .45333 AF= .54400	VIEW F TO TO TO TO TO TO TO TO TO TO TO TO TO	ACTORS REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION	ROM R 1= 2= 3= 4= 5= 6= 7= 8= 9= 10= 11= 12= 13= 14= 15= 16= 17= 18=	EGION 16 0.00000, .00372, .01987, .03210, .09109, .15467, .09109, .03210, .01987, .00454, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000,	A A A A A A A A A A A A A A A A A A A	0.00000 .00446 .02385 .03852 .10931 .18561 .10931 .03852 .02385 .00545 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000
TO REGION 22= .00029, AF= .00035 TO ALL ELEMENTS = .45333 AF= .54400	VIEW F TO TO TO TO TO TO TO TO TO TO TO TO TO	ACTORS REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION	ROM R 1= 2= 3= 4= 5= 6= 7= 9= 10= 11= 12= 14= 15= 16= 17= 18= 19=	EGION 16 0.00000, .00372, .01987, .03210, .09109, .15467, .09109, .03210, .01987, .00454, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000,	A A A A A A A A A A A A A A A A A A A	0.00000 .00446 .02385 .03852 .10931 .18561 .10931 .03852 .02385 .00545 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000
TO ALL ELEMENTS = .45333 AF= .54400	VIEW F TO TO TO TO TO TO TO TO TO TO TO TO TO	ACTORS REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION	ROM R 1= 2= 3= 4= 5= 6= 7= 9= 10= 12= 13= 14= 15= 16= 17= 18= 20=	EGION 16 0.00000, .00372, .01987, .03210, .09109, .15467, .09109, .03210, .01987, .00454, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000,	A A A A A A A A A A A A A A A A A A A	0.00000 .00446 .02385 .03852 .10931 .18561 .10931 .03852 .02385 .00545 0.00000
	VIEW F TO TO TO TO TO TO TO TO TO TO TO TO TO	ACTORS REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION	ROM R 1= 2= 3= 4= 5= 6= 7= 9= 10= 12= 13= 14= 15= 16= 17= 18= 20= 21=	EGION 16 0.00000, .00372, .01987, .03210, .09109, .15467, .09109, .03210, .01987, .00454, 0.00000, 0.0000,000,	A A A A A A A A A A A A A A A A A A A	0.00000 .00446 .02385 .03852 .10931 .18561 .10931 .03852 .02385 .00545 0.00000
TO TUBES = .54667; AF= .65600	VIEW F TO TO TO TO TO TO TO TO TO TO TO TO TO	ACTORS REGION	ROM R 1= 2= 3= 4= 5= 6= 7= 8= 10= 11= 12= 14= 15= 16= 17= 18= 19= 20= 21= 22=	EGION 16 0.00000, .00372, .01987, .03210, .09109, .15467, .09109, .03210, .01987, .00454, 0.00000, 0.0000,0000,0000,0000,0000,0000,00000,0000	A A A A A A A A A A A A A A A A A A A	0.00000 .00446 .02385 .03852 .10931 .18561 .10931 .03852 .02385 .00545 0.000000 0.00000 0.000000 0.000000 0.000000 0.000000 0.000000000 0.00000000000000000000000000000000000
	VIEW F TO TO TO TO TO TO TO TO TO TO TO TO TO	ACTORS F REGION	ROM R 1= 2= 3= 4= 5= 6= 7= 8= 9= 10= 11= 12= 13= 14= 15= 15= 16= 17= 20= 21= 22= MENTS	EGION 16 0.00000, .00372, .01987, .03210, .09109, .15467, .09109, .03210, .01987, .00454, 0.00000, 0.0000,0000,0000,0000,0000,0000,00000,0000	A A A A A A A A A A A A A A A A A A A	0.00000 .00446 .02385 .03852 .10931 .18561 .10931 .03852 .02385 .00545 0.00000

VIEW FA	ACTORS F	ROMR	EGION 17		
TO	REGION	1 =	.00032,	AF=	.00038
TO	REGION	2 =	.00051,	AF=	.00061
TO	REGION	3 =	.00372 <i>,</i>	AF=	.00446
TO	REGION	4 =	.01987,	AF=	• 0 2 3 8 5.
TO	REGION	5 =	.03210,	AF=	•03852
TO	REGION	6=	.09109,	AF=	.10931
το	REGION	7 =	.15467,	AF=	.18561
	REGION	8 =	.09109,	AF=	.10931
	REGION	9 =	.03210,	AF=	.03852
	REGION	10=	.02441,	AF=	.02930
	REGION	11=	0.00000,	AF=	0.00000
	REGION	12=	0.00000,	AF=	0.00000
	REGION	13÷	0.00000,	AF=	0.00000
	REGION	14=	0.00000,	AF=	0.00000
	REGION	15=	0.00000,	AF=	0.00000
	REGION	16=	0.00000,	AF=	0.00000
		17=	0.00000,	AF=	0.00000
	REGION	18=	0.00000,	AF=	0.00000
		19=	0.00000,		0.00000
	REGION				0.00000
	REGION			AF=	.00256
	REGION				.00040
	ALL ELE				• 54283
TO			4764, AF=		.65717
VIEW F	ACTORS F		EGION 18	AF=	0.00000
VIEW FA	ACTORS F Region	ROM R 1=	EGION 18 0.00000,	AF=	0.00000 .00038
VIEW FA TO TO	ACTORS F REGION REGION	ROM R	EGION 18 0.00000, .00032,		
VIEW FA TO TO TO	ACTORS F REGION REGION REGION	ROM R 1= 2= 3=	EGION 18 0.00000, .00032, .00051,	AF= AF=	•00038 •00061
VIEW FA TO TO TO TO	ACTORS F REGION REGION REGION REGION	ROM R 1= 2= 3= 4=	EGION 18 0.00000, .00032, .00051, .00372,	AF = AF = AF = AF =	•00038 •00061 •00446
VIEW FA TO TO TO TO	ACTORS F REGION REGION REGION REGION REGION	ROM R 1= 2= 3= 4= 5=	EGION 18 0.00000, .00032, .00051, .00372, .01987,	AF = AF = AF = AF =	•00038 •00061 •00446 •02385
VIEW FA TO TO TO TO TO	ACTORS F REGION REGION REGION REGION REGION REGION	ROM R 1= 2= 3= 4= 5= 6*	EGION 18 0.00000, .00032, .00051, .00372, .01987, .03210,	AF = AF = AF = AF = AF = AF =	•00038 •00061 •00446 •02385 •03852
VIEW F/ TO TO TO TO TO TO	ACTORS F REGION REGION REGION REGION REGION REGION	ROM R 1= 2= 3= 4= 5= 6= 7=	EGION 18 0.00000, .00032, .00051, .00372, .01987, .03210, .09109,	AF = AF = AF = AF = AF = AF = AF =	•00038 •00061 •00446 •02385 •03852 •10931
VIEW F/ TO TO TO TO TO TO TO	ACTORS F REGION REGION REGION REGION REGION REGION REGION	FROM R 1= 2= 3= 4= 5= 6= 7= 8=	EGION 18 0.00000, .00032, .00051, .00372, .01987, .03210, .09109, .15467,	AF= AF= AFF= AFF= AFF= AF=	.00038 .00061 .00446 .02385 .03852 .10931 .18561
VIEW F/ TO TO TO TO TO TO TO	ACTORS F REGION REGION REGION REGION REGION REGION REGION REGION	ROM R 1= 2= 3= 4= 5= 6= 7= 8= 9=	EGIUN 18 0.00000, .00032, .00051, .00372, .01987, .03210, .09109, .15467, .09109,	A F F = = = = = = = = = = = = = = = = =	.00038 .00061 .00446 .02385 .03852 .10931 .18561 .10931
VIEW F/ TO TO TO TO TO TO TO TO	ACTORS F REGION REGION REGION REGION REGION REGION REGION REGION	ROM R 1= 2= 3= 4= 5= 6= 7= 8= 9= 10=	EGION 18 0.00000, .00032, .00051, .00372, .01987, .03210, .09109, .15467, .09109, .05651,	A A A A A A A A A A A A A A A A A A A	.00038 .00061 .00446 .02385 .03852 .10931 .18561 .10931 .06782
VIEW F/ TO TO TO TO TO TO TO TO TO	ACTORS F REGION REGION REGION REGION REGION REGION REGION REGION REGION	ROM R 1= 2= 3= 4= 5= 6= 7= 8= 9= 10= 11=	EGION 18 0.00000, .00032, .00051, .00372, .01987, .03210, .09109, .15467, .09109, .05651, 0.00000,	A A A A A A A A A A A A A A A A A A A	.00038 .00061 .00446 .02385 .03852 .10931 .18561 .10931 .06782 0.00000
VIEW F/ TO TO TO TO TO TO TO TO TO TO	ACTORS F REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION	ROM R 1= 2= 3= 4= 5= 6= 7= 8= 9= 10= 11= 12=	EGION 18 0.00000, .00032, .00051, .00372, .01987, .03210, .09109, .15467, .09109, .05651, 0.00000, 0.00000,	A A A A A A A A A A A A A A A A A A A	.00038 .00061 .00446 .02385 .03852 .10931 .18561 .10931 .06782 0.00000 0.00000
VIEW F/ TO TO TO TO TO TO TO TO TO TO	ACTORS F REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION	ROM R 1= 2= 3= 4= 5= 6= 7= 8= 9= 10= 11= 12= 13=	EGION 18 0.00000, .00032, .00051, .00372, .01987, .03210, .09109, .15467, .09109, .05651, 0.00000, 0.00000, 0.00000,	A A A A A A A A A A A A A A A A A A A	.00038 .00061 .00446 .02385 .03852 .10931 .18561 .10931 .06782 0.00000 0.00000 0.00000
VIEW F/ TO TO TO TO TO TO TO TO TO TO TO	ACTORS F REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION	ROM R 1= 2= 3= 4= 5= 6= 7= 8= 9= 10= 11= 12= 13= 14=	EGION 18 0.00000, .00032, .00051, .00372, .01987, .03210, .09109, .15467, .09109, .05651, 0.00000, 0.00000, 0.00000, 0.00000,	A A A A A A A A A A A A A A A A A A A	.00038 .00061 .00446 .02385 .03852 .10931 .18561 .10931 .06782 0.00000 0.00000 0.00000 0.00000
VIEW F/ TO TO TO TO TO TO TO TO TO TO TO TO TO	ACTORS F REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION	ROM R 1= 2= 3= 4= 5= 6= 7= 8= 9= 10= 11= 12= 13= 14= 15=	EGIUN 18 0.00000, .00032, .00051, .00372, .01987, .03210, .09109, .15467, .09109, .05651, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000,	A A A A A A A A A A A A A A A A A A A	.00038 .00061 .00446 .02385 .03852 .10931 .18561 .10931 .06782 0.00000 0.00000 0.00000 0.00000 0.00000
VIEW F/ TO TO TO TO TO TO TO TO TO TO TO TO TO	ACTORS REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION	ROM R 1= 2= 3= 4= 5= 6= 7= 8= 9= 10= 11= 12= 13= 14= 15= 16=	EGIUN 18 0.00000, .00032, .00051, .00372, .01987, .03210, .09109, .15467, .09109, .05651, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000,	A A A A A A A A A A A A A A A A A A A	.00038 .00061 .00446 .02385 .03852 .10931 .18561 .10931 .06782 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000
VIEW F/ TO TO TO TO TO TO TO TO TO TO TO TO TO	ACTORS REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION	ROM R 1= 2= 3= 4= 5= 6= 7= 8= 9= 10= 11= 12= 13= 14= 15= 17= 17=	EGION 18 0.00000, .00032, .00051, .00372, .01987, .03210, .09109, .15467, .09109, .05651, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000,	A A A A A A A A A A A A A A A A A A A	.00038 .00061 .00446 .02385 .03852 .10931 .18561 .10931 .06782 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000
VIEW F/ TO TO TO TO TO TO TO TO TO TO TO TO TO	ACTORS REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION	ROM R 1= 2= 3= 4= 5= 6= 7= 8= 9= 10= 11= 12= 13= 14= 15= 16= 17= 18=	EGION 18 0.00000, .00032, .00051, .00372, .01987, .03210, .09109, .15467, .09109, .05651, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000,	A A A A A A A A A A A A A A A A A A A	.00038 .00061 .00446 .02385 .03852 .10931 .18561 .10931 .06782 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000
VIEW F/ TO TO TO TO TO TO TO TO TO TO TO TO TO	ACTORS REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION	ROM R 1= 2= 3= 4= 5= 6= 7= 8= 9= 10= 11= 12= 13= 14= 15= 16= 17= 18= 19=	EGION 18 0.00000, .00032, .00051, .00372, .01987, .03210, .09109, .15467, .09109, .05651, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000,	A A A A A A A A A A A A A A A A A A A	.00038 .00061 .00446 .02385 .03852 .10931 .18561 .10931 .06782 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000
VIEW F/ TO TO TO TO TO TO TO TO TO TO TO TO TO	ACTORS REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION	ROM R 1= 2= 3= 4= 5= 6= 7= 8= 9= 10= 11= 12= 13= 14= 15= 16= 17= 18= 20=	EGIUN 18 0.00000, .00032, .00051, .00372, .01987, .03210, .09109, .15467, .09109, .05651, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000,	A A A A A A A A A A A A A A A A A A A	.00038 .00061 .00446 .02385 .03852 .10931 .18561 .10931 .06782 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000
VIEW F/ TO TO TO TO TO TO TO TO TO TO TO TO TO	ACTORS REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION	ROM R 1= 2= 3= 4= 5= 6= 7= 8= 9= 10= 11= 12= 13= 14= 15= 16= 17= 18= 19= 20= 21=	EGIUN 18 0.00000, .00032, .00051, .00372, .01987, .03210, .09109, .15467, .09109, .05651, 0.000000, 0.0000, 0.0000,000,	A A A A A A A A A A A A A A A A A A A	.00038 .00061 .00446 .02385 .03852 .10931 .18561 .10931 .06782 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00185
VIEW F/ TO TO TO TO TO TO TO TO TO TO TO TO TO	ACTORS REGION	ROM R 1= 2= 3= 4= 5= 6= 7= 8= 9= 10= 11= 12= 13= 14= 15= 16= 17= 18= 19= 21= 22= 21= 22= 22= 22= 22= 22	EGIUN 18 0.00000, .00032, .00051, .00372, .01987, .03210, .09109, .15467, .09109, .05651, 0.000000, 0.0000, 0.00000, 0.00000, 0.0000, 0.0000, 0.00000, 0.00000, 0.0000,0000,0000,0000,0000,00000,0000,0000	A A A A A A A A A A A A A A A A A A A	.00038 .00061 .00446 .02385 .03852 .10931 .18561 .10931 .06782 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000
VIEW F/ TO TO TO TO TO TO TO TO TO TO TO TO TO	ACTORS REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION	ROM R 1= 2= 3= 4= 5= 6= 7= 8= 9= 10= 12= 13= 14= 15= 16= 17= 18= 20= 21= 21= 21= 22= MENTS	EGIUN 18 0.00000, .00032, .00051, .00372, .01987, .03210, .09109, .15467, .09109, .05651, 0.000000, 0.0000, 0.00000, 0.00000, 0.0000, 0.0000, 0.00000, 0.00000, 0.0000,0000,0000,0000,0000,00000,0000,0000	A A A A A A A A A A A A A A A A A A A	.00038 .00061 .00446 .02385 .03852 .10931 .18561 .10931 .06782 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00185

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VTEW E	ACTORS		EGION 19		
	REGION	1=	0.00000,	AF=	0.0000
	REGION	2 =	0.00000,	AF=	0.00000 0.00000
	REGION	3=	.00032,	AF= AF=	
	REGION		.00051,	AF- AF=	.00038
	REGION	5=	.00372,	AF=	.00061
	REGIUN	6=	.01987,	AF=	.00446
	REGION	7=	.03210,	AF=	.02385
	REGION	8 =	•09109	AF=	.03852
	REGION	9= 9	•15467,	AF=	•10931
	REGION	10=	.14761,	AF=	.18561 .17713
	REGION	11=	0.00000,	AF=	0.00000
	REGION	12=	0.00000,	AF=	0.00000
	REGION	13=	0.00000,	AF= AF=	
	REGION	14=	0.00000,	AF- AF=	0.00000
	REGION	15=	0.00000,	AF =	0.00000
	REGION	16=	0.00000,	AF=	0.00000
	REGION	17=	0.00000		0.00000
	REGION	18=	0.00000	AF=	0.00000
	REGION	19=		AF = AF =	0.00000
	REGION	20=	0.00000, 0.00000,		0.00000
		20=	.00117,	AF=	0.0000
	REGION		.00045,	A F = A F =	.00140 .00054
	ALL ELE				
	TUBES =		- •+J1 4849, AF=		•54181 •65819
10	10053 -	- • >	4047J AF-		•03019
VIEW E		EDUN D	FGION 20		
	ACTORS F			AF=	0.0000
TO	REGION	1 =	0.00000,	&F = ^ F =	0.00000
TO To	REGION REGION	1 = 2 =	0.00000, 0.00000,	AF=	0.00000
TO TO TO	REGION REGION REGION	1 = 2 = 3 =	0.00000, 0.00000, 0.00000,	AF= AF=	0.00000 0.00000
ΤΟ ΤΟ ΤΟ ΤΟ	REGION REGION REGION REGION	1 = 2 = 3 = 4 =	0.00000, 0.00000, 0.00000, .00003,	AF = AF = AF =	0.00000 0.00000 .00038
T 0 T 0 T 0 T 0 T 0	REGION REGION REGION REGION REGION	1 = 2 = 3 = 4 = 5 =	0.00000, 0.00000, 0.00000, .00003, .00007,	A F = A F = A F = A F =	0.00000 0.00000 .00038 .00099
T 0 T 0 T 0 T 0 T 0 T 0 T 0	REGION REGION REGION REGION REGION REGION	1= 2= 3= 4= 5= 6=	0.00000, 0.00000, 0.00000, .00003, .00007, .00038,	AF = AF = AF = AF = AF =	0.00000 0.00000 .00038 .00099 .00545
T 0 T 0 T 0 T 0 T 0 T 0 T 0 T 0	REGION REGION REGION REGION REGION REGION	1 = 2 = 3 = 4 = 5 = 6 = 7 =	0.00000, 0.00000, 0.00000, .00003, .00003, .00007, .00038, .00203,	AF = AF = AF = AF = AF = AF =	0.00000 0.00000 .00038 .00099 .00545 .02930
T 0 T 0 T 0 T 0 T 0 T 0 T 0 T 0 T 0	REGION REGION REGION REGION REGION REGION REGION	1 = 2 = 3 = 4 = 5 = 6 = 7 = 8 =	0.00000, 0.00000, 0.00000, .00003, .00007, .00038, .00203, .00471,	AF = AF = AF = AF = AF = AF = AF =	0.00000 0.00000 .00038 .00099 .00545 .02930 .06782
TO TO TO TO TO TO TO TO	REGION REGION REGION REGION REGION REGION REGION REGION	1 = 2 = 3 = 4 = 5 = 6 = 7 = 8 = 9 =	0.00000, 0.00000, 0.00003, 00007, 00038, 00203, 00471, 01230,	AF = AF = AF = AF = AF = AF = AF = AF =	0.00000 0.00000 .00038 .00099 .00545 .02930 .06782 .17713
TO TO TO TO TO TO TO TO	REGION REGION REGION REGION REGION REGION REGION REGION	1= 2= 3= 4= 5= 6= 7= 8= 9= 10=	0.00000, 0.00000, 0.00003, 00007, 00038, 00203, 00471, 01230, 41085,	AF = AF = AF = AF = AF = AF = AF = AF =	0.00000 0.00000 .00038 .00099 .00545 .02930 .06782 .17713 5.91630
TO TO TO TO TO TO TO TO TO	REGION REGION REGION REGION REGION REGION REGION REGION REGION	1 = 2 = 3 = 4 = 5 = 6 = 7 = 8 = 9 = 10 = 11 =	0.00000, 0.00000, 0.00003, 00003, 00007, 00038, 00203, 00471, 01230, 41085, 0.00000,	AF = AF = AF = AF = AF = AF = AF = AF =	0.00000 0.00000 .00038 .00099 .00545 .02930 .06782 .17713 5.91630 0.00000
TO TO TO TO TO TO TO TO TO TO	REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION	1 = 2 = 3 = 4 = 5 = 6 = 7 = 8 = 9 = 10 = 11 = 12 =	0.00000, 0.00000, 0.00003, 00003, 00007, 00038, 00203, 00471, 01230, 41085, 0.00000, 0.00000,	AF = AF = AF = AF = AF = AF = AF = AF =	0.00000 0.00000 .00038 .00099 .00545 .02930 .06782 .17713 5.91630 0.00000 0.00000
TO TO TO TO TO TO TO TO TO TO	REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION	1 = 2 = 3 = 4 = 5 = 6 = 7 = 8 = 9 = 10 = 11 = 12 = 13 =	0.00000, 0.00000, 0.00003, 00003, 00007, 00038, 00203, 00471, 01230, 41085, 0.00000, 0.00000, 0.00000,	AF = AF = AF = AF = AF = AF = AF = AF =	0.00000 0.00000 .00038 .00099 .00545 .02930 .06782 .17713 5.91630 0.00000 0.00000 0.00000
TO TO TO TO TO TO TO TO TO TO TO	REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION	1 = 2 = 3 = 4 = 5 = 6 = 7 = 8 = 9 = 10 = 11 = 12 = 13 = 14 =	0.00000, 0.00000, 0.00003, 00007, 00038, 00203, 00471, 01230, 41085, 0.00000, 0.00000, 0.00000,	AF = AFF =	0.00000 0.00000 .00038 .00099 .00545 .02930 .06782 .17713 5.91630 0.00000 0.00000 0.00000 0.00000 0.00000
TO TO TO TO TO TO TO TO TO TO TO	REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION	1 = 2 = 3 = 4 = 5 = 6 = 7 = 8 = 9 = 10 = 11 = 12 = 13 = 14 = 15 =	0.00000, 0.00000, 0.00003, 00007, 00038, 00203, 00471, 01230, 41085, 0.00000, 0.00000, 0.00000, 0.00000,	AF= AFF= AFF= AFF= AFF= AFF= AFF= AFF=	0.00000 0.00000 .00038 .00099 .00545 .02930 .06782 .17713 5.91630 0.00000 0.00000 0.00000 0.00000 0.00000
TO TO TO TO TO TO TO TO TO TO TO TO	REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION	1 = 2 = 3 = 4 = 5 = 6 = 7 = 8 = 9 = 10 = 11 = 12 = 13 = 14 = 15 = 16 =	0.00000, 0.00000, 0.00003, 00003, 00007, 00038, 00203, 00471, 01230, 41085, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000,	AF= AFF= AFF= AFF= AFF= AFF= AFF= AFF=	0.00000 0.00038 .00099 .00545 .02930 .06782 .17713 5.91630 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000
TO TO TO TO TO TO TO TO TO TO TO TO	REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION	1 = 2 = 3 = 4 = 5 = 6 = 7 = 8 = 9 = 10 = 11 = 12 = 14 = 15 = 16 = 17 =	0.00000, 0.00000, 0.00003, 00003, 00007, 00038, 00203, 00471, 01230, 41085, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000,	A F = = = = = = = = = = = = = = = = = =	0.00000 0.00000 .00038 .00099 .00545 .02930 .06782 .17713 5.91630 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000
TO TO TO TO TO TO TO TO TO TO TO TO TO	REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION	1 = 2 = 3 = 4 = 5 = 6 = 7 = 8 = 9 = 10 = 11 = 12 = 14 = 15 = 16 = 17 = 18 =	0.00000, 0.00000, 0.00003, 00003, 00007, 00038, 00203, 00471, 01230, 41085, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000,	A F F F F F F F F F F F F F F F F F F F	0.00000 0.00000 .00038 .00099 .00545 .02930 .06782 .17713 5.91630 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000
TO TO TO TO TO TO TO TO TO TO TO TO TO T	REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION	1= 2= 3= 4= 5= 6= 7= 8= 9= 10= 11= 12= 13= 14= 15= 16= 17= 18= 19=	0.00000, 0.00000, 0.00000, 0.00003, 0.00007, 0.00038, 0.00038, 0.0203, 0.0203, 0.0203, 0.0203, 0.0203, 0.0203, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000,	A A A A A A A A A A A A A A A A A A A	0.00000 0.00000 .00038 .00099 .00545 .02930 .06782 .17713 5.91630 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000
TO TO TO TO TO TO TO TO TO TO TO TO TO T	REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION	1= 2= 3= 4= 5= 6= 7= 8= 9= 10= 11= 12= 13= 14= 15= 16= 17= 18= 19= 20=	0.00000, 0.00000, 0.00000, 00003, 00007, 00038, 00203, 00471, 01230, 41085, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000,	A A A A A A A A A A A A A A A A A A A	0.00000 0.00038 .00099 .00545 .02930 .06782 .17713 5.91630 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000
TO TO TO TO TO TO TO TO TO TO TO TO TO T	REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION	1 = 2 = 3 = 4 = 5 = 6 = 7 = 8 = 9 = 10 = 11 = 12 = 13 = 14 = 15 = 16 = 17 = 18 = 19 = 20 = 21 =	0.00000, 0.00000, 0.00000, 00003, 00007, 00038, 00203, 00471, 01230, 41085, 0.00000, 0.00000, 0.0000, 0.0000,000,	A A A A A A A A A A A A A A A A A A A	0.00000 0.00038 .00099 .00545 .02930 .06782 .17713 5.91630 0.000000 0.0000000 0.000000 0.000000 0.000000 0.000000 0.000000 0.000000 0.0000000 0.0000000 0.000000 0.000000 0.000000 0.000000 0.0000000 0.0000000 0.000000 0.000000 0.000000 0.000000 0.00000000
TO TO TO TO TO TO TO TO TO TO TO TO TO T	REGION REGION	1= 2= 3= 4= 5= 6= 7= 8= 9= 10= 11= 12= 13= 14= 15= 16= 17= 18= 19= 20= 21= 22=	0.00000, 0.00000, 0.00003, 00003, 00007, 00038, 00203, 00471, 01230, 41085, 0.00000, 0.00000, 0.0000, 0.0000,000,	A A A A A A A A A A A A A A A A A A A	0.00000 0.0000 00038 00099 00545 02930 06782 17713 5.91630 0.000000 0.000000 0.000000 0.000000 0.000000 0.000000 0.00000000 0.00000000000000000000000000000000000
TO TO TO TO TO TO TO TO TO TO TO TO TO T	REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION	1 = 2 = 3 = 4 = 5 = 6 = 7 = 8 = 9 = 10 = 11 = 12 = 14 = 15 = 16 = 17 = 18 = 19 = 20 = 21 = 22 = MENTS	0.00000, 0.00000, 0.00003, 00003, 00007, 00038, 00203, 00471, 01230, 41085, 0.00000, 0.00000, 0.0000, 0.0000,000,	A A A A A A A A A A A A A A A A A A A	0.00000 0.00038 .00099 .00545 .02930 .06782 .17713 5.91630 0.000000 0.0000000 0.000000 0.000000 0.000000 0.000000 0.000000 0.000000 0.0000000 0.0000000 0.000000 0.000000 0.000000 0.000000 0.0000000 0.0000000 0.000000 0.000000 0.000000 0.000000 0.00000000

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VIEW FACTORS FROM REGION 21 TO REGION 1= .13266, AF= .31577 TO REGION 3= .05266, AF= .2533 TO REGION 4= .022507, AF= .05354 TO REGION 5= .01599, AF= .03807 TO REGION 6= .00885, AF= .01494 TO REGION 8= .00468, AF= .01494 TO REGION 8= .00468, AF= .01494 TO REGION 9= .00362, AF= .01494 TO REGION 10= .01622, AF= .03861 TO REGION 10= .01622, AF= .03861 TO REGION 10= .01622, AF= .03861 TO REGION 11= .13071, AF= .31108 TO REGION 11= .02907, AF= .06918 TO REGION 13= .02907, AF= .00514 TO REGION 14= .00929, AF= .00210 TO REGION 15= .00324, AF= .00514 TO REGION 16= .00216, AF= .00514 TO REGION 17= .00119, AF= .00283 TO REGION 18= .00088, AF= .00209 TO REGION 18= .00000, AF= .00715 TO REGION 12= .03300, AF= .00715 TO REGION 21= .00000, AF= .00161 TO REGION 22= .02213, AF= .05267 TO ALL ELEMENTS = .66464 AF= .1.58184 TO TUBES = .33536, AF= .00124 TO REGION 2= .00055, AF= .00124 TO REGION 2= .00055, AF= .00138 TO REGION 5= .00065, AF= .00111 TO REGION 5= .00065, AF= .00124 TO REGION 5= .00065, AF= .00136 TO REGION 5= .00065, AF= .00124 TO REGION 5= .00065, AF= .00232 TO REGION 5= .00065, AF= .00231 TO REGION 5= .00065, AF= .00231 TO REGION 5= .00065, AF= .00232 TO REGION 5= .00014, AF= .00271 TO REGION 1= .00014, AF= .00271 TO REGION 1= .00014, AF= .00231 TO REGION 1= .00014, AF= .00231 TO REGION 1= .00014, AF= .000271 TO REGION 1= .00014, AF= .00231 TO REGION 1= .00014, AF= .00035 TO REGION 1= .00014, AF= .00035 TO REGION 1= .00026, AF= .00035 TO REGION 1= .00027, AF= .00035 TO REGION 1= .00026, AF= .00035 TO REGION 1= .00026, AF= .00035 TO REGION 1= .00026, AF= .00035 TO REGION 1=						
TO REGION 2: .12517, AF: .29789 TO REGION 3: .05266, AF: .12533 TO REGION 5: .01599, AF: .05354 TO REGION 5: .01599, AF: .02106 TO REGION 6: .00885, AF: .02106 TO REGION 8: .00468, AF: .01113 TO REGION 9: .00362, AF: .00860 TO REGION 10: .01622, AF: .00860 TO REGION 10: .01622, AF: .00861 TO REGION 10: .01622, AF: .00861 TO REGION 11: .13071, AF: .31108 TO REGION 12: .07367, AF: .17534 TO REGION 13: .02907, AF: .06918 TO REGION 14: .00929, AF: .00770 TO REGION 16: .00216, AF: .00710 TO REGION 16: .00216, AF: .00714 TO REGION 16: .00216, AF: .00715 TO REGION 17: .00119, AF: .00283 TO REGION 19: .00088, AF: .002014 TO REGION 19: .00088, AF: .00715 TO REGION 22: .02213, AF: .00715 TO REGION 22: .02213, AF: .00715 TO REGION 22: .02213, AF: .005267 TO ALL ELEMENTS : .66464 AF: .79816 VIEW FACTORS FROM REGION 22 TO REGION 1: .00027, AF: .00161 TO REGION 2: .00007, AF: .00188 TO REGION 1: .00027, AF: .00161 TO REGION 1: .00027, AF: .00161 TO REGION 2: .02213, AF: .00207 TO ALL ELEMENTS : .66464 AF: .00111 TO REGION 1: .00077, AF: .00164 TO REGION 1: .00027, AF: .00164 TO REGION 1: .00027, AF: .00164 TO REGION 1: .00027, AF: .00164 TO REGION 2: .00047, AF: .00176 TO REGION 2: .00047, AF: .00176 TO REGION 1: .00027, AF: .00176 TO REGION 2: .00047, AF: .00176 TO REGION 2: .00047, AF: .00176 TO REGION 1: .00027, AF: .00176 TO REGION 4: .00058, AF: .00232 TO REGION 4: .00058, AF: .00232 TO REGION 4: .00074, AF: .00231 TO REGION 1: .00017, AF: .00031 TO REGION 1: .00017, AF: .00035 TO REGION 1: .00017, AF: .00035 TO REGION 1: .00017, AF: .00031 TO REGION 1: .00017, AF: .00035 TO REGION 1: .00024, AF: .00035 TO REGION 1						
TO REGION 3= .05266, AF= .12533 TO REGION 4= .02250, AF= .05354 TO REGION 5= .01599, AF= .03807 TO REGION 6= .00885, AF= .01494 TO REGION 8= .00468, AF= .01113 TO REGION 9= .00362, AF= .00860 TO REGION 10= .01622, AF= .03861 TO REGION 11= .13071, AF= .01108 TO REGION 12= .07367, AF= .17534 TO REGION 12= .07367, AF= .02210 TO REGION 14= .00929, AF= .02210 TO REGION 15= .00324, AF= .00514 TO REGION 15= .00216, AF= .00283 TO REGION 17= .00119, AF= .00283 TO REGION 18= .00088, AF= .00209 TO REGION 19= .00088, AF= .00209 TO REGION 18= .00200, AF= .00216 TO REGION 19= .00000, AF= .00715 TO REGION 22= .02213, AF= .05267 TO ALL ELEMENTS = .66464 AF= .158184 TO TUBES = .33536, AF= .00136 TO REGION 2= .00052, AF= .0014 TO REGION 2= .00047, AF= .00156 TO REGION 1= .00058, AF= .00161 TO REGION 2= .00047, AF= .00161 TO REGION 2= .00047, AF= .00164 TO REGION 2= .00058, AF= .00175 TO ALL ELEMENTS = .66464 AF= .158184 TO TUBES = .33536, AF= .00176 TO REGION 2= .00058, AF= .00176 TO REGION 2= .00058, AF= .00176 TO REGION 1= .00007, AF= .00176 TO REGION 4= .00058, AF= .00176 TO REGION 5= .00065, AF= .00176 TO REGION 5= .00065, AF= .00176 TO REGION 6= .00074, AF= .00176 TO REGION 6= .00074, AF= .00271 TO REGION 6= .00074, AF= .00271 TO REGION 1= .00027, AF= .00271 TO REGION 1= .00027, AF= .00271 TO REGION 1= .00074, AF= .00035 TO REGION 1= .00015, AF= .00035 TO REGION 1= .00014, AF= .00035 TO REGION 1= .00024, AF= .00051 TO REGION 1= .00024, AF= .00051 TO REGION 2= .2						
TO REGION 4= .02250, AF= .05354 TO REGION 5= .01599, AF= .03807 TO REGION 6= .00885, AF= .01494 TO REGION 8= .00468, AF= .01113 TO REGION 9= .00362, AF= .00860 TO REGION 10= .01622, AF= .00861 TO REGION 11= .13071, AF= .31108 TO REGION 12= .07367, AF= .02210 TO REGION 14= .00929, AF= .02210 TO REGION 15= .00324, AF= .00514 TO REGION 16= .00216, AF= .00514 TO REGION 16= .00216, AF= .00514 TO REGION 17= .00188, AF= .00283 TO REGION 18= .00888, AF= .00161 TO REGION 19= .00068, AF= .00161 TO REGION 21= .00300, AF= .00700 TO REGION 22= .02213, AF= .00283 TO REGION 22= .02213, AF= .00267 TO REGION 22= .02213, AF= .00267 TO REGION 20= .00300, AF= .00700 TO REGION 20= .00300, AF= .00700 TO REGION 20= .00300, AF= .00715 TO REGION 20= .00000, AF= .00700 TO REGION 20= .00300, AF= .00161 TO REGION 20= .00300, AF= .00161 TO REGION 20= .00000, AF= .00000 TO REGION 20= .00000, AF= .00000 TO REGION 20= .00007, AF= .00161 TO REGION 20= .00077, AF= .00161 TO REGION 20= .00077, AF= .00161 TO REGION 2= .00047, AF= .00176 TO REGION 4= .00058, AF= .00124 TO REGION 5= .00065, AF= .00126 TO REGION 5= .00065, AF= .00126 TO REGION 6= .00074, AF= .00176 TO REGION 1= .00065, AF= .00232 TO REGION 1= .00012, AF= .00232 TO REGION 1= .00012, AF= .00035 TO REGION 1= .00012, AF= .00031 TO REGION 1= .00013, AF= .00035 TO REGION 1= .00024, AF= .00035 TO REGIO						
TO REGION $5 =$.01599, AF= .03807 TO REGION $6 =$.00885, AF= .01494 TO REGION $8 =$.00468, AF= .01113 TO REGION $9 =$.00362, AF= .00860 TO REGION $10 =$.01622, AF= .00861 TO REGION $11 =$.13071, AF= .31108 TO REGION $12 =$.07367, AF= .17334 TO REGION $13 =$.02907, AF= .006918 TO REGION $15 =$.00324, AF= .00770 TO REGION $15 =$.00216, AF= .00716 TO REGION $16 =$.00216, AF= .00209 TO REGION $17 =$.00138 .00209 TO REGION $12 =$.00206, AF= .00209 TO REGION $22 =$.02213, AF= .00206 TO REGION $22 =$.02213, AF= .00207 TO REGION $22 =$.000000, A						
TOREGION $6=$.00885, AF=.02106TOREGION $7=$.00628, AF=.01113TOREGION $9=$.00362, AF=.00860TOREGION $10=$.01622, AF=.00861TOREGION $11=$.13071, AF=.31108TOREGION $12=$.07367, AF=.00918TOREGION $12=$.00727, AF=.00210TOREGION $15=$.002216, AF=.00243TOREGION $15=$.00216, AF=.00243TOREGION $16=$.00216, AF=.00209TOREGION $16=$.00216, AF=.00209TOREGION $18=$.00068, AF=.00161TOREGION $12=$.00300, AF=.00000TOREGION $22=$.02213, AF=.05267TOALLELEMENTS $=$.66464AF=TOREGION $22=$.02213, AF=.00200TOREGION $22=$.00027, AF=.00111TOREGION $22=$.00027, AF=.00124TOREGION $2=$.00047, AF=.00124TOREGION $2=$.00047, AF=.00124TOREGION $2=$.00047, AF=.00124TOREGION $2=$.00058, AF=.00136TOREGION $2=$.00065, AF=.00124TOREGION $2=$.00065, AF=.00166TOREGION	TO	REGION				
TO REGION 7= .00628, AF= .01494 TO REGION 8= .00466, AF= .01113 TO REGION 9= .00362, AF= .00860 TO REGION 10= .01622, AF= .03861 TO REGION 11= .13071, AF= .31108 TO REGION 12= .07367, AF= .05918 TO REGION 14= .00929, AF= .02210 TO REGION 15= .00324, AF= .00716 TO REGION 16= .00216, AF= .00283 TO REGION 17= .00119, AF= .00283 TO REGION 18= .00088, AF= .00209 TO REGION 22= .00300, AF= .00161 TO REGION 22= .00000, AF= .000000 TO REGION 22 .000715 .000000 TO REGION 22 .00064 .00074, AF= .00161 TO REGION 22 .00065, AF= .00124 <td>TO</td> <td>REGION</td> <td>5 =</td> <td>•01599<i>•</i></td> <td></td> <td>•03807</td>	TO	REGION	5 =	•01599 <i>•</i>		•03807
TO REGION 8= .00468, AF= .01113 TO REGION 9= .00362, AF= .00860 TO REGION 10= .01622, AF= .00861 TO REGION 11= .13071, AF= .31108 TO REGION 12= .07367, AF= .17534 TO REGION 13= .02907, AF= .00210 TO REGION 14= .00929, AF= .00210 TO REGION 15= .00324, AF= .00770 TO REGION 16= .00216, AF= .00283 TO REGION 17= .0019, AF= .00283 TO REGION 18= .00088, AF= .00161 TO REGION 21= .00300, AF= .000000 TO REGION 22= .02213, AF= .05267 TO ALL ELEMENTS = .66464 AF= .05267 TO ALL ELEMENTS = .66464 AF= .05267 TO ALL ELEMENTS = .66464	TO	REGION	6=	.00885,	AF=	.02106
TO REGION 9= .00362, AF= .00860 TO REGION 10= .01622, AF= .03861 TO REGION 11= .13071, AF= .31108 TO REGION 12= .07367, AF= .06918 TO REGION 13= .02907, AF= .06918 TO REGION 14= .00929, AF= .02210 TO REGION 15= .00324, AF= .00710 TO REGION 16= .00216, AF= .00209 TO REGION 16= .00216, AF= .00209 TO REGION 18= .00088, AF= .00209 TO REGION 19= .00068, AF= .00161 TO REGION 20= .00300, AF= .00161 TO REGION 21= .00000, AF= .00000 TO REGION 21= .00000, AF= .00000 TO REGION 22= .02213, AF= .05267 TO ALL ELEMENTS = .66464 AF= .1.58184 TO TUBES = .33536, AF= .00124 TO REGION 2= .00052, AF= .0014 TO REGION 2= .00052, AF= .0014 TO REGION 2= .00052, AF= .0014 TO REGION 5= .00065, AF= .00138 TO REGION 5= .00065, AF= .00136 TO REGION 5= .00065, AF= .00176 TO REGION 6= .00074, AF= .00176 TO REGION 10= .35596, AF= .00201 TO REGION 10= .35596, AF= .00201 TO REGION 10= .35596, AF= .00232 TO REGION 10= .00013, AF= .00023 TO REGION 12= .00013, AF= .00026 TO REGION 12= .00013, AF= .000271 TO REGION 12= .00013, AF= .000271 TO REGION 14= .00015, AF= .00026 TO REGION 14= .00017, AF= .00026 TO REGION 14= .00017, AF= .00026 TO REGION 14= .00017, AF= .000271 TO REGION 14= .00017, AF= .00028 TO REGION 14= .00017, AF= .00068 TO REGION 14= .00019, AF= .00068 TO REGION 14= .00019, AF= .00068 TO REGION 14= .00019, AF= .00068 TO REGION 14= .00000, AF= .00068 TO REGION 20= .23101, AF= .05302 TO REGION 20= .23101, AF= .05302 TO REGION 21= .02228, AF= .05302 TO REGION 21= .02228, AF= .05302 TO REGION 21= .02228, AF= .05302 TO REGION 21= .00	TO	REGION	7=	.00628,	A F =	.01494
TO REGION 10= .01622, AF= .03861 TO REGION 11= .13071, AF= .31108 TO REGION 12= .07367, AF= .17534 TO REGION 13= .02907, AF= .06918 TO REGION 14= .00929, AF= .02210 TO REGION 15= .00324, AF= .00514 TO REGION 16= .00216, AF= .00514 TO REGION 16= .00216, AF= .00209 TO REGION 18= .00088, AF= .00209 TO REGION 19= .00068, AF= .00715 TO REGION 20= .00300, AF= .00715 TO REGION 21= .000000, AF= .000000 TO REGION 22= .02213, AF= .05267 TO ALL ELEMENTS = .66664 AF= .1.56184 TO TUBES = .33536, AF= .00227 TO REGION 2= .00047, AF= .00111 TO REGION 2= .00047, AF= .00124 TO REGION 3= .00052, AF= .00124 TO REGION 4= .00058, AF= .00138 TO REGION 5= .00065, AF= .00138 TO REGION 6= .00074, AF= .00176 TO REGION 6= .00074, AF= .00176 TO REGION 6= .00074, AF= .00138 TO REGION 6= .00074, AF= .00138 TO REGION 6= .00074, AF= .00138 TO REGION 7= .00065, AF= .00232 TO REGION 1= .00021, AF= .00231 TO REGION 1= .00012, AF= .00031 TO REGION 1= .00013, AF= .00031 TO REGION 1= .00013, AF= .00031 TO REGION 1= .00014, AF= .00035 TO REGION 1= .00024, AF= .00031 TO REGION 1= .00024, AF= .00035 TO REGION 1= .00024, AF= .00068 TO REGION 1= .00024, AF= .00058 TO REGION 1=	TO	REGION	8 =	.00468,	AF =	.01113
TO REGION 11 = .13071, AF = .31108 TO REGION 12 = .07367, AF = .17534 TO REGION 13 = .02907, AF = .06918 TO REGION 14 = .00929, AF = .02210 TO REGION 15 = .00324, AF = .00710 TO REGION 15 = .00216, AF = .00283 TO REGION 17 = .00119, AF = .00283 TO REGION 18 = .00088, AF = .00209 TO REGION 20 = .00300, AF = .00161 TO REGION 20 = .00300, AF = .00000 TO REGION 21 = .00000, AF = .00000 TO REGION 22 = .02213, AF = .05267 TO ALL ELEMENTS = .66464 AF = .1.58184 TO TUBES = .33536, AF = .00161 TO REGION 2 = .00027, AF = .00064 TO REGION 2 = .00027, AF = .00111 TC REGION 2 = .00027, AF = .00124 TO REGION 2 = .00058, AF = .00124 TO REGION 5 = .00065, AF = .00138 TO REGION 5 = .00065, AF = .00136 TO REGION 5 = .00065, AF = .00156 TO REGION 6 = .00074, AF = .00156 TO REGION 7 = .00065, AF = .00156 TO REGION 6 = .00074, AF = .00156 TO REGION 7 = .00065, AF = .00156 TO REGION 7 = .00014, AF = .00201 TO REGION 8 = .00098, AF = .00232 TO REGION 10 = .35596, AF = .00231 TO REGION 10 = .35596, AF = .00231 TO REGION 10 = .35596, AF = .00026 TO REGION 11 = .00017, AF = .00035 TO REGION 12 = .00012, AF = .00031 TO REGION 12 = .00012, AF = .00035 TO REGION 12 = .00013, AF = .00031 TO REGION 12 = .00014, AF = .00035 TO REGION 14 = .00015, AF = .00035 TO REGION 15 = .00016, AF = .00035 TO REGION 15 = .00016, AF = .00035 TO REGION 16 = .00019, AF = .00058 TO REGION 1700021, AF = .00058 TO REGION 1200228, AF = .00058 TO REGION 16 = .00019, AF = .00058 TO REGION 120228, AF = .00058 TO REGION 120228, AF = .00058 TO REGION 2223101, AF = .00058 TO REGION 2223101, AF = .00058 TO REGION 2223101, AF = .00058 TO REGION 222228, AF = .05002 TO REGION 222228, AF = .05002 TO REGION 24 = .0228, AF = .00058 TO REGION 25000000, AF = .000000 TO ALL ELEMENTS = .61699 AF = .0.00000	ŤO	REGION	9=	.00362,	AF≠	•00860
TO REGION 12: .07367, AF: .17534 TO REGION 13: .02907, AF: .06918 TO REGION 14: .00929, AF: .02210 TO REGION 15: .00324, AF: .00710 TO REGION 16: .00216, AF: .00283 TO REGION 18: .00088, AF: .00209 TO REGION 19: .00068, AF: .00209 TO REGION 21: .000000, AF: .00715 TO REGION 21: .000000, AF: .00000 TO REGION 21: .000000, AF: .00267 TO REGION 22: .02213, AF: .05267 TO ALL ELEMENTS : .66464 AF: .58184 TO TUBES : .33536, AF: .79816 VIEW FACTORS FROM REGION 22 .00047, AF: .00111 TO REGION 1: .00052, AF: .00124 TO REGION 3: .00052, AF: .00156 TO REGION 4: .00058, AF: .0021 TO REGION 5: .00065, AF: .0021 TO REGION 7: .00065, AF: .0021 TO REGION 8: .00074, AF: .0021 TO REGION 1: .00065, AF: .00221	TO	REGION	10=	.01622,	AF =	.03861
TOREGION13=.02907, AF=.06918TOREGION14=.00929, AF=.00210TOREGION15=.00324, AF=.00770TOREGION16=.00216, AF=.00514TOREGION17=.00119, AF=.00209TOREGION19=.00068, AF=.00209TOREGION20=.00300, AF=.00161TOREGION22=.00213, AF=.00000TOREGION22=.02213, AF=.05267TOALLELEMENTS66464TOTUBES.33536, AF=.79816VIEWFACTORSFROM REGION22TOREGION2=.00047, AF=.00111TOREGION2=.00065, AF=.00124TOREGION2=.00065, AF=.00136TOREGION5=.00065, AF=.00136TOREGION5=.00065, AF=.0021TOREGION6=.0074, AF=.0021TOREGION7=.00065, AF=.00232TOREGION1=.00098, AF=.00232TOREGION1=.00017, AF=.00021TOREGION1=.00017, AF=.00026TOREGION1=.00017, AF=.00016TOREGION1=.00028, AF=.00232TOREGION1=.00017, AF=.00026TOREGION1=<	TO	REGION	11=	·13071,	AF =	.31108
TO REGION 13= .02907, AF= .06918 TO REGION 14= .00929, AF= .02210 TO REGION 15= .00324, AF= .00770 TO REGION 16= .00216, AF= .00514 TO REGION 17= .00119, AF= .00209 TO REGION 18= .00088, AF= .00161 TO REGION 20= .00300, AF= .00161 TO REGION 21= .000000, AF= .000000 TO REGION 22= .02213, AF= .05267 TO ALL ELEMENTS = .66464 AF= 1.58184 TO TUBES = .33536, AF= .79816 VIEW FACTORS FROM REGION 22 .000047, AF= .00124 TO REGION 2= .00027, AF= .00124 TO REGION 3= .00052, AF= .00138 TO REGION 4= .00058, AF= .00136 TO REGION 5= .00065, AF= .00136 TO REGION 6= .00074, AF= .00124 TO REGION 7= .00065, AF= .00232 TO REGION 8= .00098, AF= .00232 TO REGION 12= .00014, AF= .0021 TO REGION 12= .00017, AF= .00232 <td>TO</td> <td>REGION</td> <td>12=</td> <td>.07367,</td> <td>AF=</td> <td>•17534</td>	TO	REGION	12=	.07367,	AF=	•17534
TOREGION $14 =$.00929, AF =.02210TOREGION15 =.00324, AF =.00770TOREGION16 =.00216, AF =.00514TOREGION17 =.00119, AF =.00283TOREGION19 =.00068, AF =.00209TOREGION20 =.00300, AF =.00000TOREGION21 =.00000, AF =.00000TOREGION22 =.02213, AF =.05267TOALLELEMENTS =.66464 AF =1.58184TOTUBES =.33536, AF =.79816VIEWFACTORSFROM REGION22TOREGION2 =.00047, AF =.00111TOREGION2 =.00052, AF =.00124TOREGION3 =.00052, AF =.00136TOREGION4 =.00055, AF =.00136TOREGION5 =.00074, AF =.00271TOREGION6 =.00074, AF =.00271TOREGION8 =.00098, AF =.00232TOREGION12 =.0014, AF =.00271TOREGION12 =.00013, AF =.00026TOREGION12 =.00013, AF =.00028TOREGION12 =.00014, AF =.00031TOREGION12 =.00013, AF =.00035TOREGION14 =.00013, AF =.00035TOREGION15 =.000	TO	REGION		.02907,	AF=	.06918
TOREGION15=.00324, AF=.00770TOREGION16=.00216, AF=.00514TOREGION18=.0019, AF=.00283TOREGION18=.00088, AF=.00209TOREGION20=.00300, AF=.00161TOREGION21=0.0000, AF=.00000TOREGION22=.02213, AF=.05267TOALLELEMENTS =.66464AF=1.58184TOTUBES =.33536, AF=.79816VIEWFACTORSFROM REGION22.79816VIEWFACTORSFROM REGION22.00111TOREGION2=.00047, AF=.00124TOREGION3=.00052, AF=.00124TOREGION5=.00065, AF=.00156TOREGION6=.00074, AF=.0021TOREGION7=.00065, AF=.002271TOREGION8=.00074, AF=.002271TOREGION18=.00074, AF=.00232TOREGION12=.0012, AF=.00028TOREGION12=.00015, AF=.00031TOREGION12=.00015, AF=.00035TOREGION13=.00015, AF=.00035TOREGION14=.00015, AF=.00035TOREGION15=.00016, AF=.00035TOREGION15=.00016, AF=.0003						
TO REGION 16= .00216, AF= .00514 TO REGION 17= .00119, AF= .00283 TO REGION 18= .00088, AF= .00161 TO REGION 20= .00300, AF= .00715 TO REGION 21= 0.00000, AF= .000000 TO REGION 22= .02213, AF= .05267 TO ALL ELEMENTS = .66664 AF= .158184 TO TUBES = .33536, AF= .79816 VIEW FACTORS FROM REGION 22 .00067, AF= .00124 TO REGION 2= .00052, AF= .00124 TO REGION 3= .00052, AF= .00156 TO REGION 4= .00058, AF= .00156 TO REGION 5= .00065, AF= .00166 TO REGION 6= .00074, AF= .00176 TO REGION 6= .00074, AF= .00126 TO REGION 7= .00065, AF= .00126 TO REGION 8= .00074, AF= .00201 TO REGION 6= .00074, AF= .00217 TO REGION 1= .00065, AF= .00217 TO REGION 1= .00074, AF= .00216 TO REGION 1= .0007, AF=						.00770
TO REGION 17= .00119, AF= .00283 TO REGION 18= .00088, AF= .00209 TO REGION 19= .00068, AF= .00161 TO REGION 20= .00300, AF= .00715 TO REGION 21= 0.00000, AF= .00715 TO REGION 22= .02213, AF= .05267 TO ALL ELEMENTS = .66464 AF= 1.58184 TO TUBES = .33536, AF= .79816 VIEW FACTORS FROM REGION 22 .00067, AF= .00124 TO REGION 1= .00027, AF= .00124 TO REGION 2= .00047, AF= .00124 TO REGION 4= .00058, AF= .00138 TO REGION 5= .00065, AF= .00176 TO REGION 6= .00074, AF= .00201 TO REGION 7= .00086, AF= .00232 TO REGION 7= .00086, AF= .00232 TO REGION 10= .35596, AF= .000176 TO REGION 11= .00012, AF= .00016 TO REGION 12= .00012, AF= .00031 TO REGION 12= .00012, AF= .00035 TO REGION 14= .00019, AF= .00034 <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>						
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TO REGION 19= .00068, AF= .00161 TO REGION 20= .00300, AF= .00715 TO REGION 21= 0.00000, AF= .00000 TO REGION 22= .02213, AF= .05267 TO ALL ELEMENTS = .66464 AF= 1.56184 TO TUBES = .33536, AF= .79816 VIEW FACTORS FROM REGION 22 TO REGION 1= .00027, AF= .00064 TO REGION 2= .00047, AF= .00111 TC REGION 2= .00047, AF= .00124 TO REGION 4= .00058, AF= .00138 TO REGION 5= .00065, AF= .00166 TO REGION 6= .00074, AF= .00201 TO REGION 6= .00074, AF= .00221 TO REGION 7= .00065, AF= .0021 TO REGION 7= .00076 .00232 TO <t< td=""><td></td><td></td><td></td><td></td><td></td><td></td></t<>						
TO REGION 20= .00300; AF= .00715 TO REGION 21= 0.00000; AF= 0.00000 TO REGION 22= .02213; AF= .05267 TO ALL ELEMENTS = .66464 AF= 1.58184 TO TUBES = .33536; AF= .79816 VIEW FACTORS FROM REGION 22 TO REGION 1= .00027; AF= .00064 TO REGION 2= .00047; AF= .0011 TC REGION 2= .00047; AF= .00124 TO REGION 4= .00058; AF= .00136 TO REGION 5= .00065; AF= .00176 TO REGION 6= .00074; AF= .00176 TO REGION 6= .00074; AF= .00201 TO REGION 7= .00065; AF= .00271 TO REGION 1= .0007; AF=						
TO REGION 21= 0.00000, AF= 0.00000 TO REGION 22= .02213, AF= .05267 TO ALL ELEMENTS = .66664 AF= 1.58184 TO TUBES = .33536, AF= .79816 VIEW FACTORS FROM REGION 22 TO REGION 1= .00027, AF= .00164 TO REGION 2= .00047, AF= .00124 .00124 TO REGION 3= .00052, AF= .00138 .00166 TO REGION 5= .00065, AF= .00166 .00176 TO REGION 6= .00074, AF= .00176 .00201 TO REGION 7= .00065, AF= .00201 .00271 TO REGION 10= .35596, AF= .00232 .00014, AF= .00271 TO REGION 11= .00007, AF= .00016 .00028 TO REGION 12= .00012, AF= .00031 .00028 TO REGION 12= .00013, AF= .00031 .00035 TO REGION 14= .00015, AF= .00031 .0035 TO REGION 15= .00016, AF= .00035 .00035 TO REGION 16= .00019, AF= .00035 .00044 TO REGION 16= .00019, AF= .00058 .00058 TO REGION 19= .00224, AF= .00051 .00058 TO REGION 12= .00224, AF= .00035 .00044 TO REGION 12= .00224, AF= .00051 .00058 TO REGION 12= .00224, AF= .00058 .00058 TO REGION 12= .02228, AF= .00058 .000058<						
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TO ALL ELEMENTS = .66464 AF= 1.58184 TO TUBES = .33536, AF= .79816 VIEW FACTORS FROM REGION 22 TO REGION 1= .00027, AF= .00111 TO REGION 2= .00047, AF= .00111 TO REGION 2= .00047, AF= .00124 TO REGION 3= .00052, AF= .00124 TO REGION 4= .00058, AF= .00138 TO REGION 5= .00065, AF= .00176 TO REGION 6= .00074, AF= .00201 TO REGION 7= .00065, AF= .00217 TO REGION 8= .00098, AF= .00232 TO REGION 10= .35596, AF= .00016 TO REGION 10= .35596, AF= .00016 TO REGION 11= .00012, AF= <td< td=""><td></td><td></td><td></td><td></td><td></td><td></td></td<>						
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VIEW FACTORS FROM REGION 22 TO REGION 1= .00027, AF= .00064 TO REGION 2= .00047, AF= .00111 TC REGION 3= .00052, AF= .00124 TO REGION 4= .00058, AF= .00138 TO REGION 5= .00065, AF= .00166 TO REGION 6= .00074, AF= .00176 TO REGION 7= .00065, AF= .00201 TO REGION 8= .00098, AF= .00232 TO REGION 9= .00114, AF= .00271 TO REGION 10= .35596, AF= .00211 TO REGION 10= .35596, AF= .000271 TO REGION 12= .00012, AF= .00016 TO REGION 12= .00017, AF= .00028 TO REGION 12= .00013, AF= .00031 TO REGION 13= .00013, AF= .00035 TO REGION 14= .00016, AF= .00039 TO REGION 15= .00016, AF= .00035 TO REGION 15= .00016, AF= .00051 TO REGION 16= .00019, AF= .00051 TO REGION 16= .00021, AF= .00058 TO REGION 17=						
TO REGION 1= .00027, AF= .00064 TO REGION 2= .00047, AF= .00111 TC REGION 3= .00052, AF= .00124 TO REGION 4= .00058, AF= .00138 TO REGION 5= .00065, AF= .00176 TO REGION 6= .00074, AF= .00201 TO REGION 7= .00065, AF= .00201 TO REGION 7= .00065, AF= .00201 TO REGION 7= .00065, AF= .00201 TO REGION 8= .00098, AF= .00232 TO REGION 9= .00114, AF= .00271 TO REGION 10= .35596, AF= .00271 TO REGION 11= .00007, AF= .00028 TO REGION 12= .00012, AF= .00028 TO REGION 12= .00013, AF= .00031 TO REGION 14= .00015, AF= .00039						
TO REGION 1= .00027, AF= .00064 TO REGION 2= .00047, AF= .00111 TC REGION 3= .00052, AF= .00124 TO REGION 4= .00058, AF= .00138 TO REGION 5= .00065, AF= .00176 TO REGION 6= .00074, AF= .00201 TO REGION 7= .00065, AF= .00201 TO REGION 7= .00065, AF= .00201 TO REGION 7= .00065, AF= .00201 TO REGION 8= .00098, AF= .00232 TO REGION 9= .00114, AF= .00271 TO REGION 10= .35596, AF= .00271 TO REGION 11= .00007, AF= .00028 TO REGION 12= .00012, AF= .00028 TO REGION 12= .00013, AF= .00031 TO REGION 14= .00015, AF= .00039	10	10023 -	•	JJJJJ AT -		•••••
TO REGION 2= .00047, AF= .00111 TC REGION 3= .00052, AF= .00124 TO REGION 4= .00058, AF= .00138 TO REGION 5= .00065, AF= .00156 TO REGION 6= .00074, AF= .00176 TO REGION 6= .00074, AF= .00201 TO REGION 7= .00085, AF= .00232 TO REGION 8= .00098, AF= .00271 TO REGION 9= .00114, AF= .00271 TO REGION 10= .35596, AF= .84718 TO REGION 11= .00007, AF= .00016 TO REGION 12= .00012, AF= .00028 TO REGION 13= .00013, AF= .00031 TO REGION 14= .00015, AF= .00035 TO REGION 15= .0016, AF= .00039 TO REGION 16= .00019, AF= .00058						•••••
TC REGION 3= .00052, AF= .00124 TO REGION 4= .00058, AF= .00138 TO REGION 5= .00065, AF= .00156 TO REGION 6= .00074, AF= .00176 TO REGION 7= .00085, AF= .00201 TO REGION 8= .00098, AF= .00232 TO REGION 9= .00114, AF= .00271 TO REGION 10= .35596, AF= .84718 TO REGION 11= .00007, AF= .00028 TO REGION 12= .00012, AF= .00031 TO REGION 13= .00013, AF= .00031 TO REGION 14= .00015, AF= .00031 TO REGION 15= .00016, AF= .00039 TO REGION 16= .00019, AF= .00051 TO REGION 17= .0024, AF= .00058 TO REGION 19= .00228, AF= .00068	VIEW FA	ACTORS F	ROM RI	GION 22		
TO REGION 4= .00058, AF= .00138 TO REGION 5= .00065, AF= .00156 TO REGION 6= .00074, AF= .00176 TO REGION 7= .00065, AF= .00201 TO REGION 7= .00085, AF= .00232 TO REGION 8= .0098, AF= .00232 TO REGION 9= .00114, AF= .00271 TO REGION 10= .35596, AF= .00271 TO REGION 10= .35596, AF= .00271 TO REGION 11= .0007, AF= .00016 TO REGION 12= .00012, AF= .00028 TO REGION 13= .00013, AF= .00031 TO REGION 14= .00015, AF= .00031 TO REGION 15= .00016, AF= .00039 TO REGION 16= .00019, AF= .00051 TO REGION 17= .00224, AF= .00058	VIEW FA	ACTORS F Region	ROM RI 1=	GIDN 22 .00027,	AF=	•00064
TO REGION 5= .00065, AF= .00156 TO REGION 6= .00074, AF= .00176 TO REGION 7= .00085, AF= .00201 TO REGION 8= .00098, AF= .00232 TO REGION 9= .00114, AF= .00271 TO REGION 10= .35596, AF= .84718 TO REGION 11= .0007, AF= .0028 TO REGION 12= .00012, AF= .00031 TO REGION 13= .00015, AF= .00031 TO REGION 14= .00015, AF= .00035 TO REGION 15= .00016, AF= .00039 TO REGION 16= .00019, AF= .00044 TO REGION 16= .00021, AF= .00051 TO REGION 16= .00024, AF= .00058 TO REGION 19= .00229, AF= .00068 TO REGION 21= .02228, AF= .05302	VIEW FA To To	ACTORS F Region Region	ROM RI 1= 2=	GIDN 22 .00027; .00047;	AF= AF=	•00064 •00111
TO REGION 6= .00074, AF= .00176 TO REGION 7= .00085, AF= .00201 TO REGION 8= .00098, AF= .00232 TO REGION 9= .00114, AF= .00271 TO REGION 10= .35596, AF= .84718 TO REGION 10= .35596, AF= .84718 TO REGION 11= .00007, AF= .00016 TO REGION 12= .00012, AF= .00028 TO REGION 13= .00013, AF= .00031 TO REGION 14= .00015, AF= .00035 TO REGION 15= .00016, AF= .00039 TO REGION 16= .00019, AF= .00051 TO REGION 16= .00021, AF= .00051 TO REGION 17= .00024, AF= .00058 TO REGION 19= .00029, AF= .00068 TO REGION 19= .02228, AF= .05302 TO REGION 21= .02228, AF= .05302 TO REGION 22= .000000, AF= .000000 T	VIEW FA TO TO TO	ACTORS F REGION REGION REGION	ROM RI 1= 2= 3=	GIDN 22 .00027, .00047, .00052,	&F= &F= &F=	•00064 •00111 •00124
TO REGION 7= .00085, AF= .00201 TO REGION 8= .00098, AF= .00232 TO REGION 9= .00114, AF= .00271 TO REGION 10= .35596, AF= .84718 TO REGION 11= .00007, AF= .00016 TO REGION 12= .00012, AF= .00028 TO REGION 13= .00013, AF= .00031 TO REGION 14= .00015, AF= .00035 TO REGION 15= .00016, AF= .00039 TO REGION 16= .00019, AF= .00039 TO REGION 16= .00019, AF= .00044 TO REGION 17= .00021, AF= .00051 TO REGION 17= .00024, AF= .00058 TO REGION 19= .00229, AF= .00068 TO REGION 21= .02228, AF= .05302 TO REGION 22= .000000, AF= .000000	VIEW FA TO TO TO TO	ACTORS F REGION REGION REGION REGION	ROM R 1= 2= 3= 4=	EGIDN 22 .00027, .00047, .00052, .00058,	AF= AF= AF= AF=	•00064 •00111 •00124 •00138
TO REGION 8= .00098, AF= .00232 TO REGION 9= .00114, AF= .00271 TO REGION 10= .35596, AF= .84718 TO REGION 11= .00007, AF= .00016 TO REGION 12= .00012, AF= .00028 TO REGION 13= .00013, AF= .00031 TO REGION 14= .00015, AF= .00039 TO REGION 15= .00016, AF= .00039 TO REGION 16= .00019, AF= .00044 TO REGION 17= .00024, AF= .00058 TO REGION 19= .00029, AF= .00068 TO REGION 20= .23101, AF= .05302 TO REGION 21= .02228, AF= .05302 TO REGION 22= .00000, AF= .00000 TO REGION 22= .00000, AF= .00000	VIEW FA TO TO TC TO TO	ACTORS F REGION REGION REGION REGION REGION	ROM R 1= 2= 3= 4= 5=	EGIDN 22 .00027; .00047; .00052; .00058; .00065;	AF= AF= AF= AF= AF=	•00064 •00111 •00124 •00138 •00156
TO REGION 9= .00114, AF= .00271 TO REGION 10= .35596, AF= .84718 TO REGION 11= .00007, AF= .00016 TO REGION 12= .00012, AF= .00028 TO REGION 13= .00013, AF= .00031 TO REGION 14= .00015, AF= .00035 TO REGION 15= .00016, AF= .00039 TO REGION 16= .00019, AF= .00044 TO REGION 17= .00021, AF= .00051 TO REGION 18= .00024, AF= .00058 TO REGION 19= .00029, AF= .00068 TO REGION 20= .23101, AF= .54980 TO REGION 21= .02228, AF= .05302 TO REGION 22= .00000, AF= .00000 TO ALL ELEMENTS = .61699 AF= 1.46844	VIEW FA TO TO TC TO TO TO	ACTORS F REGION REGION REGION REGION REGION REGION	ROM R 1= 2= 3= 4= 5= 6=	EGIDN 22 .00027; .00047; .00052; .00058; .00065; .00074;	AF= AF= AF= AF= AF= AF=	•00064 •00111 •00124 •00138 •00156 •00176
TO REGION 10= .35596, AF= .84718 TO REGION 11= .00007, AF= .00016 TO REGION 12= .00012, AF= .00028 TO REGION 13= .00013, AF= .00031 TO REGION 14= .00015, AF= .00035 TO REGION 15= .00016, AF= .00039 TO REGION 16= .00019, AF= .00044 TO REGION 17= .00021, AF= .00051 TO REGION 18= .00024, AF= .00058 TO REGION 19= .00029, AF= .00068 TO REGION 20= .23101, AF= .54980 TO REGION 21= .02228, AF= .05302 TO REGION 22= 0.00000, AF= .00000 TO ALL ELEMENTS = .61699 AF= 1.46844	VIEW FA TO TO TO TO TO TO	ACTORS F REGION REGION REGION REGION REGION REGION REGION	R D M R 1 = 2 = 3 = 4 = 5 = 6 = 7 =	GIDN 22 .00027; .00047; .00052; .00058; .00065; .00074; .00085;	AF= AF= AF= AF= AF= AF= AF=	.00064 .00111 .00124 .00138 .00156 .00176 .00201
TO REGION 11= .00007, AF= .00016 TO REGION 12= .00012, AF= .00028 TO REGION 13= .00013, AF= .00031 TO REGION 14= .00015, AF= .00035 TO REGION 15= .00016, AF= .00039 TO REGION 16= .00019, AF= .00051 TO REGION 17= .00024, AF= .00058 TO REGION 18= .00029, AF= .00068 TO REGION 20= .23101, AF= .05302 TO REGION 21= .02228, AF= .05302 TO REGION 22= .00000, AF= .00000 TO REGION 22= .00000, AF= .46844	VIEW FA TO TO TO TO TO TO TO	ACTORS F REGION REGION REGION REGION REGION REGION REGION	R D M R 1 = 2 = 3 = 4 = 5 = 6 = 7 = 8 =	GIDN 22 .00027, .00047, .00052, .00058, .00065, .00074, .00085, .00098,	AF= AF= AF= AF= AF= AF= AF= AF=	.00064 .00111 .00124 .00138 .00156 .00176 .00201 .00232
TO REGION 12= .00012, AF= .00028 TO REGION 13= .00013, AF= .00031 TO REGION 14= .00015, AF= .00035 TO REGION 15= .00016, AF= .00039 TO REGION 16= .00019, AF= .00044 TO REGION 17= .00021, AF= .00051 TO REGION 18= .00024, AF= .00058 TO REGION 19= .00029, AF= .00068 TO REGION 20= .23101, AF= .54980 TO REGION 21= .02228, AF= .05302 TO REGION 22= .00000, AF= .000000 TO ALL ELEMENTS = .61699 AF= 1.46844	VIEW F/ TO TO TO TO TO TO TO TO	ACTORS F REGION REGION REGION REGION REGION REGION REGION REGION	R D M R 1 = 2 = 3 = 4 = 5 = 6 = 7 = 8 = 9 =	EGIDN 22 .00027, .00047, .00052, .00058, .00065, .00074, .00085, .00098, .00114,	AF= AF= AF= AF= AF= AF= AF= AF=	.00064 .00111 .00124 .00138 .00156 .00176 .00201 .00232 .00271
TO REGION 13= .00013, AF= .00031 TO REGION 14= .00015, AF= .00035 TO REGION 15= .00016, AF= .00039 TO REGION 16= .00019, AF= .00044 TO REGION 17= .00021, AF= .00051 TO REGION 18= .00024, AF= .00058 TO REGION 19= .00029, AF= .00068 TO REGION 20= .23101, AF= .54980 TO REGION 21= .02228, AF= .05302 TO REGION 22= .00000, AF= .00000 TO ALL ELEMENTS = .61699 AF= 1.46844	VIEW FA TO TO TO TO TO TO TO TO	ACTORS F REGION REGION REGION REGION REGION REGION REGION REGION REGION	R D M R 1 = 2 = 3 = 4 = 5 = 6 = 7 = 8 = 9 = 10 =	GIDN 22 .00027, .00047, .00052, .00058, .00065, .00074, .00065, .00098, .00114, .35596,	AF= AF= AF= AF= AF= AF= AF= AF= AF=	•00064 •00111 •00124 •00138 •00156 •00176 •00201 •00232 •00271 •84718
TO REGION 14= .00015, AF= .00035 TO REGION 15= .00016, AF= .00039 TO REGION 16= .00019, AF= .00044 TO REGION 17= .00021, AF= .00051 TO REGION 18= .00024, AF= .00058 TO REGION 19= .00029, AF= .00068 TO REGION 20= .23101, AF= .54980 TO REGION 21= .02228, AF= .05302 TO REGION 22= 0.00000, AF= .000000 TO ALL ELEMENTS = .61699 AF= 1.46844	VIEW FA TO TO TO TO TO TO TO TO TO	ACTORS F REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION	ROM R 1= 2= 3= 4= 5= 6= 7= 8= 9= 10= 11=	GIDN 22 .00027; .00047; .00052; .00058; .00065; .00074; .00085; .00098; .00114; .35596; .00007;	AF= AF= AF= AF= AF= AF= AF= AF= AF= AF=	.00064 .00111 .00124 .00138 .00156 .00176 .00201 .00232 .00271 .84718 .00016
TO REGION 15= .00016; AF= .00039 TO REGION 16= .00019; AF= .00044 TO REGION 17= .00021; AF= .00051 TO REGION 18= .00024; AF= .00058 TO REGION 19= .00029; AF= .00068 TO REGION 20= .23101; AF= .54980 TO REGION 21= .02228; AF= .05302 TO REGION 22= 0.00000; AF= .000000 TO ALL ELEMENTS = .61699 AF= 1.46844	VIEW FA TO TO TO TO TO TO TO TO TO TO	ACTORS F REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION	R D M R 1 = 2 = 3 = 4 = 5 = 6 = 7 = 8 = 9 = 10 = 11 = 12 =	EGIDN 22 .00027, .00047, .00052, .00058, .00065, .00074, .00085, .00098, .00114, .35596, .00007, .00012,	AF= AFF= AFF= AFF= AFF= AFF= AFF= AFF=	.00064 .00111 .00124 .00138 .00156 .00176 .00201 .00232 .00271 .84718 .00016 .00028
TO REGION 16= .00019, AF= .00044 TO REGION 17= .00021, AF= .00051 TO REGION 18= .00024, AF= .00058 TO REGION 19= .00029, AF= .00068 TO REGION 20= .23101, AF= .54980 TO REGION 21= .02228, AF= .05302 TO REGION 22= 0.00000, AF= .00000 TO ALL ELEMENTS = .61699 AF= 1.46844	VIEW FA TO TO TO TO TO TO TO TO TO TO TO	ACTORS F REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION	R D M R 1 = 2 = 3 = 4 = 5 = 6 = 7 = 8 = 9 = 10 = 11 = 12 = 13 =	EGIDN 22 .00027, .00047, .00052, .00058, .00065, .00074, .00085, .00098, .00114, .35596, .00007, .00012, .00013,	AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF AFF A	.00064 .00111 .00124 .00138 .00156 .00176 .00201 .00232 .00271 .84718 .00016 .00028 .00031
TD REGION 17= .00021; AF= .00051 TD REGION 18= .00024; AF= .00058 TD REGION 19= .00029; AF= .00068 TD REGION 20= .23101; AF= .54980 TD REGION 21= .02228; AF= .05302 TD REGION 22= 0.00000; AF= 0.00000 TD ALL ELEMENTS = .61699 AF= 1.46844	VIEW FA TO TO TO TO TO TO TO TO TO TO TO	ACTORS F REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION	R D M R 1 = 2 = 3 = 4 = 5 = 6 = 7 = 8 = 9 = 10 = 11 = 12 = 13 = 14 =	GIDN 22 .00027, .00047, .00052, .00058, .00065, .00074, .00085, .00098, .00114, .35596, .00012, .00013, .00015,	AFF= AFF= AFFF= AFFF= AFFF= AFFF= AFFF= AFF= AFF=	.00064 .00111 .00124 .00138 .00156 .00176 .00201 .00232 .00271 .84718 .00016 .00028 .00031 .00035
TO REGION 18= .00024; AF= .00058 TO REGION 19= .00029; AF= .00068 TO REGION 20= .23101; AF= .54980 TO REGION 21= .02228; AF= .05302 TO REGION 22= 0.00000; AF= 0.00000 TO ALL ELEMENTS = .61699 AF= 1.46844	VIEW FA TO TO TO TO TO TO TO TO TO TO TO TO TO	ACTORS REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION	R D M R 1 = 2 = 3 = 4 = 5 = 6 = 7 = 8 = 9 = 10 = 11 = 12 = 13 = 14 = 15 =	GIDN 22 .00027, .00047, .00052, .00058, .00065, .00074, .00085, .00098, .00114, .35596, .00012, .00013, .00015, .00016,	AFF== FFFF== AFFFF== AFFFF== AFFFF== AFFFF== AFFF==	.00064 .00111 .00124 .00138 .00156 .00176 .00201 .00232 .00271 .84718 .00016 .00028 .00031 .00035 .00039
TO REGION 19=.00029, AF=.00068TO REGION 20=.23101, AF=.54980TO REGION 21=.02228, AF=.05302TO REGION 22=0.00000, AF=0.00000TO ALL ELEMENTS =.61699 AF=1.46844	VIEW F/ TO TO TO TO TO TO TO TO TO TO TO TO TO	ACTORS REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION	R D M R 1 = 2 = 3 = 4 = 5 = 6 = 7 = 8 = 9 = 10 = 11 = 12 = 13 = 14 = 15 = 16 =	EGIDN 22 .00027, .00047, .00052, .00058, .00065, .00074, .00085, .00098, .00114, .35596, .00017, .00012, .00015, .00016, .00019,	AAAAAAAAAAAAAAA FFFF===================	.00064 .00111 .00124 .00138 .00156 .00201 .00232 .00271 .84718 .00016 .00028 .00031 .00035 .00039 .00044
TO REGION 20=.23101; AF=.54980TO REGION 21=.02228; AF=.05302TO REGION 22=0.00000; AF=0.00000TO ALL ELEMENTS =.61699AF=1.46844	VIEW F/ TO TO TO TO TO TO TO TO TO TO TO TO TO	ACTORS REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION	R D M R 1 = 2 = 3 = 4 = 5 = 6 = 7 = 8 = 9 = 10 = 11 = 12 = 13 = 14 = 15 = 16 = 17 =	EGIDN 22 .00027, .00047, .00052, .00058, .00065, .00074, .00085, .00098, .00114, .35596, .00017, .00012, .00013, .00015, .00016, .00019, .00021,	AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA	.00064 .00111 .00124 .00138 .00156 .00176 .00201 .00232 .00271 .84718 .00016 .00028 .00031 .00035 .00039 .00044 .00051
TO REGION 21= .02228, AF= .05302 TO REGION 22= 0.00000, AF= 0.00000 TO ALL ELEMENTS = .61699 AF= 1.46844	VIEW FA TO TO TO TO TO TO TO TO TO TO TO TO TO	ACTORS F REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION	R D M R 1 = 2 = 3 = 4 = 5 = 6 = 7 = 8 = 9 = 10 = 11 = 12 = 13 = 14 = 15 = 16 = 17 = 18 =	EGIDN 22 .00027, .00047, .00052, .00058, .00065, .00074, .00085, .00098, .00114, .35596, .00012, .00012, .00013, .00015, .00016, .00021, .00024,	AAAAAAAAAAAAAAAAA FFFFFFFFFFFFFFF FFFFFFFF	.00064 .00111 .00124 .00138 .00156 .00176 .00201 .00232 .00271 .84718 .00016 .00028 .00031 .00035 .00039 .00044 .00051 .00058
TD REGION 22= 0.00000, AF= 0.00000 TD ALL ELEMENTS = .61699 AF= 1.46844	VIEW FA TO TO TO TO TO TO TO TO TO TO TO TO TO	ACTORS REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION	R DM R 1 = 2 = 3 = 4 = 5 = 6 = 7 = 8 = 9 = 10 = 11 = 12 = 13 = 14 = 15 = 16 = 17 = 18 = 19 =	EGIDN 22 .00027, .00047, .00052, .00058, .00065, .00074, .00085, .00098, .00114, .35596, .00012, .00012, .00013, .00015, .00016, .00021, .00024, .00029,	AAAAAAAAAAAAAAAAAA FFFFFFFFFFFFFFFFFF FFFFFFFF	.00064 .00111 .00124 .00138 .00156 .00176 .00201 .00232 .00271 .84718 .00016 .00028 .00031 .00035 .00039 .00044 .00051 .00058 .00068
TO ALL ELEMENTS = .61699 AF= 1.46844	VIEW FA TO TO TO TO TO TO TO TO TO TO TO TO TO	ACTORS REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION REGION	R D M R 1 = 2 = 3 = 4 = 5 = 6 = 7 = 8 = 9 = 10 = 11 = 12 = 14 = 15 = 14 = 15 = 16 = 17 = 18 = 19 = 20 =	EGIDN 22 .00027, .00047, .00052, .00058, .00065, .00074, .00085, .00098, .00114, .35596, .00012, .00012, .00013, .00015, .00016, .00021, .00024, .00029, .23101,	AAAAAAAAAAAAAAAAAAAA FFFFFFFFFFFFFFFFF	.00064 .00111 .00124 .00138 .00156 .00176 .00201 .00232 .00271 .84718 .00016 .00028 .00031 .00035 .00039 .00044 .00051 .00058 .00068 .54980
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IU IUBES = .38301; AF= .91156	VIEW F/ TO TO TO TO TO TO TO TO TO TO TO TO TO	ACTORS REGION	R D M R 1 = 2 = 3 = 4 = 5 = 6 = 7 = 8 = 9 = 10 = 11 = 12 = 14 = 15 = 14 = 15 = 14 = 15 = 20 = 21 = 22 =	EGIDN 22 .00027, .00047, .00052, .00058, .00065, .00074, .00085, .00098, .00114, .35596, .00012, .00012, .00013, .00015, .00016, .00019, .00021, .00024, .00029, .23101, .02228, 0.00000,	A A A A A A A A A A A A A A A A A A A	.00064 .00111 .00124 .00138 .00156 .00201 .00232 .00271 .84718 .00016 .00028 .00031 .00035 .00039 .00044 .00051 .00058 .00068 .54980 .05302 0.00000
	VIEW F/ TO TO TO TO TO TO TO TO TO TO TO TO TO	ACTORS F REGION	R D M R 1 = 2 = 3 = 4 = 5 = 6 = 7 = 8 = 9 = 10 = 11 = 12 = 14 = 15 = 14 = 15 = 16 = 17 = 18 = 19 = 20 = 21 = 22 = MENTS	EGIDN 22 .00027, .00047, .00052, .00058, .00065, .00074, .00065, .00098, .00114, .35596, .00017, .00012, .00013, .00015, .00016, .00019, .00021, .00024, .00029, .23101, .02228, 0.00000, = .616	A A A A A A A A A A A A A A A A A A A	.00064 .00111 .00124 .00138 .00156 .00176 .00201 .00232 .00271 .84718 .00016 .00028 .00031 .00035 .00039 .00044 .00051 .00058 .00068 .54980 .05302 0.00000 1.46844

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- 3. Sparrow, E. M.; and Cess, R. D.: Radiation Heat Transfer. Augmented Ed. Hemisphere Pub. Corp., c.1978.

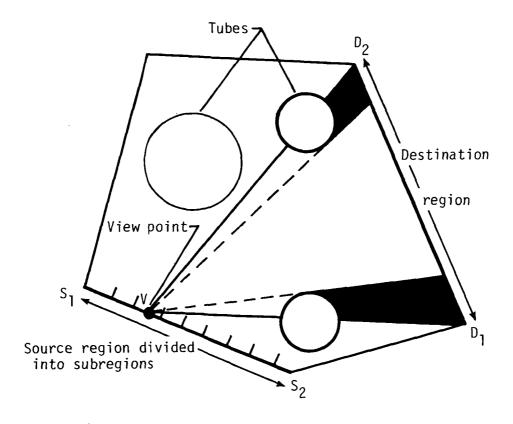


Figure 1.- Typical arrangement of source and destination regions and occluding tubes.

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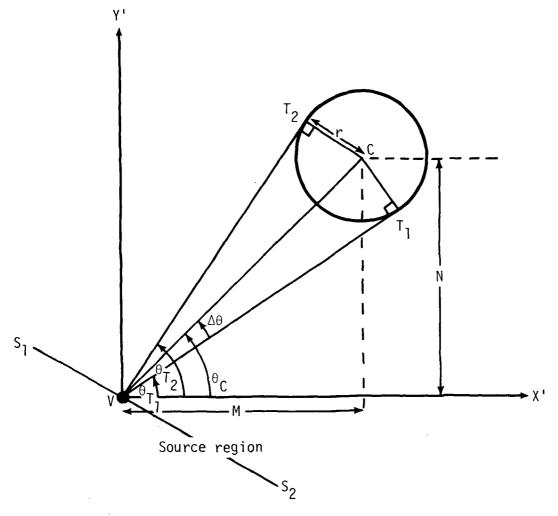


Figure 2.- Geometry used in computation of angles from X' to lines from view point V to points of tangency T_1 and T_2 of tube.

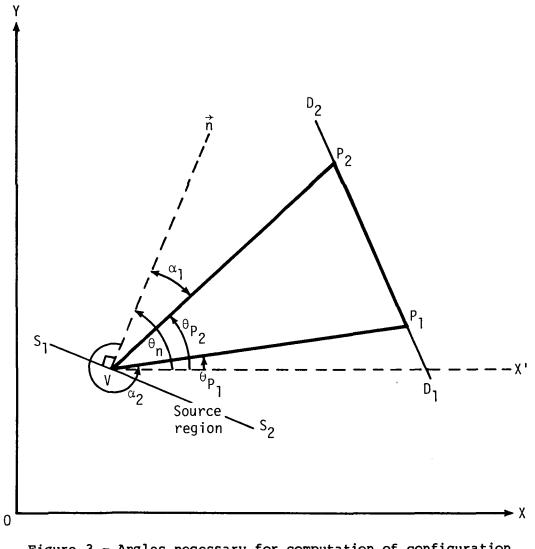


Figure 3.- Angles necessary for computation of configuration factor from view point $\frac{V}{D_1D_2}$ to unshadowed portion $\frac{P_1P_2}{D_1D_2}$.

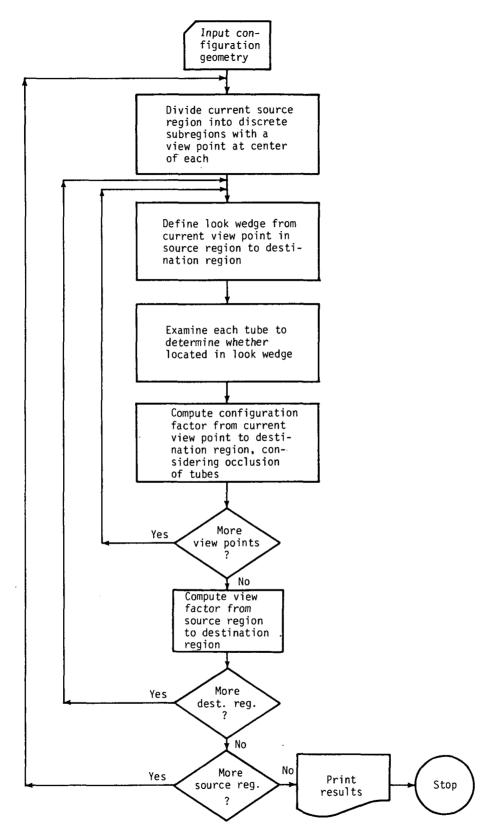
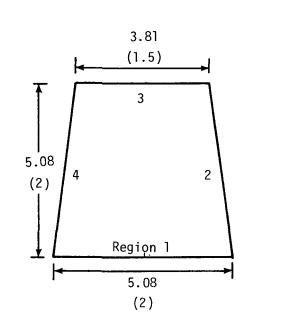
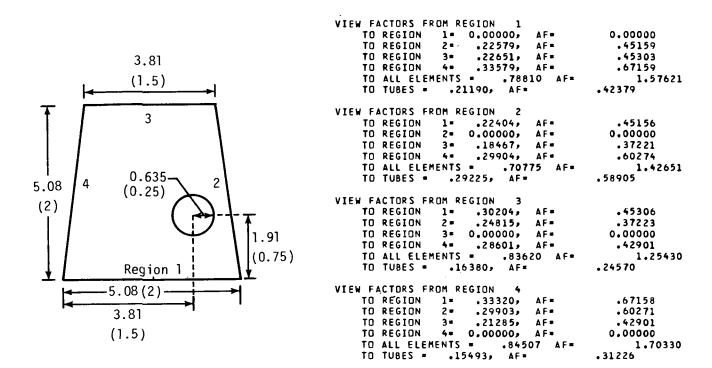


Figure 4.- Simplified flow chart of program VIEWFAC.



VIEW FACTORS FROM REGION 1	
TO REGION 1= 0.00000, AF=	0.00000
TO REGION 1= 0.00000, AF= TO REGION 2= .33951, AF=	.67901
TO DECTON 3- 22000 AE-	66100
TO REGION 4= .33951, AF=	.67901
TO ALL ELEMENTS = 1.00000 AF=	2.00000
TO REGION 3= .32099, AF= TO REGION 4= .33951, AF= TO ALL ELEMENTS = 1.00000 AF= TO TUBES = .00000, AF=	.00000
VIEW FACTORS FROM REGION 2	
TO REGION 1= .33688, AF= TO REGION 2= 0.00000, AF=	.67901
TO REGION 2= 0.00000, AF=	0.00000
TO REGION 3= .21285, AF=	.42901
TO REGION 4= .45027, AF=	.90754
TO ALL ELEMENTS = 1.00000 AF=	2.01556
TO REGION 3= .21285, AF= TO REGION 4= .45027, AF= TO ALL ELEMENTS = 1.00000 AF= TO TUBES = .00000, AF=	.00000
· · · · · · · · · · · · · · · · · · ·	
VIEW FACTORS FROM REGION 3	
VIEW FACTORS FROM REGION 3 TO REGION 1= .42798, AF= TO REGION 2= .28601, AF=	.64197
TO REGION 2= .28601, AF=	.42901
TO REGION 3= 0.00000, AF=	0.00000
TO REGION 4= .286 01, AF=	.42901
TO ALL ELEMENTS = 1,00000 AF=	1.50000
TO REGION 3= 0.00000, AF= TO REGION 4= .28601, AF= TO ALL ELEMENTS = 1.00000 AF= TO TUBES = .00000, AF=	.00000
VIEW FACTORS FROM REGION 4	
TO REGION 1= .33688, AF=	.67901
TO REGION 2= .45027, AF=	.90754
VIEW FACTORS FROM REGION 4 TO REGION 1= .33688, AF= TO REGION 2= .45027, AF= TO REGION 3= .21285, AF= TO REGION 4= 0.00000, AF= TO ALL ELEMENTS = 1.00000 AF= TO TUBES = .00000. AF=	.42901
TO REGION 4= 0.00000, AF=	0.00000
TO ALL ELEMENTS = 1.00000 AF=	2.01556
TO TUBES = .00000, AF=	.00000

(a) No occlusion.



(b) Partial occlusion.

Figure 5.- Check cases used to verify program VIEWFAC.

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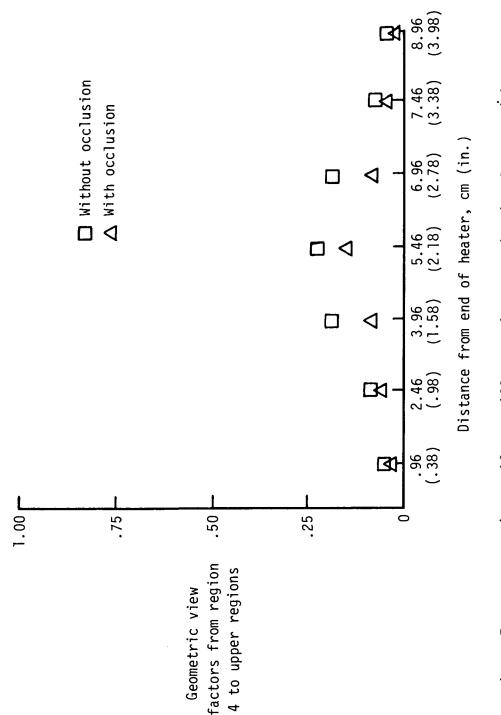


Figure 7.- Demonstration problem: Difference in geometric view factors with and without occlusion by lamps in heater.

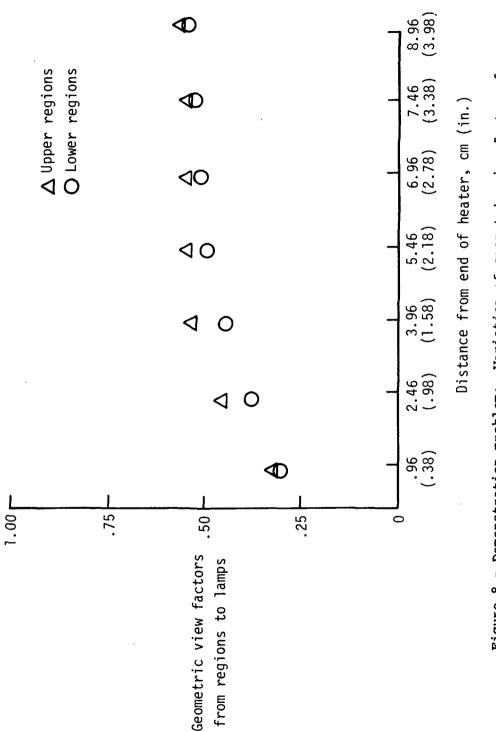


Figure 8.- Demonstration problem: Variation of geometric view factors from regions to lamps near end of heater.

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