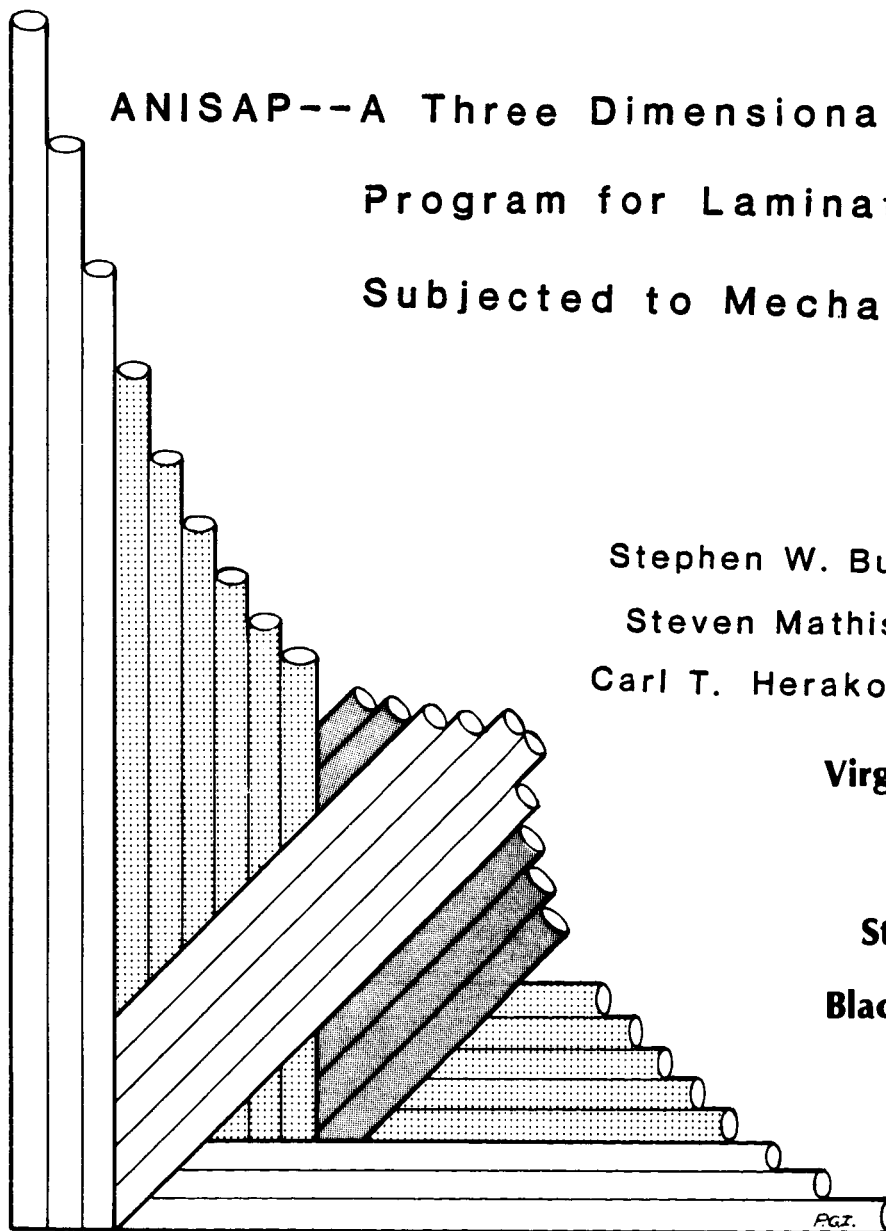


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VIRGINIA TECH CENTER FOR COMPOSITE MATERIALS AND STRUCTURES



ANISAP--A Three Dimensional Finite Element
Program for Laminated Composites
Subjected to Mechanical Loading

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*ANISAP -- A Three Dimensional Finite Element
Program for Laminated
Composites Subjected to Mechanical Loading*

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ABSTRACT

ANISAP is a 3-D finite element FORTRAN 77 computer code for linear elastic, small strain, analysis of laminated composites with arbitrary geometry including free edges and holes. Individual layers may be isotropic or transversely isotropic in material principal coordinates; individual layers may be rotated off-axis about a global z-axis. The laminate may be a hybrid. Three different isoparametric elements, variable order of gaussian integration, calculation of stresses at element boundaries, and loading by either nodal displacement or forces are included in the program capability.

Post processing capability includes failure analysis using the tensor polynomial failure criterion.

Table of Contents

1.0	SUMMARY	1
1.1	Program Options	1
1.2	Output Capabilities	1
1.3	Material	1
1.4	Finite Element Model	1
1.5	Pre-Processing	2
1.6	Post-Processing	2
1.7	Implementation	2
2.0	PROGRAM INPUT	5
2.1	DATA INPUT DESCRIPTION AND FORMAT	5
2.1.1	Job Title (1 card)	5
2.1.2	Element and Quadrature Data (1 card)	6
2.1.3	Program Control Information (1 card)	7
2.1.4	Scale Factors (1 card)	7
2.1.5	Nodal Data Cards (NUMNP cards)	8
2.1.6	Load Data Control Card (1 card)	8
2.1.7	Load Data Cards (No. of Cards = NLOAD (L = 1, ... NLOAD))	9
2.1.8	Element Group Data Cards (4 cards)	9
2.1.9	Element Data Cards (2 cards per element)	11
2.2	USING MESHGEN	12
2.2.1	Executing MESHGEN on the IBM System	12
2.2.2	Executing MESHGEN on the NASA Langley System	12
3.0	PROGRAM EXECUTION	13
3.1	SUBMITTING ANISAP	13
3.1.1	VPI - IBM System	13
3.1.2	NASA - Cyber 205	13
3.2	EXECUTING ANISAP	13
3.3	PROGRAM OUTPUT	14
4.0	POST-PROCESSING CAPABILITIES	15
4.1	PROGRAM READER	15
4.1.1	Executing READER on the IBM System	15
4.1.2	Executing READER on the NASA / Langley System	15
4.2	PROGRAM TWUSTRS	16
4.2.1	Executing TWUSTRS on the IBM System	16
5.0	REFERENCES	19
6.0	APPENDIX	20

FOREWORD

ANISAP was written by Stephen Burns. The User's Guide was written by Steve Mathison with the assistance of Tamara Knott. Professor Herakovich was the faculty advisor on the project. Financial support was provided by the NASA - Virginia Tech Composites Program through NASA Grant NAG 1-343. Dr. Jerry Williams of the Structural Mechanics Branch served as the Technical Monitor.

1.0 SUMMARY

ANISAP, which stands for ANIsotropic Static Analysis Program, is a finite element code specifically designed for three-dimensional analysis of composite laminates. Assumptions made in the finite element formulation include:

- Linear Elastic Material Behavior
- Geometric linearity (small strains)
- Transversely isotropic layers

1.1 Program Options

- Use of 16 node, 20 node, or 24 node isoparametric elements (See figure 1)
- Variable order of gaussian integration -- from 2x2x1 to 6x6x1 quadrature
- Calculation of stresses at element boundaries
- Loading of the laminate by either nodal displacements, nodal forces, or a combination of both

1.2 Output Capabilities

- Nodal Displacements
- Stresses and Strains in Material Principle Coordinates
- Stresses and Strains in Global Coordinates
- Stresses and Strains calculated at gauss points
- Stresses output at the element boundaries (optional)

1.3 Material

The program uses as a material model an orthotropic material whose principal axes of orthotropy may be at some angle rotated about the global z-axes. This model is consistent with the material properties of a unidirectional composite lamina (Fig. 2).

1.4 Finite Element Model

ANISAP, written in Fortran 77, is based on the finite element program STAP (Static Analysis Program) developed by Bathe and Wilson [1], and so makes use of the skyline storage scheme for storage of the global stiffness matrix. Temporary disk files are also used to reduce the amount of in-core storage required. Either 16, 20, or 24 node isoparametric elements may be used in the

analysis. The theoretical development and applications to composite plates with holes is presented by Burns, Herakovich, and Williams [2].

For convenience, elements are organized into element groups. Material properties are assumed constant within an element group. In practice, each element group might represent a single ply of a laminate (although more than one element group per ply may be used), with the only variation between element groups being the angle of orientation θ . Of course, material properties may be varied between element groups to represent hybrid (non-homogeneous through the thickness) laminates or for the study of problems at the micromechanics level.

1.5 Pre-Processing

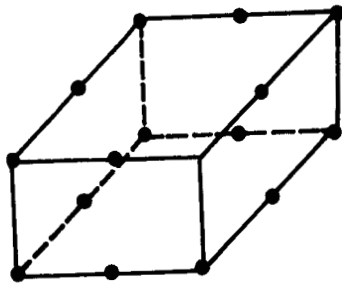
Pre-processing capabilities include the program MESHGEN which transforms a two-dimensional grid into the desired three-dimensional mesh. This 3-D input file is used as the input file to ANISAP.

1.6 Post-Processing

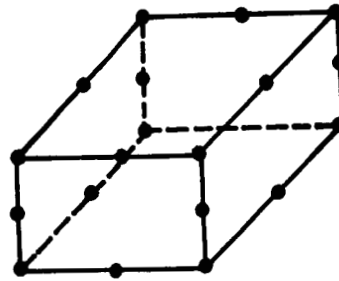
Post-processing capabilities are limited to a laminated plate with a central hole. The program READER reads from the ANISAP output file and tabulates stresses at boundary points within a specified limiting radius. The program TWUSTRS applies the Tsai-Wu tensor polynomial failure criterion to the READER output file to determine the load factor and orientation from the global axes at which failure will initiate.

1.7 Implementation

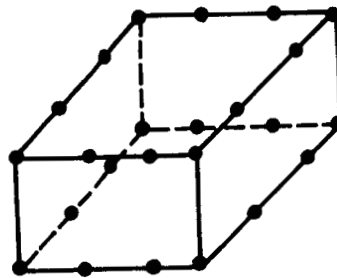
The program ANISAP as well as the pre- and post-processing programs may be implemented on either the IBM system at VPI or on the Cyber 205 at NASA's Langley Research Center. The VM Batch Subsystem is used to submit ANISAP on the IBM whereas the Z computer (resource Z) is used to submit ANISAP to the Cyber 205.



(a) 16 node isoparametric element



(b) 20 node isoparametric element



(c) 24 node isoparametric element

Figure 1. Isoparametric elements.

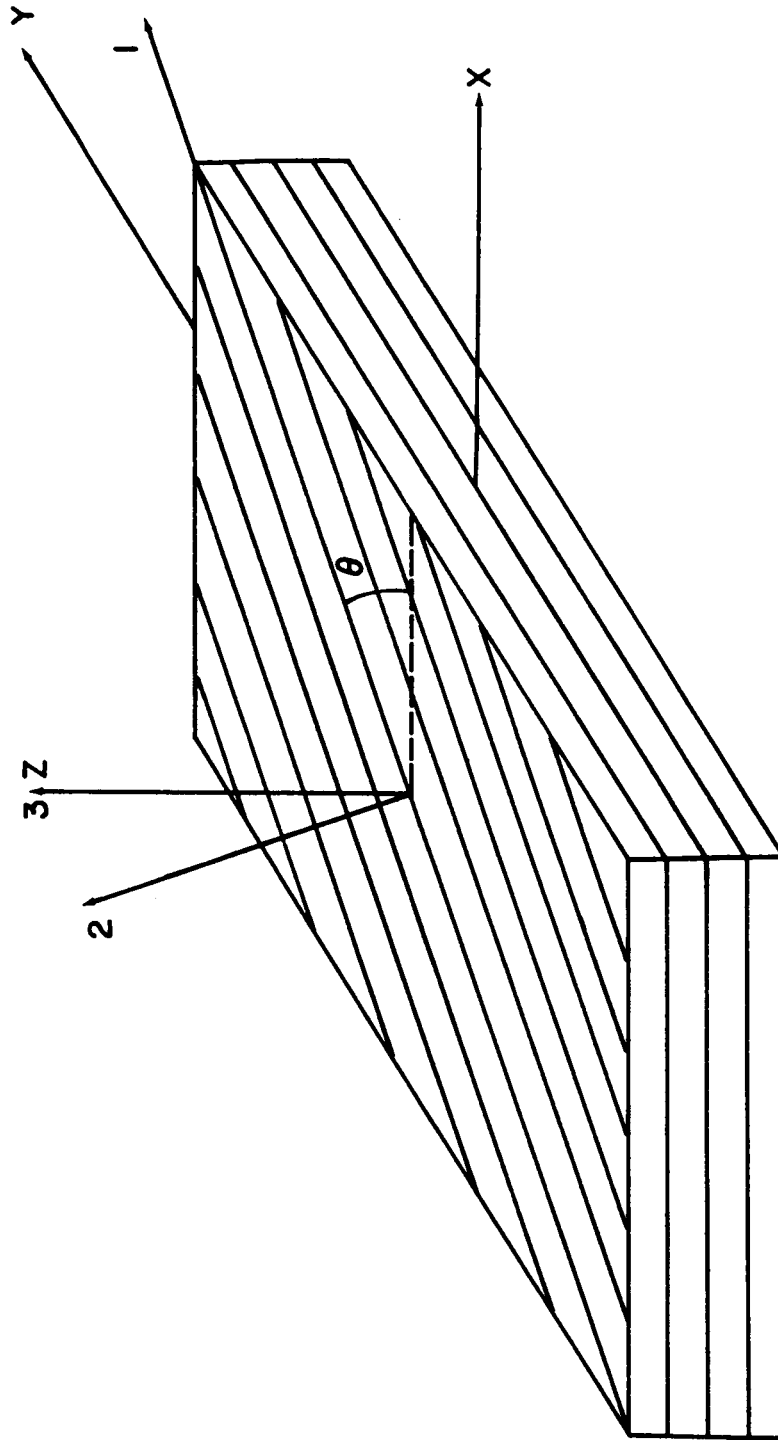


Figure 2. Orthotropic material layer rotated through an angle θ from the global X-Y coordinate system.

2.0 PROGRAM INPUT

Input data for a two dimensional grid (i.e. no dimensions in the z direction) is placed in the file 2DINPUT. This file contains node points in one plane only. 2DINPUT is then used as the input file to the program MESHGEN which generates the three dimensional mesh file 3DINPUT. This file is used as input to ANISAP. The input data file 2DINPUT is described below.

2.1 DATA INPUT DESCRIPTION AND FORMAT

2.1.1 Job Title (1 card)

Column	Format	Variable Name	Description
1-80	20A4	HED(20)	Title

The title should be used to describe pertinent features of the case being run. It will be printed by the program ANISAP at the top of the output file as well.

2.1.2 Element and Quadrature Data (1 card)

Column	Format	Variable Name	Description
1-5	I5	NNOD	Number of nodes per element (16, 20 or 24)
6-10	I5	INTEG	Order of in-plane gauss point integration (value of n in the nxnmx quadrature)
11-15	I5	INTEG2	Order of through-the-thickness gauss point integration (value of m in the nxnmx quadrature)
16-20	I5	INTEG3	Order of in-plane stress point integration (value of j in the jxjxk quadrature)
21-25	I5	INTEG4	Order of through-the-thickness stress point integration (value of k in the jxjxk quadrature)

2.1.3 Program Control Information (1 card)

Column	Format	Variable Name	Description
1-5	I5	NUMNP	Number of node points
6-10	I5	NUMEG	Number of element groups
11-15	I5	NLCASE	Number of load cases
16-20	I5	MODEX	Execution mode: MODEX = 0: Data Check MODEX = 1: Execution
21-25	I5	NBC	Number of displacement boundary conditions (nonfixed)

NUMNP The total number of node points in the two-dimensional grid.

NUMEG The number of element groups in the three-dimensional mesh. Any number may be entered here because it is later over-written by the program MESHGEN. Zero is commonly chosen, since a 2-D input file contains no element groups.

MODEX Determines whether the program runs only through the pre-processing stage (Data Check) or runs through the full program (Execution). See section "EXECUTING ANISAP" for more details on MODEX.

NBC The number of imposed boundary conditions (nodal displacements) in the two-dimensional grid.

2.1.4 Scale Factors (1 card)

Column	Format	Variable Name	Description
1-10	F10.6	XFAC	X scale factor
11-20	F10.6	YFAC	Y scale factor
21-30	F10.6	ZFAC	Z scale factor

The program MESHGEN gives each element group a unit thickness in 3DINPUT. The node point coordinates from 3DINPUT are multiplied by their respective scale factors in the program ANISAP. For example, to model a laminate with laminae thickness of 0.005" using three elements through the thickness of each ply, set ZFAC = 0.001667.

2.1.5 Nodal Data Cards (NUMNP cards)

Column	Format	Variable Name	Description
1-5	I5	N	Node Number
6-10	I5	ID(1,N)	X boundary condition code
11-15	I5	ID(2,N)	Y boundary condition code
16-20	I5	ID(3,N)	Z boundary condition code
21-30	F10.6	X(N)	X global coordinate
31-40	F10.6	Y(N)	Y global coordinate
41-50	F10.6	Z(N)	Z global coordinate (zero for 2-D grid)

NOTE: ID(I,N) = 0 - Degree of freedom I of node N is free
 ID(I,N) = 1 - Degree of freedom I of node N is fixed
 The boundary condition codes for the 2-D grid are repeated through the thickness by MESHGEN.

2.1.6 Load Data Control Card (1 card)

Column	Format	Variable Name	Description
1-5	I5	LL	Load Case Number
6-10	I5	NLOAD	Number of loaded degrees of freedom
11-20	F10.4	SCALOD	Load scale factor (all loads input for this load case are multiplied by scale factor)

2.1.7 Load Data Cards (No. of Cards = NLOAD (L = 1, ... NLOAD))

(If NLOAD = 0, this card must be omitted)

Column	Format	Variable Name	Description
1-5	I5	NOD(L)	Node number with external load applied
6-10	I5	IDIRN(L)	Degree of freedom of NOD(L)
11-20	F10.0	FLOAD(L)	Magnitude of applied load

NOTE: Both the Load Data Control Card and the Load Data Cards are repeated, once for each load case (i.e. NLCASE times).

2.1.8 Element Group Data Cards (4 cards)

Card 1

Column	Format	Variable Name	Description
1-5	I5	NEL	Number of elements in an element group

Card 2

Column	Format	Variable Name	Description
1-15	E15.4	E(I), I= 1	Young's Modulus in the 1 direction -- E1
16-30	E15.4	E(I), I= 2	Young's Modulus in the 2 direction -- E2
31-45	E15.4	E(I), I= 3	Young's Modulus in the 3 direction -- E3

Card 3

Column	Format	Variable Name	Description
1-15	E15.4	E(I), I= 4	Shear Modulus -- G12
16-30	E15.4	E(I), I= 5	Shear Modulus -- G13
31-45	E15.4	E(I), I= 6	Shear Modulus -- G23

Card 4

Column	Format	Variable Name	Description
1-15	E15.4	E(I), I= 7	Poisson's Ratio -- v12
16-30	E15.4	E(I), I= 8	Poisson's Ratio -- v13
31-45	E15.4	E(I), I= 6	Poisson's Ratio -- v23
46-60	E15.4	E(I), I= 10	Angle of material principal coordinates with respect to global coordinates

MESHGEN repeats cards 1 through 4 on its output file 3DINPUT for each element group specified. However, E(10) is changed according to the angle of orientation to the global axes of each element group (the value of 90 degrees (0.9000E02) is chosen in the file 2DINPUT to correspond to the material principal axes aligned with the global axes). MESHGEN assumes the same material properties within each element group.

2.1.9 Element Data Cards (2 cards per element)

Card 1

Column	Format	Variable Name	Description
1-5	I5	NODNUM	Element Number
6-10	I5	IBSTRS	Boundary Stress Flag

NOTE: If IBSTRS = 1 - Boundary stresses and gauss point stresses are calculated for the element.

If IBSTRS = 0 - Only gauss point stresses are calculated.

If NNOD = 16 or 20:

Card 2 -- Connectivity Data for 16 or 20 Node Element

Column	Format	Variable Name	Description
1-40	8I5	NELNOD(I), I = 1,8	Global node numbers corresponding to nodes 1-8 (input in counter-clockwise order)

If NNOD = 24:

Card 2 -- Connectivity Data For 24 Node Element

Column	Format	Variable Name	Description
1-60	12I5	NELNOD(I), I = 1,12	Global node numbers corresponding to element nodes 1-12 (input in counterclockwise order)

2.2 USING MESHGEN

MESHGEN is an interactive fortran program which uses a two-dimensional input file (2DINPUT) to yield a three-dimensional output file (3DINPUT). Because it is interactive, the user replies to the comments it displays on the screen. These comments are discussed below:

'INPUT NUMBER OF ELEMENT GROUPS'

Enter the total number of element groups here. For example, to model a [45/ - 45]_s laminate (only the top two plies need to be modeled due to symmetry about the midplane) with 3 elements through the thickness of each ply, a 6 would be entered.

'INPUT ORIENTATION FOR GROUP #I.'

I = 1,2,3.....# of element groups

The screen displays this statement for each element group. Enter the angle (in degrees) between the element group material principle coordinates and the global coordinates. Using the same example, -45 would be entered for I = 1 to 3 and 45 would be entered for I = 4 to 6. (The reason -45 is entered first is that MESHGEN works for the bottom up. Therefore group #1 corresponds to Z = 0 and so on.)

'GROUP ORIENTATIONS ARE AS FOLLOWS:'

I PLYOR(I)

I = 1,2,3.....# of element groups

'IS THIS CORRECT? (1 = Y/0 = N)'

This last question is a check on the numbers entered above. If all information displayed is correct, type a 1. If all information is not correct, type a zero. When a zero is typed, the program stops and must be executed again.

2.2.1 Executing MESHGEN on the IBM System

The file MESHGEN EXEC loads the compiled fortran program MESHGEN and defines the input (2DINPUT) and output (3DINPUT) files. To execute MESHGEN, type the CMS command MESHGEN.

2.2.2 Executing MESHGEN on the NASA Langley System

The file PROCFIL loads the compiled fortran program MESHGEN and defines the input (2DINPUT) and output (3DINPUT) files. To execute MESHGEN, type the NOS command -GENMSH,,2DINPUT,3DINPUT.. MESHGEN may be run interactively on the A, Y, or Z machines.

3.0 PROGRAM EXECUTION

3.1 SUBMITTING ANISAP

3.1.1 VPI - IBM System

The program ANISAP is implemented on the VM Batch Subsystem of the IBM VM1E system. Commands sent to VM Batch for execution are called "VM Batch jobs" and are sent via an EXEC file. The commands are executed under VM Batch just as they are under CMS, but they are executed on another userid. The exec file used to execute ANISAP is called VMANISAP EXEC (filename filetype). The file is written in exec language. It defines the input and output files, defines the temporary tapes necessary to run ANISAP, loads the TEXT (compiled) version of ANISAP and delivers the output file to the user's reader list.

Before using VMANISAP, do the following:

- Change the userid and personal read password on line 2. To establish a read password, enter the CMS command DIRM MD.
- Specify your userid on line 14.

To submit a job to VM Batch, type the CMS command **VMATCH SUBMIT VMANISAP**. Memory options as well as many other VM Batch options are explained in the DOCS document CM05, available in User's Services at VPI.

3.1.2 NASA - Cyber 205

To submit a job to the Cyber 205, log on to the Z computer (resource Z). The submit file for ANISAP is called SUBANSP. Before using this file, do the following:

- Change the userid and NOS password on line 2.
- Change the account number on line 3.
- Change the deliver statement on line 4.
- Change the userid, VPS password, and account number on line 14.

To submit a job to the Cyber 205, type the NOS command **SUBMIT, SUBANSP**. . More information about executing on the Cyber 205 may be found in the VPS-32 MINI MANUAL, document S-1. This document may be obtained through OCO at NASA's Langley Research Center.

3.2 EXECUTING ANISAP

ANISAP stores the global stiffness matrix in skyline form (i.e. it stores the upper triangle in a one dimensional array omitting the zeros). To do this, it uses a one dimensional array A. Array A is equivalenced to array IA and is also used to store the nodal coordinates and the equation numbers for the mesh. Before a job may be run, the size of array A must be determined. To do this, first

submit the job with array A underdimensioned. The program calculates the additional storage required and prints this information in the output file. You must then recompile the program using the correct dimension for array A.

To determine the dimension of array A, dimension arrays A and IA to a relatively small value (30,000 is about right for large jobs). Array A is dimensioned in the common statement COMMON/ LGPAGE/ and array IA is dimensioned in the dimension statement directly above. Set the variable MTOT (the first executable statement in the program) equal to the dimension size of arrays A and IA. Set the variable NBMAX equal to the number of gauss points per element times the number of elements per element group times the number of element groups. Mathematically, in terms of input variables, this can be expressed as $NBMAX = (INTEG1^{**2}) * INTEG2 * NEL * NUMEG$. Dimension the common array B to B(6,1,1). Common array B appears four times in ANISAP -- in the main program, in subroutine ASSEM, in subroutine ELKAY, and in subroutine STRESS. Be sure to dimension it the same in all four places. The reason for dimensioning arrays A, IA and B as small as possible is to minimize the amount of memory required for this phase of program execution. Minimizing the memory puts the job in a smaller category resulting in faster turn around time and lower cost. File these changes and submit the job. The last few lines in the output file will read:

```
NOT ENOUGH STORAGE FOR ASSEMBLAGE OF GLOBAL STIFFNESS
AND DISPLACEMENT AND STRESS SOLUTION PHASE.
```

```
***ERROR STORAGE EXCEEDED BY #####
```

Before executing ANISAP, it is advisable to run the program through in data check mode. This makes sure the input data (3DINPUT) is correct. The program examines the gauss point coordinates and the jacobian at each gauss point and prints out the jacobian and the determinant of the jacobian. If the determinant of the jacobian is negative, the program prints an error message in the output file and stops. If there are no errors, the program prints 'DATA CHECK COMPLETE' at the bottom of the file.

To run the program in data check mode, set MODEX=0 in the input file (3DINPUT). Dimension arrays A and IA to the value you determined in the above procedure (##### plus the original dimension) and add this number to the variable MTOT as well. Also, dimension common array B to B(6, 3*NNOD, NBMAX). Be sure to change all occurrences of array B within ANISAP. Submit the job.

The program need only be run in data check mode one time -- when the input file is first developed. Once the file successfully runs through data check, there is no need to do it again.

To execute the program, dimension arrays A, IA, and B and set the values of MTOT and NBMAX as described in data check mode (see the second paragraph above). Set the variable MODEX = 1 in the input file (3DINPUT) and submit the job.

3.3 PROGRAM OUTPUT

The output data from ANISAP is placed in the file ANSPOUT. Nodal coordinates, gauss point coordinates, material properties, nodal displacements, stresses and strains in both global and material principle coordinates, and stresses at the element boundaries (optional -- see Card 1 of Element Data Cards in section "Data Input Description and Format") are included.

4.0 POST-PROCESSING CAPABILITIES

The post-processing programs described below are applicable only to a laminated composite plate with a central hole. However, in analyzing other problems, these programs may still be useful as models for developing other post processing programs.

4.1 PROGRAM READER

The program READER reads from ANSPOUT OUTPUT and tabulates stresses within a specified radius from the center of the X-Y coordinates (center of the hole). It will read both gauss point stresses and boundary stresses as long as they fall within the specified radius.

The output from READER is tabulated by stress point coordinates and the six components of stress in either principal material or global coordinates (specified in input).

4.1.1 Executing READER on the IBM System

- Define a large amount of space on accessory disk G
- Transfer file ANSPOUT OUTPUT to this disk
- Exedit the file READER EXEC A
 - Define file ANSPOUT OUTPUT G as unit 1
 - Define file READER OUTPUT G as unit 2
- Exedit the file READER DATA A
 - Specify parameters as outlined by comments in the file
- Type READER and hit return

4.1.2 Executing READER on the NASA / Langley System

- Exedit the file RDRSUB
 - Set INFILE = ANSPOUT on line 7
 - Set OUTFILE = filename (user's choice) where "filename" defines the output file.
- Exedit the file RDRDATA
 - Specify parameters outlined by comments in the file
- Submit the file RDRSUB to the Z machine
- The output file specified is returned as an indirect access file on CPF.

4.2 PROGRAM TWUSTRS

The interactive program TWUSTRS reads data from READER OUTPUT at a specified radius around the hole. From this, it calculates the angle and load factor at which failure should occur according to the Tsai-Wu Tensor Polynomial failure criterion. If desired, it then outputs a plotting file (SPLOT DATA G) of the normalized tensor polynomial around the hole.

The main purpose of TWUSTRS is to output the plotting file; however, it also outputs file READER OUTWU G which lists the angle from the X-coordinate at which failure occurs and the load factor at this point for each ply.

TWUSTRS may only be run on the IBM system at the present time.

4.2.1 Executing TWUSTRS on the IBM System

- Define a large amount of space on accessory disk G
- Transfer file READER OUTPUT to this disk
- Exedit the file FAILURE DATA A
 - Define material strengths as outlined below
- Type TWUSTRS and hit return
- Type in replies to the interactive machine prompts

FILE FAILURE DATA A

CARD 1

Column	Format	Variable Name	Description
1-10	E10.2	FAIL(I,1) I= 1	Xt - tensile strength in fiber direction
11-20	E10.2	FAIL(I,2) I= 1	Xc - compressive strength in fiber direction

CARD 2

Column	Format	Variable Name	Description
1-10	E10.2	FAIL(I,1) I= 2	Yt - in-plane tensile strength transverse to fiber direction
11-20	E10.2	FAIL(I,2) I= 2	Yc - in-plane compressive strength transverse to fiber direction

CARD 3

Column	Format	Variable Name	Description
1-10	E10.2	FAIL(I,1) I= 3	Zt - out-of-plane tensile strength transverse to fiber direction
11-20	E10.2	FAIL(I,2) I= 3	Zc - out-of-plane compressive strength transverse to fiber direction

CARD 4

Column	Format	Variable Name	Description
1-10	E10.2	FAIL(I,1) I= 4	S23 - shear strength in the 2-3 principal coordinate plane
11-20	E10.2	FAIL(I,2) I= 4	

CARD 5

Column	Format	Variable Name	Description
1-10	E10.2	FAIL(I,1) I= 5	S13 - shear strength in the 1-3 principal coordinate plane
11-20	E10.2	FAIL(I,2) I= 5	

CARD 6

Column	Format	Variable Name	Description
1-10	E10.2	FAIL(I,1) I= 6	S12 - shear strength in the 1-2 principal coordinate plane
11-20	E10.2	FAIL(I,2) I= 6	

5.0 REFERENCES

1. Bathe, K.J., "Finite Element Procedures In Engineering Analysis", Prentice Hall, Inc., 1982.
2. Burns, S. W., Herakovich, C. T., and Williams, J. G., "Compressive Failure of Notched Angle-Ply Composite Laminates: Three Dimensional Finite Element Analysis and Experiment," VPI-E-85-22 and CCMS-85-11, Virginia Tech, Blacksburg, VA, Nov. 1985.

6.0 APPENDIX

This section shows a typical input data file (2DINPUT), the output file from MESHGEN (3DINPUT) and the output file from ANISAP (ANISAP OUTPUT). The example problem is for a composite plate [45/ - 45], with a central hole (Fig. A-1). Only a quarter of the plate is analyzed -- it is split above the mid-plane and along the global Y-axis (Fig. A-2). The model is a 10 element grid with one element group per ply which yields a total of 20 elements (Fig. A-3). The negative Y-axis end is fixed while the positive Y-axis end is displaced -0.01".

FILE 2DINPUT DATA

PLATE WITH HOLE - 10 ELEMENTS, 16 NODES - HALF PLATE, V=-0.01

Element	Node 1	Node 2	Node 3	Node 4	Node 5	Node 6
16	3	1	4	1		
47	1	1	1	3		
1.000000	1.000000	0.001667				
1	1	0	0	0.000000	5.000000	0.
2	0	0	0	1.250000	5.000000	0.
3	0	0	0	2.500000	5.000000	0.
4	1	0	0	0.000000	3.750000	0.
5	0	0	0	2.500000	3.750000	0.
6	1	0	0	0.000000	2.500000	0.
7	0	0	0	1.250000	2.500000	0.
8	0	0	0	2.500000	2.500000	0.
9	0	0	0	2.500000	1.250000	0.
10	0	0	0	2.500000	0.000000	0.
11	1	0	0	0.000000	1.750000	0.
12	0	0	0	1.603553	1.603553	0.
13	0	0	0	1.750000	0.000000	0.
14	1	0	0	0.000000	1.000000	0.
15	0	0	0	0.382683	0.923880	0.
16	0	0	0	0.707107	0.707107	0.
17	0	0	0	0.923880	0.382683	0.
18	0	0	0	1.000000	0.000000	0.
19	1	0	0	0.000000	0.750000	0.
20	0	0	0	0.530330	0.530330	0.
21	0	0	0	0.750000	0.000000	0.
22	1	0	0	0.000000	0.500000	0.
23	0	0	0	0.191342	0.461940	0.
24	0	0	0	0.353553	0.353553	0.
25	0	0	0	0.461940	0.191342	0.
26	0	0	0	0.500000	0.000000	0.
27	1	0	0	0.000000	-0.500000	0.
28	0	0	0	0.191342	-0.461940	0.
29	0	0	0	0.353553	-0.353553	0.
30	0	0	0	0.461940	-0.191342	0.
31	1	0	0	0.000000	-0.750000	0.
32	0	0	0	0.530330	-0.530330	0.
33	1	0	0	0.000000	-1.000000	0.
34	0	0	0	0.382683	-0.923880	0.
35	0	0	0	0.707107	-0.707107	0.
36	0	0	0	0.923880	-0.382683	0.
37	1	0	0	0.000000	-1.750000	0.
38	0	0	0	1.603553	-1.603553	0.
39	0	0	0	2.500000	-1.250000	0.
40	1	0	0	0.000000	-2.500000	0.
41	0	0	0	1.250000	-2.500000	0.
42	0	0	0	2.500000	-2.500000	0.
43	1	0	0	0.000000	-3.750000	0.
44	0	0	0	2.500000	-3.750000	0.
45	1	1	0	0.000000	-5.000000	0.
46	0	1	0	1.250000	-5.000000	0.

47	0	1	0	2.500000	-5.000000		0.
1	0	0.0000					
10							
	0.2050E	08		0.1670E	07		0.1670E 07
	0.8700E	06		0.8700E	06		0.5960E 06
	0.3000E	00		0.3000E	00		0.4000E 00
							0.9000E 02
1	0						
1	2	3	5	8	7	6	4
2	0						
6	7	8	12	16	15	14	11
3	0						
16	12	8	9	10	13	18	17
4	0						
14	15	16	20	24	23	22	19
5	0						
16	17	18	21	26	25	24	20
6	0						
29	30	26	21	18	36	35	32
7	0						
18	13	10	39	42	38	35	36
8	0						
27	28	29	32	35	34	33	31
9	0						
33	34	35	38	42	41	40	37
10	0						
40	41	42	44	47	46	45	43
1	2	-0.01000					
2	2	-0.01000					
3	2	-0.01000					

FILE 3DINPUT DATA

PLATE WITH HOLE - 10 ELEMENTS, 16 NODES - HALF PLATE, V=-0.01

16	3	1	4	1			
141	2	1	1	9			
1.00000		1.00000		0.00167			
1	1	0	1	0.000000	5.000000	0.000000	
4	0	0	1	1.250000	5.000000	0.000000	
7	0	0	1	2.500000	5.000000	0.000000	
10	1	0	1	0.000000	3.750000	0.000000	
13	0	0	1	2.500000	3.750000	0.000000	
16	1	0	1	0.000000	2.500000	0.000000	
19	0	0	1	1.250000	2.500000	0.000000	
22	0	0	1	2.500000	2.500000	0.000000	
25	0	0	1	2.500000	1.250000	0.000000	
28	0	0	1	2.500000	0.000000	0.000000	
31	1	0	1	0.000000	1.750000	0.000000	
34	0	0	1	1.603553	1.603553	0.000000	
37	0	0	1	1.750000	0.000000	0.000000	
40	1	0	1	0.000000	1.000000	0.000000	
43	0	0	1	0.382683	0.923880	0.000000	
46	0	0	1	0.707107	0.707107	0.000000	
49	0	0	1	0.923880	0.382683	0.000000	
52	0	0	1	1.000000	0.000000	0.000000	
55	1	0	1	0.000000	0.750000	0.000000	
58	0	0	1	0.530330	0.530330	0.000000	
61	0	0	1	0.750000	0.000000	0.000000	
64	1	0	1	0.000000	0.500000	0.000000	
67	0	0	1	0.191342	0.461940	0.000000	
70	0	0	1	0.353553	0.353553	0.000000	
73	0	0	1	0.461940	0.191342	0.000000	
76	0	0	1	0.500000	0.000000	0.000000	
79	1	0	1	0.000000	-0.500000	0.000000	
82	0	0	1	0.191342	-0.461940	0.000000	
85	0	0	1	0.353553	-0.353553	0.000000	
88	0	0	1	0.461940	-0.191342	0.000000	
91	1	0	1	0.000000	-0.750000	0.000000	
94	0	0	1	0.530330	-0.530330	0.000000	
97	1	0	1	0.000000	-1.000000	0.000000	
100	0	0	1	0.382683	-0.923880	0.000000	
103	0	0	1	0.707107	-0.707107	0.000000	
106	0	0	1	0.923880	-0.382683	0.000000	
109	1	0	1	0.000000	-1.750000	0.000000	
112	0	0	1	1.603553	-1.603553	0.000000	
115	0	0	1	2.500000	-1.250000	0.000000	
118	1	0	1	0.000000	-2.500000	0.000000	
121	0	0	1	1.250000	-2.500000	0.000000	
124	0	0	1	2.500000	-2.500000	0.000000	
127	1	0	1	0.000000	-3.750000	0.000000	
130	0	0	1	2.500000	-3.750000	0.000000	
133	1	1	1	0.000000	-5.000000	0.000000	
136	0	1	1	1.250000	-5.000000	0.000000	

139	0	1	1	2.500000	-5.000000	0.000000
2	1	0	0	0.000000	5.000000	1.000000
5	0	0	0	1.250000	5.000000	1.000000
8	0	0	0	2.500000	5.000000	1.000000
11	1	0	0	0.000000	3.750000	1.000000
14	0	0	0	2.500000	3.750000	1.000000
17	1	0	0	0.000000	2.500000	1.000000
20	0	0	0	1.250000	2.500000	1.000000
23	0	0	0	2.500000	2.500000	1.000000
26	0	0	0	2.500000	1.250000	1.000000
29	0	0	0	2.500000	0.000000	1.000000
32	1	0	0	0.000000	1.750000	1.000000
35	0	0	0	1.603553	1.603553	1.000000
38	0	0	0	1.750000	0.000000	1.000000
41	1	0	0	0.000000	1.000000	1.000000
44	0	0	0	0.382683	0.923880	1.000000
47	0	0	0	0.707107	0.707107	1.000000
50	0	0	0	0.923880	0.382683	1.000000
53	0	0	0	1.000000	0.000000	1.000000
56	1	0	0	0.000000	0.750000	1.000000
59	0	0	0	0.530330	0.530330	1.000000
62	0	0	0	0.750000	0.000000	1.000000
65	1	0	0	0.000000	0.500000	1.000000
68	0	0	0	0.191342	0.461940	1.000000
71	0	0	0	0.353553	0.353553	1.000000
74	0	0	0	0.461940	0.191342	1.000000
77	0	0	0	0.500000	0.000000	1.000000
80	1	0	0	0.000000	-0.500000	1.000000
83	0	0	0	0.191342	-0.461940	1.000000
86	0	0	0	0.353553	-0.353553	1.000000
89	0	0	0	0.461940	-0.191342	1.000000
92	1	0	0	0.000000	-0.750000	1.000000
95	0	0	0	0.530330	-0.530330	1.000000
98	1	0	0	0.000000	-1.000000	1.000000
101	0	0	0	0.382683	-0.923880	1.000000
104	0	0	0	0.707107	-0.707107	1.000000
107	0	0	0	0.923880	-0.382683	1.000000
110	1	0	0	0.000000	-1.750000	1.000000
113	0	0	0	1.603553	-1.603553	1.000000
116	0	0	0	2.500000	-1.250000	1.000000
119	1	0	0	0.000000	-2.500000	1.000000
122	0	0	0	1.250000	-2.500000	1.000000
125	0	0	0	2.500000	-2.500000	1.000000
128	1	0	0	0.000000	-3.750000	1.000000
131	0	0	0	2.500000	-3.750000	1.000000
134	1	1	0	0.000000	-5.000000	1.000000
137	0	1	0	1.250000	-5.000000	1.000000
140	0	1	0	2.500000	-5.000000	1.000000
3	1	0	0	0.000000	5.000000	2.000000
6	0	0	0	1.250000	5.000000	2.000000
9	0	0	0	2.500000	5.000000	2.000000
12	1	0	0	0.000000	3.750000	2.000000

15	0	0	0	2.500000	3.750000	2.000000
18	1	0	0	0.000000	2.500000	2.000000
21	0	0	0	1.250000	2.500000	2.000000
24	0	0	0	2.500000	2.500000	2.000000
27	0	0	0	2.500000	1.250000	2.000000
30	0	0	0	2.500000	0.000000	2.000000
33	1	0	0	0.000000	1.750000	2.000000
36	0	0	0	1.603553	1.603553	2.000000
39	0	0	0	1.750000	0.000000	2.000000
42	1	0	0	0.000000	1.000000	2.000000
45	0	0	0	0.382683	0.923880	2.000000
48	0	0	0	0.707107	0.707107	2.000000
51	0	0	0	0.923880	0.382683	2.000000
54	0	0	0	1.000000	0.000000	2.000000
57	1	0	0	0.000000	0.750000	2.000000
60	0	0	0	0.530330	0.530330	2.000000
63	0	0	0	0.750000	0.000000	2.000000
66	1	0	0	0.000000	0.500000	2.000000
69	0	0	0	0.191342	0.461940	2.000000
72	0	0	0	0.353553	0.353553	2.000000
75	0	0	0	0.461940	0.191342	2.000000
78	0	0	0	0.500000	0.000000	2.000000
81	1	0	0	0.000000	-0.500000	2.000000
84	0	0	0	0.191342	-0.461940	2.000000
87	0	0	0	0.353553	-0.353553	2.000000
90	0	0	0	0.461940	-0.191342	2.000000
93	1	0	0	0.000000	-0.750000	2.000000
96	0	0	0	0.530330	-0.530330	2.000000
99	1	0	0	0.000000	-1.000000	2.000000
102	0	0	0	0.382683	-0.923880	2.000000
105	0	0	0	0.707107	-0.707107	2.000000
108	0	0	0	0.923880	-0.382683	2.000000
111	1	0	0	0.000000	-1.750000	2.000000
114	0	0	0	1.603553	-1.603553	2.000000
117	0	0	0	2.500000	-1.250000	2.000000
120	1	0	0	0.000000	-2.500000	2.000000
123	0	0	0	1.250000	-2.500000	2.000000
126	0	0	0	2.500000	-2.500000	2.000000
129	1	0	0	0.000000	-3.750000	2.000000
132	0	0	0	2.500000	-3.750000	2.000000
135	1	1	0	0.000000	-5.000000	2.000000
138	0	1	0	1.250000	-5.000000	2.000000
141	0	1	0	2.500000	-5.000000	2.000000

1 0 0.00

10

0.2050E 08	0.1670E 07	0.1670E 07			
0.8700E 06	0.8700E 06	0.5960E 06			
0.3000E 00	0.3000E 00	0.4000E 00	-0.4500E 02		

1 0

1 4 7 13 22 19 16 10

2 5 8 14 23 20 17 11

2 0

16	19	22	34	46	43	40	31
17	20	23	35	47	44	41	32
3	0						
46	34	22	25	28	37	52	49
47	35	23	26	29	38	53	50
4	0						
40	43	46	58	70	67	64	55
41	44	47	59	71	68	65	56
5	0						
46	49	52	61	76	73	70	58
47	50	53	62	77	74	71	59
6	0						
85	88	76	61	52	106	103	94
86	89	77	62	53	107	104	95
7	0						
52	37	28	115	124	112	103	106
53	38	29	116	125	113	104	107
8	0						
79	82	85	94	103	100	97	91
80	83	86	95	104	101	98	92
9	0						
97	100	103	112	124	121	118	109
98	101	104	113	125	122	119	110
10	0						
118	121	124	130	139	136	133	127
119	122	125	131	140	137	134	128

10

0. 2050E 08	0. 1670E 07	0. 1670E 07
0. 8700E 06	0. 8700E 06	0. 5960E 06
0. 3000E 00	0. 3000E 00	0. 4000E 00

0. 4500E 02

1	0						
2	5	8	14	23	20	17	11
3	6	9	15	24	21	18	12
2	0						
17	20	23	35	47	44	41	32
18	21	24	36	48	45	42	33
3	0						
47	35	23	26	29	38	53	50
48	36	24	27	30	39	54	51
4	0						
41	44	47	59	71	68	65	56
42	45	48	60	72	69	66	57
5	0						
47	50	53	62	77	74	71	59
48	51	54	63	78	75	72	60
6	0						
86	89	77	62	53	107	104	95
87	90	78	63	54	108	105	96
7	0						
53	38	29	116	125	113	104	107
54	39	30	117	126	114	105	108
8	0						

80	83	86	95	104	101	98	92
81	84	87	96	105	102	99	93
9	0						
98	101	104	113	125	122	119	110
99	102	105	114	126	123	120	111
10	0						
119	122	125	131	140	137	134	128
120	123	126	132	141	138	135	129
1	2	-0.01000					
2	2	-0.01000					
3	2	-0.01000					
4	2	-0.01000					
5	2	-0.01000					
6	2	-0.01000					
7	2	-0.01000					
8	2	-0.01000					
9	2	-0.01000					

FILE ANISAP OUTPUT

PLATE WITH HOLE - 10 ELEMENTS, 16 NODES - HALF PLATE, V=-0.01

16 NODE ELEMENT

3 BY 3 BY 1 GAUSS QUADRATURE

4 BY 4 BY 1 STRESS POINT QUADRATURE

C O N T R O L I N F O R M A T I O N

NUMBER OF NODE POINTS (NUMNP) = 141

NUMBER OF ELEMENT GROUPS (NUMEG) = 2

NUMBER OF LOAD CASES (NLCASE) = 1

NUMBER OF SPECIFIED DISPLACEMENTS (NBC) = 9

SOLUTION MODE (MODEX) = 1

EQ. 0, DATA CHECK

EQ. 1, EXECUTION

1 N O D E P O I N T D A T A

X, Y, AND Z SCALE FACTORS:

X FACTOR= 1.000000

Y FACTOR= 1.000000

Z FACTOR= 0.001670

SCALED NODE DATA

NODE NUMBER	BOUNDARY CONDITION CODES			NODE POINT COORDINATES		
	X	Y	Z	X	Y	Z
1	1	0	1	0.000000	5.000000	0.000000
4	0	0	1	1.250000	5.000000	0.000000
7	0	0	1	2.500000	5.000000	0.000000
10	1	0	1	0.000000	3.750000	0.000000
13	0	0	1	2.500000	3.750000	0.000000

16	1	0	1	0.000000	2.500000	0.000000
19	0	0	1	1.250000	2.500000	0.000000
22	0	0	1	2.500000	2.500000	0.000000
25	0	0	1	2.500000	1.250000	0.000000
28	0	0	1	2.500000	0.000000	0.000000
31	1	0	1	0.000000	1.750000	0.000000
34	0	0	1	1.603553	1.603553	0.000000
37	0	0	1	1.750000	0.000000	0.000000
40	1	0	1	0.000000	1.000000	0.000000
43	0	0	1	0.382683	0.923880	0.000000
46	0	0	1	0.707107	0.707107	0.000000
49	0	0	1	0.923880	0.382683	0.000000
52	0	0	1	1.000000	0.000000	0.000000
55	1	0	1	0.000000	0.750000	0.000000
58	0	0	1	0.530330	0.530330	0.000000
61	0	0	1	0.750000	0.000000	0.000000
64	1	0	1	0.000000	0.500000	0.000000
67	0	0	1	0.191342	0.461940	0.000000
70	0	0	1	0.353553	0.353553	0.000000
73	0	0	1	0.461940	0.191342	0.000000
76	0	0	1	0.500000	0.000000	0.000000
79	1	0	1	0.000000	-0.500000	0.000000
82	0	0	1	0.191342	-0.461940	0.000000
85	0	0	1	0.353553	-0.353553	0.000000
88	0	0	1	0.461940	-0.191342	0.000000
91	1	0	1	0.000000	-0.750000	0.000000
94	0	0	1	0.530330	-0.530330	0.000000
97	1	0	1	0.000000	-1.000000	0.000000
100	0	0	1	0.382683	-0.923880	0.000000
103	0	0	1	0.707107	-0.707107	0.000000
106	0	0	1	0.923880	-0.382683	0.000000
109	1	0	1	0.000000	-1.750000	0.000000
112	0	0	1	1.603553	-1.603553	0.000000
115	0	0	1	2.500000	-1.250000	0.000000
118	1	0	1	0.000000	-2.500000	0.000000
121	0	0	1	1.250000	-2.500000	0.000000
124	0	0	1	2.500000	-2.500000	0.000000
127	1	0	1	0.000000	-3.750000	0.000000
130	0	0	1	2.500000	-3.750000	0.000000
133	1	1	1	0.000000	-5.000000	0.000000
136	0	1	1	1.250000	-5.000000	0.000000
139	0	1	1	2.500000	-5.000000	0.000000
2	1	0	0	0.000000	5.000000	0.001670
5	0	0	0	1.250000	5.000000	0.001670
8	0	0	0	2.500000	5.000000	0.001670
11	1	0	0	0.000000	3.750000	0.001670
14	0	0	0	2.500000	3.750000	0.001670
17	1	0	0	0.000000	2.500000	0.001670
20	0	0	0	1.250000	2.500000	0.001670
23	0	0	0	2.500000	2.500000	0.001670
26	0	0	0	2.500000	1.250000	0.001670
29	0	0	0	2.500000	0.000000	0.001670

32	1	0	0	0.000000	1.750000	0.001670
35	0	0	0	1.603553	1.603553	0.001670
38	0	0	0	1.750000	0.000000	0.001670
41	1	0	0	0.000000	1.000000	0.001670
44	0	0	0	0.382683	0.923880	0.001670
47	0	0	0	0.707107	0.707107	0.001670
50	0	0	0	0.923880	0.382683	0.001670
53	0	0	0	1.000000	0.000000	0.001670
56	1	0	0	0.000000	0.750000	0.001670
59	0	0	0	0.530330	0.530330	0.001670
62	0	0	0	0.750000	0.000000	0.001670
65	1	0	0	0.000000	0.500000	0.001670
68	0	0	0	0.191342	0.461940	0.001670
71	0	0	0	0.353553	0.353553	0.001670
74	0	0	0	0.461940	0.191342	0.001670
77	0	0	0	0.500000	0.000000	0.001670
80	1	0	0	0.000000	-0.500000	0.001670
83	0	0	0	0.191342	-0.461940	0.001670
86	0	0	0	0.353553	-0.353553	0.001670
89	0	0	0	0.461940	-0.191342	0.001670
92	1	0	0	0.000000	-0.750000	0.001670
95	0	0	0	0.530330	-0.530330	0.001670
98	1	0	0	0.000000	-1.000000	0.001670
101	0	0	0	0.382683	-0.923880	0.001670
104	0	0	0	0.707107	-0.707107	0.001670
107	0	0	0	0.923880	-0.382683	0.001670
110	1	0	0	0.000000	-1.750000	0.001670
113	0	0	0	1.603553	-1.603553	0.001670
116	0	0	0	2.500000	-1.250000	0.001670
119	1	0	0	0.000000	-2.500000	0.001670
122	0	0	0	1.250000	-2.500000	0.001670
125	0	0	0	2.500000	-2.500000	0.001670
128	1	0	0	0.000000	-3.750000	0.001670
131	0	0	0	2.500000	-3.750000	0.001670
134	1	1	0	0.000000	-5.000000	0.001670
137	0	1	0	1.250000	-5.000000	0.001670
140	0	1	0	2.500000	-5.000000	0.001670
3	1	0	0	0.000000	5.000000	0.003340
6	0	0	0	1.250000	5.000000	0.003340
9	0	0	0	2.500000	5.000000	0.003340
12	1	0	0	0.000000	3.750000	0.003340
15	0	0	0	2.500000	3.750000	0.003340
18	1	0	0	0.000000	2.500000	0.003340
21	0	0	0	1.250000	2.500000	0.003340
24	0	0	0	2.500000	2.500000	0.003340
27	0	0	0	2.500000	1.250000	0.003340
30	0	0	0	2.500000	0.000000	0.003340
33	1	0	0	0.000000	1.750000	0.003340
36	0	0	0	1.603553	1.603553	0.003340
39	0	0	0	1.750000	0.000000	0.003340
42	1	0	0	0.000000	1.000000	0.003340
45	0	0	0	0.382683	0.923880	0.003340

48	0	0	0	0.707107	0.707107	0.003340
51	0	0	0	0.923880	0.382683	0.003340
54	0	0	0	1.000000	0.000000	0.003340
57	1	0	0	0.000000	0.750000	0.003340
60	0	0	0	0.530330	0.530330	0.003340
63	0	0	0	0.750000	0.000000	0.003340
66	1	0	0	0.000000	0.500000	0.003340
69	0	0	0	0.191342	0.461940	0.003340
72	0	0	0	0.353553	0.353553	0.003340
75	0	0	0	0.461940	0.191342	0.003340
78	0	0	0	0.500000	0.000000	0.003340
81	1	0	0	0.000000	-0.500000	0.003340
84	0	0	0	0.191342	-0.461940	0.003340
87	0	0	0	0.353553	-0.353553	0.003340
90	0	0	0	0.461940	-0.191342	0.003340
93	1	0	0	0.000000	-0.750000	0.003340
96	0	0	0	0.530330	-0.530330	0.003340
99	1	0	0	0.000000	-1.000000	0.003340
102	0	0	0	0.382683	-0.923880	0.003340
105	0	0	0	0.707107	-0.707107	0.003340
108	0	0	0	0.923880	-0.382683	0.003340
111	1	0	0	0.000000	-1.750000	0.003340
114	0	0	0	1.603553	-1.603553	0.003340
117	0	0	0	2.500000	-1.250000	0.003340
120	1	0	0	0.000000	-2.500000	0.003340
123	0	0	0	1.250000	-2.500000	0.003340
126	0	0	0	2.500000	-2.500000	0.003340
129	1	0	0	0.000000	-3.750000	0.003340
132	0	0	0	2.500000	-3.750000	0.003340
135	1	1	0	0.000000	-5.000000	0.003340
138	0	1	0	1.250000	-5.000000	0.003340
141	0	1	0	2.500000	-5.000000	0.003340

1SCALED LOAD CASE DATA

LOAD CASE NUMBER = 1

NUMBER OF CONCENTRATED LOADS . = 0

LOAD SCALE FACTOR = 0.00000

MATERIAL PROPERTIES FOR ELEMENT GROUP 1:

E1= 0.2050E+08 E2= 0.1670E+07 E3= 0.1670E+07

G12 0.8700E+06 G13 0.8700E+06 G23 0.5960E+06

V12 0.3000 V13 0.3000 V23 0.4000
 THETA -45.0000

MATERIAL PROPERTIES FOR ELEMENT GROUP 2:

E1= 0.2050E+08 E2= 0.1670E+07 E3= 0.1670E+07
 G12 0.8700E+06 G13 0.8700E+06 G23 0.5960E+06
 V12 0.3000 V13 0.3000 V23 0.4000
 THETA 45.0000

1TOTAL SYSTEM DATA

NUMBER OF EQUATIONS (NEQ) = 325
 NUMBER OF MATRIX ELEMENTS (NWK) = 21801
 MAXIMUM HALF BANDWIDTH (MK) = 235
 MEAN HALF BANDWIDTH (MM) = 67

ELEMENT GROUP 1
 10 ELEMENTS

ELEMENT GROUP 1		ELEMENT 1	GAUSS POINT COORDINATES:
NO.	X	Y	Z
1	0.281754	4.718246	0.000835
2	1.250000	4.718246	0.000835
3	2.218246	4.718246	0.000835
4	0.281754	3.750000	0.000835
5	1.250000	3.750000	0.000835
6	2.218246	3.750000	0.000835
7	0.281754	2.781754	0.000835
8	1.250000	2.781754	0.000835
9	2.218246	2.781754	0.000835

ELEMENT GROUP 1		ELEMENT 2	GAUSS POINT COORDINATES:
NO.	X	Y	Z

1	0.260295	2.330398	0.000835
2	1.152252	2.322369	0.000835
3	2.040270	2.304828	0.000835
4	0.186549	1.747560	0.000835
5	0.816341	1.711940	0.000835
6	1.428656	1.634123	0.000835
7	0.112803	1.164723	0.000835
8	0.480431	1.101511	0.000835
9	0.817043	0.963418	0.000835

	ELEMENT GROUP 1	ELEMENT 3	GAUSS POINT COORDINATES:
NO.	X	Y	Z
1	0.963418	0.817043	0.000835
2	1.634123	1.428656	0.000835
3	2.304828	2.040270	0.000835
4	1.101511	0.480431	0.000835
5	1.711940	0.816341	0.000835
6	2.322369	1.152252	0.000835
7	1.164723	0.112803	0.000835
8	1.747560	0.186549	0.000835
9	2.330398	0.260295	0.000835

	ELEMENT GROUP 1	ELEMENT 4	GAUSS POINT COORDINATES:
NO.	X	Y	Z
1	0.086197	0.939045	0.000835
2	0.361119	0.871819	0.000835
3	0.603055	0.724956	0.000835
4	0.068508	0.746341	0.000835
5	0.287012	0.692910	0.000835
6	0.479300	0.576185	0.000835
7	0.050819	0.553636	0.000835
8	0.212906	0.514001	0.000835
9	0.355545	0.427415	0.000835

	ELEMENT GROUP 1	ELEMENT 5	GAUSS POINT COORDINATES:
NO.	X	Y	Z
1	0.724956	0.603055	0.000835
2	0.871819	0.361119	0.000835
3	0.939045	0.086197	0.000835
4	0.576185	0.479300	0.000835
5	0.692910	0.287012	0.000835
6	0.746341	0.068508	0.000835
7	0.427415	0.355545	0.000835

8	0.514001	0.212906	0.000835
9	0.553636	0.050819	0.000835

ELEMENT GROUP 1		ELEMENT 6	GAUSS POINT COORDINATES:
NO.	X	Y	Z
1	0.427415	-0.355545	0.000835
2	0.514001	-0.212906	0.000835
3	0.553636	-0.050819	0.000835
4	0.576185	-0.479300	0.000835
5	0.692910	-0.287012	0.000835
6	0.746341	-0.068508	0.000835
7	0.724956	-0.603055	0.000835
8	0.871819	-0.361119	0.000835
9	0.939045	-0.086197	0.000835

ELEMENT GROUP 1		ELEMENT 7	GAUSS POINT COORDINATES:
NO.	X	Y	Z
1	1.164723	-0.112803	0.000835
2	1.747560	-0.186549	0.000835
3	2.330398	-0.260295	0.000835
4	1.101511	-0.480431	0.000835
5	1.711940	-0.816341	0.000835
6	2.322369	-1.152252	0.000835
7	0.963418	-0.817043	0.000835
8	1.634123	-1.428656	0.000835
9	2.304828	-2.040270	0.000835

ELEMENT GROUP 1		ELEMENT 8	GAUSS POINT COORDINATES:
NO.	X	Y	Z
1	0.050819	-0.553636	0.000835
2	0.212906	-0.514001	0.000835
3	0.355545	-0.427415	0.000835
4	0.068508	-0.746341	0.000835
5	0.287012	-0.692910	0.000835
6	0.479300	-0.576185	0.000835
7	0.086197	-0.939045	0.000835
8	0.361119	-0.871819	0.000835
9	0.603055	-0.724956	0.000835

ELEMENT GROUP 1		ELEMENT 9	GAUSS POINT COORDINATES:
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NO.	X	Y	Z
1	0.112803	-1.164723	0.000835
2	0.480431	-1.101511	0.000835
3	0.817043	-0.963418	0.000835
4	0.186549	-1.747560	0.000835
5	0.816341	-1.711940	0.000835
6	1.428656	-1.634123	0.000835
7	0.260295	-2.330398	0.000835
8	1.152252	-2.322369	0.000835
9	2.040270	-2.304828	0.000835

ELEMENT GROUP 1 ELEMENT 10 GAUSS POINT COORDINATES:

NO.	X	Y	Z
1	0.281754	-2.781754	0.000835
2	1.250000	-2.781754	0.000835
3	2.218246	-2.781754	0.000835
4	0.281754	-3.750000	0.000835
5	1.250000	-3.750000	0.000835
6	2.218246	-3.750000	0.000835
7	0.281754	-4.718246	0.000835
8	1.250000	-4.718246	0.000835
9	2.218246	-4.718246	0.000835

ELEMENT GROUP 2
10 ELEMENTS

ELEMENT GROUP 2 ELEMENT 1 GAUSS POINT COORDINATES:

NO.	X	Y	Z
1	0.281754	4.718246	0.002505
2	1.250000	4.718246	0.002505
3	2.218246	4.718246	0.002505
4	0.281754	3.750000	0.002505
5	1.250000	3.750000	0.002505
6	2.218246	3.750000	0.002505
7	0.281754	2.781754	0.002505
8	1.250000	2.781754	0.002505
9	2.218246	2.781754	0.002505

ELEMENT GROUP 2 ELEMENT 2 GAUSS POINT COORDINATES:

NO.	X	Y	Z
1	0.260295	2.330398	0.002505

2	1.152252	2.322369	0.002505
3	2.040270	2.304828	0.002505
4	0.186549	1.747560	0.002505
5	0.816341	1.711940	0.002505
6	1.428656	1.634123	0.002505
7	0.112803	1.164723	0.002505
8	0.480431	1.101511	0.002505
9	0.817043	0.963418	0.002505

ELEMENT GROUP 2		ELEMENT 3	GAUSS POINT COORDINATES:
NO.	X	Y	Z
1	0.963418	0.817043	0.002505
2	1.634123	1.428656	0.002505
3	2.304828	2.040270	0.002505
4	1.101511	0.480431	0.002505
5	1.711940	0.816341	0.002505
6	2.322369	1.152252	0.002505
7	1.164723	0.112803	0.002505
8	1.747560	0.186549	0.002505
9	2.330398	0.260295	0.002505

ELEMENT GROUP 2		ELEMENT 4	GAUSS POINT COORDINATES:
NO.	X	Y	Z
1	0.086197	0.939045	0.002505
2	0.361119	0.871819	0.002505
3	0.603055	0.724956	0.002505
4	0.068508	0.746341	0.002505
5	0.287012	0.692910	0.002505
6	0.479300	0.576185	0.002505
7	0.050819	0.553636	0.002505
8	0.212906	0.514001	0.002505
9	0.355545	0.427415	0.002505

ELEMENT GROUP 2		ELEMENT 5	GAUSS POINT COORDINATES:
NO.	X	Y	Z
1	0.724956	0.603055	0.002505
2	0.871819	0.361119	0.002505
3	0.939045	0.086197	0.002505
4	0.576185	0.479300	0.002505
5	0.692910	0.287012	0.002505
6	0.746341	0.068508	0.002505
7	0.427415	0.355545	0.002505
8	0.514001	0.212906	0.002505

9 0.553636 0.050819 0.002505

ELEMENT GROUP 2 ELEMENT 6 GAUSS POINT COORDINATES:

NO.	X	Y	Z
1	0.427415	-0.355545	0.002505
2	0.514001	-0.212906	0.002505
3	0.553636	-0.050819	0.002505
4	0.576185	-0.479300	0.002505
5	0.692910	-0.287012	0.002505
6	0.746341	-0.068508	0.002505
7	0.724956	-0.603055	0.002505
8	0.871819	-0.361119	0.002505
9	0.939045	-0.086197	0.002505

ELEMENT GROUP 2 ELEMENT 7 GAUSS POINT COORDINATES:

NO.	X	Y	Z
1	1.164723	-0.112803	0.002505
2	1.747560	-0.186549	0.002505
3	2.330398	-0.260295	0.002505
4	1.101511	-0.480431	0.002505
5	1.711940	-0.816341	0.002505
6	2.322369	-1.152252	0.002505
7	0.963418	-0.817043	0.002505
8	1.634123	-1.428656	0.002505
9	2.304828	-2.040270	0.002505

ELEMENT GROUP 2 ELEMENT 8 GAUSS POINT COORDINATES:

NO.	X	Y	Z
1	0.050819	-0.553636	0.002505
2	0.212906	-0.514001	0.002505
3	0.355545	-0.427415	0.002505
4	0.068508	-0.746341	0.002505
5	0.287012	-0.692910	0.002505
6	0.479300	-0.576185	0.002505
7	0.086197	-0.939045	0.002505
8	0.361119	-0.871819	0.002505
9	0.603055	-0.724956	0.002505

ELEMENT GROUP 2 ELEMENT 9 GAUSS POINT COORDINATES:

NO.	X	Y	Z
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1	0.112803	-1.164723	0.002505
2	0.480431	-1.101511	0.002505
3	0.817043	-0.963418	0.002505
4	0.186549	-1.747560	0.002505
5	0.816341	-1.711940	0.002505
6	1.428656	-1.634123	0.002505
7	0.260295	-2.330398	0.002505
8	1.152252	-2.322369	0.002505
9	2.040270	-2.304828	0.002505

ELEMENT GROUP 2 ELEMENT 10 GAUSS POINT COORDINATES:

NO.	X	Y	Z
1	0.281754	-2.781754	0.002505
2	1.250000	-2.781754	0.002505
3	2.218246	-2.781754	0.002505
4	0.281754	-3.750000	0.002505
5	1.250000	-3.750000	0.002505
6	2.218246	-3.750000	0.002505
7	0.281754	-4.718246	0.002505
8	1.250000	-4.718246	0.002505
9	2.218246	-4.718246	0.002505

SPECIFIED DISPLACEMENTS:

NODE NUMBER	DIRECTION	DISPLACEMENT MAGNITUDE
1	2	-.100000E-01
2	2	-.100000E-01
3	2	-.100000E-01
4	2	-.100000E-01
5	2	-.100000E-01
6	2	-.100000E-01
7	2	-.100000E-01
8	2	-.100000E-01
9	2	-.100000E-01

1

D I S P L A C E M E N T S

NODE	X-DISPLACEMENT	Y-DISPLACEMENT	Z-DISPLACEMENT
1	0.000000E+00	-0.100000E-01	0.000000E+00
2	0.000000E+00	-0.100000E-01	0.187877E-06
3	0.000000E+00	-0.100000E-01	0.375543E-06
4	0.874292E-03	-0.100000E-01	0.000000E+00

5	0.874299E-03	-0.100000E-01	0.176870E-06
6	0.874306E-03	-0.100000E-01	0.353519E-06
7	0.174176E-02	-0.100000E-01	0.000000E+00
8	0.174177E-02	-0.100000E-01	0.174040E-06
9	0.174178E-02	-0.100000E-01	0.348130E-06
10	0.000000E+00	-0.880015E-02	0.000000E+00
11	0.000000E+00	-0.880015E-02	0.185201E-06
12	0.000000E+00	-0.880016E-02	0.370905E-06
13	0.174767E-02	-0.879942E-02	0.000000E+00
14	0.174767E-02	-0.879942E-02	0.182139E-06
15	0.174766E-02	-0.879941E-02	0.364079E-06
16	0.000000E+00	-0.762861E-02	0.000000E+00
17	0.000000E+00	-0.762862E-02	0.189202E-06
18	0.000000E+00	-0.762863E-02	0.378433E-06
19	0.861315E-03	-0.761818E-02	0.000000E+00
20	0.861315E-03	-0.761818E-02	0.174151E-06
21	0.861316E-03	-0.761818E-02	0.347758E-06
22	0.177288E-02	-0.755881E-02	0.000000E+00
23	0.177288E-02	-0.755881E-02	0.182863E-06
24	0.177289E-02	-0.755880E-02	0.365520E-06
25	0.193430E-02	-0.622088E-02	0.000000E+00
26	0.193430E-02	-0.622087E-02	0.198435E-06
27	0.193430E-02	-0.622085E-02	0.397233E-06
28	0.198352E-02	-0.500002E-02	0.000000E+00
29	0.198352E-02	-0.500000E-02	0.157239E-06
30	0.198352E-02	-0.499999E-02	0.314480E-06
31	0.000000E+00	-0.693553E-02	0.000000E+00
32	0.000000E+00	-0.693555E-02	0.186217E-06
33	0.000000E+00	-0.693556E-02	0.373259E-06
34	0.115456E-02	-0.671759E-02	0.000000E+00
35	0.115456E-02	-0.671759E-02	0.165119E-06
36	0.115455E-02	-0.671760E-02	0.329843E-06
37	0.145883E-02	-0.500000E-02	0.000000E+00
38	0.145883E-02	-0.500001E-02	0.181352E-06
39	0.145883E-02	-0.500001E-02	0.362703E-06
40	0.000000E+00	-0.629954E-02	0.000000E+00
41	0.000000E+00	-0.629956E-02	0.209594E-06
42	0.000000E+00	-0.629958E-02	0.420127E-06
43	0.220064E-03	-0.621405E-02	0.000000E+00
44	0.220065E-03	-0.621404E-02	0.124204E-06
45	0.220066E-03	-0.621404E-02	0.245249E-06
46	0.520245E-03	-0.590974E-02	0.000000E+00
47	0.520245E-03	-0.590974E-02	0.146973E-06
48	0.520244E-03	-0.590974E-02	0.292393E-06
49	0.829695E-03	-0.543856E-02	0.000000E+00
50	0.829698E-03	-0.543856E-02	0.250533E-06
51	0.829700E-03	-0.543856E-02	0.502205E-06
52	0.951586E-03	-0.500001E-02	0.000000E+00
53	0.951587E-03	-0.500001E-02	0.293020E-06
54	0.951587E-03	-0.500000E-02	0.586041E-06
55	0.000000E+00	-0.614614E-02	0.000000E+00
56	0.000000E+00	-0.614616E-02	0.707231E-07

57	0.000000E+00	-0.614617E-02	0.140674E-06
58	0.399869E-03	-0.577599E-02	0.000000E+00
59	0.399861E-03	-0.577599E-02	0.142522E-06
60	0.399854E-03	-0.577598E-02	0.282426E-06
61	0.791487E-03	-0.500001E-02	0.000000E+00
62	0.791489E-03	-0.500001E-02	0.340725E-06
63	0.791489E-03	-0.500000E-02	0.681451E-06
64	0.000000E+00	-0.600622E-02	0.000000E+00
65	0.000000E+00	-0.600616E-02	-0.250631E-06
66	0.000000E+00	-0.600610E-02	-0.499534E-06
67	0.169524E-03	-0.592772E-02	0.000000E+00
68	0.169543E-03	-0.592772E-02	-0.455102E-07
69	0.169565E-03	-0.592772E-02	-0.959016E-07
70	0.355941E-03	-0.571776E-02	0.000000E+00
71	0.355967E-03	-0.571778E-02	0.270823E-06
72	0.356001E-03	-0.571781E-02	0.533222E-06
73	0.487659E-03	-0.538936E-02	0.000000E+00
74	0.487666E-03	-0.538940E-02	0.501189E-06
75	0.487690E-03	-0.538945E-02	0.994475E-06
76	0.531373E-03	-0.499996E-02	0.000000E+00
77	0.531364E-03	-0.500001E-02	0.589301E-06
78	0.531378E-03	-0.500006E-02	0.117860E-05
79	0.000000E+00	-0.399391E-02	0.000000E+00
80	0.000000E+00	-0.399385E-02	-0.249408E-06
81	0.000000E+00	-0.399378E-02	-0.500529E-06
82	0.169570E-03	-0.407229E-02	0.000000E+00
83	0.169545E-03	-0.407229E-02	-0.506427E-07
84	0.169522E-03	-0.407229E-02	-0.963863E-07
85	0.356007E-03	-0.428219E-02	0.000000E+00
86	0.355971E-03	-0.428223E-02	0.262527E-06
87	0.355943E-03	-0.428226E-02	0.533483E-06
88	0.487690E-03	-0.461056E-02	0.000000E+00
89	0.487669E-03	-0.461061E-02	0.493332E-06
90	0.487664E-03	-0.461065E-02	0.994563E-06
91	0.000000E+00	-0.385384E-02	0.000000E+00
92	0.000000E+00	-0.385385E-02	0.701386E-07
93	0.000000E+00	-0.385386E-02	0.141045E-06
94	0.399856E-03	-0.422403E-02	0.000000E+00
95	0.399862E-03	-0.422402E-02	0.139892E-06
96	0.399869E-03	-0.422402E-02	0.282402E-06
97	0.000000E+00	-0.370042E-02	0.000000E+00
98	0.000000E+00	-0.370045E-02	0.210466E-06
99	0.000000E+00	-0.370047E-02	0.419992E-06
100	0.220066E-03	-0.378597E-02	0.000000E+00
101	0.220066E-03	-0.378597E-02	0.121023E-06
102	0.220065E-03	-0.378596E-02	0.245206E-06
103	0.520246E-03	-0.409027E-02	0.000000E+00
104	0.520246E-03	-0.409027E-02	0.145422E-06
105	0.520245E-03	-0.409027E-02	0.292399E-06
106	0.829701E-03	-0.456145E-02	0.000000E+00
107	0.829699E-03	-0.456145E-02	0.251683E-06
108	0.829695E-03	-0.456145E-02	0.502226E-06

109	0.000000E+00	-0.306445E-02	0.000000E+00
110	0.000000E+00	-0.306446E-02	0.187043E-06
111	0.000000E+00	-0.306448E-02	0.373261E-06
112	0.115456E-02	-0.328241E-02	0.000000E+00
113	0.115456E-02	-0.328242E-02	0.164714E-06
114	0.115456E-02	-0.328242E-02	0.329823E-06
115	0.193430E-02	-0.377916E-02	0.000000E+00
116	0.193430E-02	-0.377914E-02	0.198802E-06
117	0.193430E-02	-0.377913E-02	0.397243E-06
118	0.000000E+00	-0.237138E-02	0.000000E+00
119	0.000000E+00	-0.237139E-02	0.189221E-06
120	0.000000E+00	-0.237140E-02	0.378413E-06
121	0.861316E-03	-0.238183E-02	0.000000E+00
122	0.861316E-03	-0.238183E-02	0.173608E-06
123	0.861315E-03	-0.238183E-02	0.347759E-06
124	0.177289E-02	-0.244121E-02	0.000000E+00
125	0.177289E-02	-0.244121E-02	0.182656E-06
126	0.177288E-02	-0.244120E-02	0.365519E-06
127	0.000000E+00	-0.119985E-02	0.000000E+00
128	0.000000E+00	-0.119986E-02	0.185705E-06
129	0.000000E+00	-0.119986E-02	0.370907E-06
130	0.174766E-02	-0.120060E-02	0.000000E+00
131	0.174767E-02	-0.120059E-02	0.181940E-06
132	0.174767E-02	-0.120059E-02	0.364080E-06
133	0.000000E+00	0.000000E+00	0.000000E+00
134	0.000000E+00	0.000000E+00	0.187639E-06
135	0.000000E+00	0.000000E+00	0.375490E-06
136	0.874307E-03	0.000000E+00	0.000000E+00
137	0.874299E-03	0.000000E+00	0.176646E-06
138	0.874292E-03	0.000000E+00	0.353513E-06
139	0.174178E-02	0.000000E+00	0.000000E+00
140	0.174177E-02	0.000000E+00	0.174126E-06
141	0.174176E-02	0.000000E+00	0.348201E-06

ELEMENT GROUP 1
10 ELEMENTS

ELEMENT GROUP 1		ELEMENT NO 1		STRAINS IN THE X-Y-Z SYSTEM		
NGPT	EPSX	EPSY	EPSZ	GAMYZ	GAMXZ	GAMXY
1	0.6968E-03	-0.9606E-03	0.1099E-03	-0.9024E-06	0.8417E-06	-0.1226E-05
2	0.6966E-03	-0.9491E-03	0.1058E-03	0.8844E-08	0.2805E-05	0.8856E-05
3	0.6963E-03	-0.9494E-03	0.1052E-03	0.9069E-06	0.3296E-05	0.5241E-05
4	0.6856E-03	-0.9478E-03	0.1088E-03	-0.2835E-05	0.1221E-07	-0.1171E-04
5	0.6991E-03	-0.9527E-03	0.1052E-03	0.2678E-07	-0.1883E-06	0.5484E-05
6	0.7125E-03	-0.9694E-03	0.1074E-03	0.2836E-05	-0.8016E-06	0.8977E-05
7	0.6791E-03	-0.9350E-03	0.1095E-03	-0.2945E-05	-0.1452E-06	-0.5783E-05
8	0.7062E-03	-0.9564E-03	0.1045E-03	0.2756E-07	-0.1938E-06	0.1852E-04
9	0.7334E-03	-0.9894E-03	0.1074E-03	0.2909E-05	0.4038E-06	0.2912E-04

ELEMENT GROUP 1 ELEMENT NO 1 STRAINS IN THE 1-2-3 SYSTEM

NGPT	EPS1	EPS2	EPS3	GAM23	GAM13	GAM12
1	-0.1313E-03	-0.1325E-03	0.1099E-03	-0.4286E-07	0.1233E-05	0.1657E-02
2	-0.1307E-03	-0.1218E-03	0.1058E-03	0.1990E-05	0.1977E-05	0.1646E-02
3	-0.1292E-03	-0.1239E-03	0.1052E-03	0.2972E-05	0.1689E-05	0.1646E-02
4	-0.1252E-03	-0.1369E-03	0.1088E-03	-0.1996E-05	0.2013E-05	0.1633E-02
5	-0.1296E-03	-0.1241E-03	0.1052E-03	-0.1142E-06	-0.1521E-06	0.1652E-02
6	-0.1329E-03	-0.1240E-03	0.1074E-03	0.1439E-05	-0.2572E-05	0.1682E-02
7	-0.1251E-03	-0.1309E-03	0.1095E-03	-0.2185E-05	0.1979E-05	0.1614E-02
8	-0.1343E-03	-0.1158E-03	0.1045E-03	-0.1176E-06	-0.1565E-06	0.1663E-02
9	-0.1426E-03	-0.1135E-03	0.1074E-03	0.2343E-05	-0.1771E-05	0.1723E-02

ELEMENT GROUP 1			ELEMENT NO 1			STRESSES IN THE X-Y-Z SYSTEM		
NGPT	SIGX	SIGY	SIGZ	TAUZY	TAUXZ	TAUXY		
1	-0.9153E+02	-0.2975E+04	0.1240E-01	-0.7767E+00	0.7406E+00	0.1244E+04		
2	-0.8366E+02	-0.2947E+04	0.9539E+00	-0.3778E+00	0.2055E+01	0.1245E+04		
3	-0.7019E+02	-0.2934E+04	-0.6080E+00	0.2132E+00	0.2292E+01	0.1228E+04		
4	-0.5379E+02	-0.2896E+04	-0.8124E+00	-0.2079E+01	0.3973E+00	0.1181E+04		
5	-0.6974E+02	-0.2944E+04	-0.1097E+01	0.4542E-01	-0.1417E+00	0.1232E+04		
6	-0.7826E+02	-0.3005E+04	0.5023E+00	0.2189E+01	-0.9762E+00	0.1266E+04		
7	-0.5966E+02	-0.2868E+04	0.5762E+01	-0.2138E+01	0.2970E+00	0.1183E+04		
8	-0.1011E+03	-0.2994E+04	0.2951E+00	0.4676E-01	-0.1459E+00	0.1285E+04		
9	-0.1332E+03	-0.3131E+04	0.1100E+01	0.2077E+01	-0.1025E+00	0.1370E+04		

ELEMENT GROUP 1			ELEMENT NO 1			STRESSES IN THE 1-2-3 SYSTEM		
NGPT	SIG1	SIG2	SIG3	TAU23	TAU13	TAU12		
1	-0.2778E+04	-0.2891E+03	0.1240E-01	-0.2555E-01	0.1073E+01	0.1442E+04		
2	-0.2760E+04	-0.2706E+03	0.9539E+00	0.1186E+01	0.1720E+01	0.1432E+04		
3	-0.2730E+04	-0.2739E+03	-0.6080E+00	0.1771E+01	0.1470E+01	0.1432E+04		
4	-0.2656E+04	-0.2939E+03	-0.8124E+00	-0.1189E+01	0.1751E+01	0.1421E+04		
5	-0.2739E+04	-0.2746E+03	-0.1097E+01	-0.6806E-01	-0.1323E+00	0.1437E+04		
6	-0.2808E+04	-0.2754E+03	0.5023E+00	0.8575E+00	-0.2238E+01	0.1463E+04		
7	-0.2647E+04	-0.2809E+03	0.5762E+01	-0.1302E+01	0.1722E+01	0.1404E+04		
8	-0.2832E+04	-0.2625E+03	0.2951E+00	-0.7007E-01	-0.1362E+00	0.1446E+04		
9	-0.3002E+04	-0.2624E+03	0.1100E+01	0.1396E+01	-0.1541E+01	0.1499E+04		

ELEMENT GROUP 1			ELEMENT NO 2			STRAINS IN THE X-Y-Z SYSTEM		
NGPT	EPSX	EPSY	EPSZ	GAMYZ	GAMXZ	GAMXY		
1	0.6724E-03	-0.9399E-03	0.1070E-03	-0.2673E-05	-0.1170E-06	0.5529E-05		
2	0.7116E-03	-0.9520E-03	0.9936E-04	0.4890E-07	-0.1341E-08	0.3776E-04		
3	0.7497E-03	-0.1003E-02	0.1036E-03	0.1310E-05	0.8310E-06	0.1402E-04		
4	0.6394E-03	-0.8828E-03	0.1022E-03	-0.3967E-05	-0.1263E-06	0.3202E-05		
5	0.7209E-03	-0.9195E-03	0.8544E-04	0.5380E-06	-0.4639E-06	0.6208E-04		
6	0.7929E-03	-0.1010E-02	0.9240E-04	-0.1024E-05	-0.9037E-06	0.2966E-04		
7	0.5536E-03	-0.8266E-03	0.1057E-03	-0.6950E-05	0.1036E-06	0.1411E-04		
8	0.7341E-03	-0.9139E-03	0.7619E-04	0.1788E-05	0.3032E-06	0.1334E-03		
9	0.8707E-03	-0.1070E-02	0.8210E-04	-0.1621E-06	-0.4262E-06	0.7298E-04		

ELEMENT GROUP 1			ELEMENT NO 2			STRAINS IN THE 1-2-3 SYSTEM		
NGPT	EPS1	EPS2	EPS3	GAM23	GAM13	GAM12		
1	-0.1365E-03	-0.1310E-03	0.1070E-03	-0.1973E-05	0.1808E-05	0.1612E-02		
2	-0.1391E-03	-0.1013E-03	0.9936E-04	0.3363E-07	-0.3553E-07	0.1664E-02		
3	-0.1339E-03	-0.1198E-03	0.1036E-03	0.1514E-05	-0.3385E-06	0.1753E-02		

4	-0.1233E-03	-0.1201E-03	0.1022E-03	-0.2895E-05	0.2716E-05	0.1522E-02
5	-0.1303E-03	-0.6823E-04	0.8544E-04	0.5236E-07	-0.7085E-06	0.1640E-02
6	-0.1233E-03	-0.9361E-04	0.9240E-04	-0.1363E-05	0.8478E-07	0.1803E-02
7	-0.1435E-03	-0.1294E-03	0.1057E-03	-0.4841E-05	0.4987E-05	0.1380E-02
8	-0.1566E-03	-0.2322E-04	0.7619E-04	0.1479E-05	-0.1050E-05	0.1648E-02
9	-0.1362E-03	-0.6325E-04	0.8210E-04	-0.4160E-06	-0.1868E-06	0.1941E-02

ELEMENT GROUP 1			ELEMENT NO 2	STRESSES IN THE X-Y-Z SYSTEM		
NGPT	SIGX	SIGY	SIGZ	TAUZY	TAUXZ	TAUXY
1	-0.1885E+03	-0.2994E+04	-0.9071E+01	-0.1944E+01	0.2805E+00	0.1298E+04
2	-0.1359E+03	-0.3031E+04	-0.2196E+01	0.3603E-01	-0.7682E-02	0.1342E+04
3	-0.2385E+02	-0.3074E+04	-0.4419E+01	0.8462E+00	0.4297E+00	0.1278E+04
4	-0.1107E+03	-0.2759E+04	0.1478E+01	-0.2891E+01	0.4509E+00	0.1171E+04
5	-0.2396E+02	-0.2878E+04	0.4672E+01	0.4579E+00	-0.4138E+00	0.1272E+04
6	0.1635E+03	-0.2973E+04	0.3698E+01	-0.6265E+00	-0.5222E+00	0.1187E+04
7	-0.4659E+03	-0.2867E+04	-0.1641E+02	-0.5108E+01	0.1028E+01	0.1370E+04
8	-0.2478E+03	-0.3115E+04	0.8150E+00	0.1269E+01	-0.2266E-01	0.1564E+04
9	0.1770E+03	-0.3200E+04	-0.3023E+01	-0.6040E-01	-0.2902E+00	0.1335E+04

ELEMENT GROUP 1			ELEMENT NO 2	STRESSES IN THE 1-2-3 SYSTEM		
NGPT	SIG1	SIG2	SIG3	TAU23	TAU13	TAU12
1	-0.2889E+04	-0.2930E+03	-0.9071E+01	-0.1176E+01	0.1573E+01	0.1403E+04
2	-0.2925E+04	-0.2416E+03	-0.2196E+01	0.2004E-01	-0.3091E-01	0.1447E+04
3	-0.2827E+04	-0.2710E+03	-0.4419E+01	0.9022E+00	-0.2945E+00	0.1525E+04
4	-0.2606E+04	-0.2637E+03	0.1478E+01	-0.1725E+01	0.2363E+01	0.1324E+04
5	-0.2724E+04	-0.1786E+03	0.4672E+01	0.3120E-01	-0.6164E+00	0.1427E+04
6	-0.2591E+04	-0.2182E+03	0.3698E+01	-0.8123E+00	0.7376E-01	0.1568E+04
7	-0.3036E+04	-0.2969E+03	-0.1641E+02	-0.2885E+01	0.4339E+01	0.1201E+04
8	-0.3245E+04	-0.1178E+03	0.8150E+00	0.8812E+00	-0.9133E+00	0.1434E+04
9	-0.2847E+04	-0.1764E+03	-0.3023E+01	-0.2479E+00	-0.1625E+00	0.1689E+04

ELEMENT GROUP 1			ELEMENT NO 3	STRAINS IN THE X-Y-Z SYSTEM		
NGPT	EPSX	EPSY	EPSZ	GAMYZ	GAMXZ	GAMXY
1	0.9717E-03	-0.1224E-02	0.1051E-03	-0.1516E-05	-0.2777E-07	0.2186E-04
2	0.8823E-03	-0.1143E-02	0.1070E-03	-0.1703E-05	-0.6375E-06	0.7149E-05
3	0.8359E-03	-0.1104E-02	0.1124E-03	0.2847E-05	0.1236E-05	-0.1609E-04
4	0.8140E-03	-0.1153E-02	0.1413E-03	0.8457E-06	0.1256E-05	-0.5225E-04
5	0.7667E-03	-0.1063E-02	0.1214E-03	-0.5550E-06	0.5209E-07	-0.3112E-04
6	0.7504E-03	-0.1029E-02	0.1171E-03	0.5737E-05	0.1197E-05	-0.3533E-04
7	0.6880E-03	-0.1033E-02	0.1557E-03	0.2291E-06	0.5421E-06	-0.5508E-04
8	0.6958E-03	-0.9712E-03	0.1146E-03	-0.2552E-05	-0.3132E-06	-0.1729E-04
9	0.7083E-03	-0.9530E-03	0.1013E-03	0.5333E-05	0.1036E-05	-0.1112E-04

ELEMENT GROUP 1			ELEMENT NO 3	STRAINS IN THE 1-2-3 SYSTEM		
NGPT	EPS1	EPS2	EPS3	GAM23	GAM13	GAM12
1	-0.1371E-03	-0.1153E-03	0.1051E-03	-0.1091E-05	0.1052E-05	0.2196E-02
2	-0.1337E-03	-0.1266E-03	0.1070E-03	-0.1655E-05	0.7537E-06	0.2025E-02
3	-0.1258E-03	-0.1419E-03	0.1124E-03	0.2887E-05	-0.1139E-05	0.1939E-02
4	-0.1436E-03	-0.1958E-03	0.1413E-03	0.1486E-05	0.2903E-06	0.1968E-02
5	-0.1326E-03	-0.1637E-03	0.1214E-03	-0.3556E-06	0.4293E-06	0.1830E-02
6	-0.1216E-03	-0.1569E-03	0.1171E-03	0.4903E-05	-0.3210E-05	0.1779E-02
7	-0.1451E-03	-0.2002E-03	0.1557E-03	0.5454E-06	0.2213E-06	0.1721E-02

8	-0.1291E-03	-0.1464E-03	0.1146E-03	-0.2026E-05	0.1583E-05	0.1667E-02
9	-0.1168E-03	-0.1279E-03	0.1013E-03	0.4504E-05	-0.3038E-05	0.1661E-02

ELEMENT GROUP 1			ELEMENT NO 3			STRESSES IN THE X-Y-Z SYSTEM		
NGPT	SIGX	SIGY	SIGZ	TAUZY	TAUXZ	TAUXY		
1	0.3336E+03	-0.3487E+04	-0.4267E+00	-0.1107E+01	0.1873E+00	0.1313E+04		
2	0.2074E+03	-0.3316E+04	-0.3039E+01	-0.1161E+01	-0.2339E+00	0.1273E+04		
3	0.2027E+03	-0.3172E+04	0.1928E+01	0.1917E+01	0.5160E+00	0.1183E+04		
4	-0.2108E+02	-0.3445E+04	0.3602E+00	0.4478E+00	0.8050E+00	0.1331E+04		
5	0.8685E+01	-0.3175E+04	-0.3848E+01	-0.4139E+00	0.1142E+00	0.1239E+04		
6	0.9109E+02	-0.3005E+04	0.2563E+01	0.4041E+01	0.9162E-01	0.1133E+04		
7	-0.2461E+03	-0.3241E+04	0.2461E+02	0.9368E-01	0.3660E+00	0.1344E+04		
8	-0.7536E+02	-0.2976E+04	-0.2543E+00	-0.1827E+01	0.1200E+00	0.1214E+04		
9	0.6944E+02	-0.2821E+04	-0.1228E+01	0.3767E+01	0.2906E-01	0.1101E+04		

ELEMENT GROUP 1			ELEMENT NO 3			STRESSES IN THE 1-2-3 SYSTEM		
NGPT	SIG1	SIG2	SIG3	TAU23	TAU13	TAU12		
1	-0.2890E+04	-0.2633E+03	-0.4267E+00	-0.6504E+00	0.9152E+00	0.1910E+04		
2	-0.2827E+04	-0.2817E+03	-0.3039E+01	-0.9865E+00	0.6557E+00	0.1762E+04		
3	-0.2668E+04	-0.3013E+03	0.1928E+01	0.1721E+01	-0.9910E+00	0.1687E+04		
4	-0.3064E+04	-0.4018E+03	0.3602E+00	0.8858E+00	0.2526E+00	0.1712E+04		
5	-0.2822E+04	-0.3439E+03	-0.3848E+01	-0.2119E+00	0.3735E+00	0.1592E+04		
6	-0.2590E+04	-0.3244E+03	0.2563E+01	0.2922E+01	-0.2793E+01	0.1548E+04		
7	-0.3087E+04	-0.3999E+03	0.2461E+02	0.3250E+00	0.1926E+00	0.1497E+04		
8	-0.2740E+04	-0.3115E+03	-0.2543E+00	-0.1207E+01	0.1377E+01	0.1450E+04		
9	-0.2477E+04	-0.2747E+03	-0.1228E+01	0.2685E+01	-0.2643E+01	0.1445E+04		

ELEMENT GROUP 1			ELEMENT NO 4			STRAINS IN THE X-Y-Z SYSTEM		
NGPT	EPSX	EPSY	EPSZ	GAMYZ	GAMXZ	GAMXY		
1	0.4956E-03	-0.6678E-03	0.9927E-04	-0.1063E-04	-0.1954E-07	0.1950E-04		
2	0.7063E-03	-0.8635E-03	0.6590E-04	-0.3177E-07	-0.4568E-06	0.1731E-03		
3	0.9140E-03	-0.1109E-02	0.7151E-04	0.1338E-05	-0.2454E-05	0.1693E-03		
4	0.5395E-03	-0.6116E-03	0.3406E-04	-0.6687E-05	0.3519E-06	0.7004E-04		
5	0.6822E-03	-0.7758E-03	0.3101E-04	-0.3915E-05	0.9587E-07	0.2034E-03		
6	0.7779E-03	-0.1023E-02	0.6736E-04	-0.7409E-06	-0.3097E-05	0.2386E-03		
7	0.7182E-03	-0.5526E-03	-0.8395E-04	0.1722E-04	0.2644E-05	0.7748E-04		
8	0.7726E-03	-0.6824E-03	-0.1282E-04	-0.9329E-06	0.8289E-05	0.1723E-03		
9	0.7197E-03	-0.9392E-03	0.9814E-04	-0.9048E-05	0.9570E-05	0.2444E-03		

ELEMENT GROUP 1			ELEMENT NO 4			STRAINS IN THE 1-2-3 SYSTEM		
NGPT	EPS1	EPS2	EPS3	GAM23	GAM13	GAM12		
1	-0.9587E-04	-0.7637E-04	0.9927E-04	-0.7529E-05	0.7501E-05	0.1163E-02		
2	-0.1652E-03	0.7936E-05	0.6590E-04	-0.3455E-06	-0.3006E-06	0.1570E-02		
3	-0.1821E-03	-0.1272E-04	0.7151E-04	-0.7895E-06	-0.2681E-05	0.2023E-02		
4	-0.7110E-04	-0.1065E-05	0.3406E-04	-0.4479E-05	0.4977E-05	0.1151E-02		
5	-0.1485E-03	0.5491E-04	0.3101E-04	-0.2700E-05	0.2836E-05	0.1458E-02		
6	-0.2421E-03	-0.3469E-05	0.6736E-04	-0.2714E-05	-0.1666E-05	0.1801E-02		
7	0.4404E-04	0.1215E-03	-0.8395E-04	0.1405E-04	-0.1031E-04	0.1271E-02		
8	-0.4098E-04	0.1313E-03	-0.1282E-04	0.5202E-05	0.6521E-05	0.1455E-02		
9	-0.2320E-03	0.1244E-04	0.9814E-04	0.3689E-06	0.1316E-04	0.1659E-02		

ELEMENT GROUP 1			ELEMENT NO 4			STRESSES IN THE X-Y-Z SYSTEM		
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NGPT	SIGX	SIGY	SIGZ	TAUZY	TAUXZ	TAUXY
1	-0.6239E+02	-0.2087E+04	0.5537E+02	-0.7788E+01	0.1442E+01	0.9204E+03
2	-0.3734E+03	-0.3105E+04	-0.1468E+01	0.3930E-01	-0.3305E+00	0.1668E+04
3	-0.1891E+03	-0.3709E+04	-0.2173E+02	0.1317E+01	-0.1982E+01	0.1827E+04
4	0.2511E+03	-0.1752E+04	0.7156E+01	-0.4950E+01	0.1174E+01	0.7156E+03
5	-0.2501E+03	-0.2787E+04	-0.1880E+02	-0.2883E+01	0.6066E+00	0.1528E+04
6	-0.1028E+04	-0.4162E+04	-0.7380E+02	-0.1188E+00	-0.2168E+01	0.2437E+04
7	0.1691E+04	-0.5199E+03	-0.3126E+02	0.1226E+02	-0.4217E+00	-0.3719E+03
8	0.9959E+03	-0.1536E+04	0.4795E+02	-0.1819E+01	0.6204E+01	0.4898E+03
9	-0.9926E+03	-0.3879E+04	0.1032E+02	-0.7943E+01	0.8254E+01	0.2344E+04

ELEMENT GROUP 1			ELEMENT NO 4	STRESSES IN THE 1-2-3 SYSTEM		
NGPT	SIG1	SIG2	SIG3	TAU23	TAU13	TAU12
1	-0.1995E+04	-0.1541E+03	0.5537E+02	-0.4487E+01	0.6526E+01	0.1012E+04
2	-0.3407E+04	-0.7061E+02	-0.1468E+01	-0.2059E+00	-0.2615E+00	0.1366E+04
3	-0.3776E+04	-0.1222E+03	-0.2173E+02	-0.4705E+00	-0.2333E+01	0.1760E+04
4	-0.1466E+04	-0.3474E+02	0.7156E+01	-0.2670E+01	0.4330E+01	0.1001E+04
5	-0.3047E+04	0.9722E+01	-0.1880E+02	-0.1609E+01	0.2467E+01	0.1269E+04
6	-0.5032E+04	-0.1583E+03	-0.7380E+02	-0.1617E+01	-0.1449E+01	0.1567E+04
7	0.9575E+03	0.2138E+03	-0.3126E+02	0.8372E+01	-0.8968E+01	0.1106E+04
8	-0.7598E+03	0.2198E+03	0.4795E+02	0.3100E+01	0.5673E+01	0.1266E+04
9	-0.4780E+04	-0.9192E+02	0.1032E+02	0.2199E+00	0.1145E+02	0.1443E+04

ELEMENT GROUP 1			ELEMENT NO 5	STRAINS IN THE X-Y-Z SYSTEM		
NGPT	EPSX	EPSY	EPSZ	GAMYZ	GAMXZ	GAMXY
1	0.1065E-02	-0.1249E-02	0.9913E-04	0.1418E-05	-0.2115E-05	0.3448E-04
2	0.8303E-03	-0.1199E-02	0.1470E-03	0.5069E-05	0.6528E-06	-0.4858E-04
3	0.5921E-03	-0.1108E-02	0.1696E-03	0.6498E-05	0.1581E-05	-0.9366E-04
4	0.9726E-03	-0.1159E-02	0.1109E-03	0.7255E-06	-0.3691E-05	0.6656E-04
5	0.8931E-03	-0.1287E-02	0.1751E-03	0.2640E-05	-0.1232E-05	0.5792E-04
6	0.8466E-03	-0.1323E-02	0.2028E-03	0.4715E-05	0.6888E-06	-0.1027E-03
7	0.7577E-03	-0.1176E-02	0.1731E-03	-0.1132E-04	0.7376E-05	0.3352E-03
8	0.8810E-03	-0.1564E-02	0.2632E-03	-0.1606E-04	0.1993E-05	0.4241E-03
9	0.1084E-02	-0.1792E-02	0.3055E-03	-0.1822E-04	-0.2609E-05	0.9348E-04

ELEMENT GROUP 1			ELEMENT NO 5	STRAINS IN THE 1-2-3 SYSTEM		
NGPT	EPS1	EPS2	EPS3	GAM23	GAM13	GAM12
1	-0.1091E-03	-0.7461E-04	0.9913E-04	-0.4926E-06	-0.2498E-05	0.2314E-02
2	-0.1601E-03	-0.2087E-03	0.1470E-03	0.4046E-05	-0.3122E-05	0.2029E-02
3	-0.2113E-03	-0.3049E-03	0.1696E-03	0.5712E-05	-0.3477E-05	0.1700E-02
4	-0.1262E-03	-0.5968E-04	0.1109E-03	-0.2097E-05	-0.3123E-05	0.2131E-02
5	-0.2257E-03	-0.1678E-03	0.1751E-03	0.9950E-06	-0.2738E-05	0.2180E-02
6	-0.1871E-03	-0.2898E-03	0.2028E-03	0.3821E-05	-0.2847E-05	0.2170E-02
7	-0.3766E-03	-0.4143E-04	0.1731E-03	-0.2791E-05	0.1322E-04	0.1934E-02
8	-0.5538E-03	-0.1296E-03	0.2632E-03	-0.9944E-05	0.1276E-04	0.2445E-02
9	-0.4003E-03	-0.3068E-03	0.3055E-03	-0.1473E-04	0.1104E-04	0.2876E-02

ELEMENT GROUP 1			ELEMENT NO 5	STRESSES IN THE X-Y-Z SYSTEM		
NGPT	SIGX	SIGY	SIGZ	TAUZY	TAUXZ	TAUXY
1	0.7964E+03	-0.3230E+04	0.4522E+02	0.1329E+01	-0.1744E+01	0.1055E+04
2	-0.1621E+03	-0.3693E+04	-0.1303E+02	0.3626E+01	-0.2159E+00	0.1490E+04
3	-0.1127E+04	-0.4085E+04	-0.9092E+02	0.4546E+01	0.2685E+00	0.1949E+04

4	0.4813E+03	-0.3227E+04	0.6674E+02	0.1037E+01	-0.2805E+01	0.1236E+04
5	-0.6656E+03	-0.4458E+04	0.2181E+02	0.2104E+01	-0.1265E+01	0.2175E+04
6	-0.4036E+03	-0.4180E+04	0.9655E+01	0.3362E+01	-0.1411E+00	0.1714E+04
7	-0.2350E+04	-0.5714E+04	-0.6565E+01	-0.9310E+01	0.6958E+01	0.3770E+04
8	-0.3892E+04	-0.8147E+04	-0.4911E+02	-0.1204E+02	0.3661E+01	0.5502E+04
9	-0.2059E+04	-0.7063E+04	0.2074E+02	-0.1300E+02	0.5837E+00	0.3851E+04

ELEMENT GROUP 1		ELEMENT NO 5		STRESSES IN THE 1-2-3 SYSTEM		
NGPT	SIG1	SIG2	SIG3	TAU23	TAU13	TAU12
1	-0.2271E+04	-0.1620E+03	0.4522E+02	-0.2936E+00	-0.2173E+01	0.2013E+04
2	-0.3418E+04	-0.4373E+03	-0.1303E+02	0.2411E+01	-0.2717E+01	0.1766E+04
3	-0.4555E+04	-0.6569E+03	-0.9092E+02	0.3405E+01	-0.3025E+01	0.1479E+04
4	-0.2609E+04	-0.1367E+03	0.6674E+02	-0.1250E+01	-0.2717E+01	0.1854E+04
5	-0.4736E+04	-0.3872E+03	0.2181E+02	0.5930E+00	-0.2382E+01	0.1896E+04
6	-0.4005E+04	-0.5779E+03	0.9655E+01	0.2278E+01	-0.2477E+01	0.1888E+04
7	-0.7802E+04	-0.2625E+03	-0.6565E+01	-0.1663E+01	0.1150E+02	0.1682E+04
8	-0.1152E+05	-0.5177E+03	-0.4911E+02	-0.5927E+01	0.1110E+02	0.2127E+04
9	-0.8412E+04	-0.7096E+03	0.2074E+02	-0.8778E+01	0.9604E+01	0.2502E+04

ELEMENT GROUP 1		ELEMENT NO 6		STRAINS IN THE X-Y-Z SYSTEM		
NGPT	EPSX	EPSY	EPSZ	GAMYZ	GAMXZ	GAMXY
1	0.7576E-03	-0.1176E-02	0.1689E-03	-0.1494E-04	-0.1177E-04	-0.3353E-03
2	0.8809E-03	-0.1564E-02	0.2594E-03	-0.1796E-04	-0.7923E-05	-0.4244E-03
3	0.1084E-02	-0.1792E-02	0.3043E-03	-0.1860E-04	-0.4648E-05	-0.9381E-04
4	0.9726E-03	-0.1159E-02	0.1093E-03	0.2093E-05	0.3441E-05	-0.6657E-04
5	0.8931E-03	-0.1287E-02	0.1738E-03	0.3283E-05	0.2111E-05	-0.5799E-04
6	0.8466E-03	-0.1323E-02	0.2024E-03	0.4812E-05	0.1290E-05	0.1026E-03
7	0.1065E-02	-0.1249E-02	0.9869E-04	0.2358E-05	0.2777E-05	-0.3449E-04
8	0.8303E-03	-0.1199E-02	0.1473E-03	0.5273E-05	0.1187E-05	0.4862E-04
9	0.5921E-03	-0.1108E-02	0.1698E-03	0.6465E-05	0.1200E-05	0.9374E-04

ELEMENT GROUP 1		ELEMENT NO 6		STRAINS IN THE 1-2-3 SYSTEM		
NGPT	EPS1	EPS2	EPS3	GAM23	GAM13	GAM12
1	-0.4142E-04	-0.3767E-03	0.1689E-03	-0.1888E-04	0.2238E-05	0.1933E-02
2	-0.1295E-03	-0.5539E-03	0.2594E-03	-0.1830E-04	0.7094E-05	0.2445E-02
3	-0.3066E-03	-0.4004E-03	0.3043E-03	-0.1644E-04	0.9866E-05	0.2876E-02
4	-0.5967E-04	-0.1262E-03	0.1093E-03	0.3913E-05	0.9534E-06	0.2131E-02
5	-0.1677E-03	-0.2257E-03	0.1738E-03	0.3814E-05	-0.8287E-06	0.2180E-02
6	-0.2897E-03	-0.1871E-03	0.2024E-03	0.4315E-05	-0.2490E-05	0.2170E-02
7	-0.7460E-04	-0.1091E-03	0.9869E-04	0.3631E-05	0.2965E-06	0.2314E-02
8	-0.2087E-03	-0.1601E-03	0.1473E-03	0.4568E-05	-0.2889E-05	0.2029E-02
9	-0.3050E-03	-0.2112E-03	0.1698E-03	0.5420E-05	-0.3722E-05	0.1700E-02

ELEMENT GROUP 1		ELEMENT NO 6		STRESSES IN THE X-Y-Z SYSTEM		
NGPT	SIGX	SIGY	SIGZ	TAUYZ	TAUXZ	TAUXY
1	0.8291E+03	-0.2535E+04	-0.6534E+01	-0.9336E+01	-0.6582E+01	0.1955E+03
2	0.1324E+03	-0.4122E+04	-0.4589E+02	-0.1208E+02	-0.3348E+01	0.9789E+03
3	-0.1171E+04	-0.6175E+04	0.2076E+02	-0.1300E+02	-0.8584E+00	0.2853E+04
4	0.1112E+04	-0.2596E+04	0.6520E+02	0.1063E+01	0.2236E+01	0.5264E+03
5	-0.1164E+03	-0.3909E+04	0.2064E+02	0.2117E+01	0.1098E+01	0.1557E+04
6	-0.1379E+04	-0.5155E+04	0.6207E+01	0.3350E+01	0.2866E+00	0.2808E+04
7	0.1124E+04	-0.2903E+04	0.4524E+02	0.1348E+01	0.1713E+01	0.6870E+03

8	-0.6231E+03	-0.4154E+04	-0.1356E+02	0.3703E+01	0.1479E+00	0.2008E+04
9	-0.2016E+04	-0.4975E+04	-0.9290E+02	0.4574E+01	-0.5709E-02	0.2948E+04

ELEMENT GROUP 1		ELEMENT NO 6		STRESSES IN THE 1-2-3 SYSTEM		
NGPT	SIG1	SIG2	SIG3	TAU23	TAU13	TAU12
1	-0.1048E+04	-0.6573E+03	-0.6534E+01	-0.1126E+02	0.1947E+01	0.1682E+04
2	-0.2974E+04	-0.1016E+04	-0.4589E+02	-0.1091E+02	0.6172E+01	0.2127E+04
3	-0.6526E+04	-0.8199E+03	0.2076E+02	-0.9797E+01	0.8583E+01	0.2502E+04
4	-0.1268E+04	-0.2157E+03	0.6520E+02	0.2332E+01	0.8294E+00	0.1854E+04
5	-0.3569E+04	-0.4560E+03	0.2064E+02	0.2273E+01	-0.7210E+00	0.1896E+04
6	-0.6075E+04	-0.4585E+03	0.6207E+01	0.2572E+01	-0.2166E+01	0.1888E+04
7	-0.1577E+04	-0.2026E+03	0.4524E+02	0.2164E+01	0.2580E+00	0.2013E+04
8	-0.4397E+04	-0.3803E+03	-0.1356E+02	0.2723E+01	-0.2514E+01	0.1766E+04
9	-0.6444E+04	-0.5474E+03	-0.9290E+02	0.3230E+01	-0.3238E+01	0.1479E+04

ELEMENT GROUP 1		ELEMENT NO 7		STRAINS IN THE X-Y-Z SYSTEM		
NGPT	EPSX	EPSY	EPSZ	GAMYZ	GAMXZ	GAMXY
1	0.6880E-03	-0.1033E-02	0.1560E-03	0.5591E-07	-0.5128E-06	0.5510E-04
2	0.6958E-03	-0.9712E-03	0.1148E-03	-0.2682E-05	-0.6378E-06	0.1728E-04
3	0.7083E-03	-0.9530E-03	0.1014E-03	0.5264E-05	0.1011E-05	0.1109E-04
4	0.8140E-03	-0.1153E-02	0.1420E-03	0.4876E-06	-0.1121E-05	0.5226E-04
5	0.7667E-03	-0.1063E-02	0.1220E-03	-0.7073E-06	-0.3691E-06	0.3111E-04
6	0.7504E-03	-0.1029E-02	0.1174E-03	0.5679E-05	0.8203E-06	0.3530E-04
7	0.9717E-03	-0.1224E-02	0.1049E-03	-0.1507E-05	-0.1600E-06	-0.2186E-04
8	0.8823E-03	-0.1143E-02	0.1071E-03	-0.1550E-05	0.4230E-06	-0.7157E-05
9	0.8359E-03	-0.1104E-02	0.1124E-03	0.2867E-05	0.9709E-07	0.1607E-04

ELEMENT GROUP 1		ELEMENT NO 7		STRAINS IN THE 1-2-3 SYSTEM		
NGPT	EPS1	EPS2	EPS3	GAM23	GAM13	GAM12
1	-0.2002E-03	-0.1451E-03	0.1560E-03	-0.3231E-06	-0.4022E-06	0.1721E-02
2	-0.1464E-03	-0.1291E-03	0.1148E-03	-0.2348E-05	0.1446E-05	0.1667E-02
3	-0.1279E-03	-0.1168E-03	0.1014E-03	0.4437E-05	-0.3007E-05	0.1661E-02
4	-0.1958E-03	-0.1436E-03	0.1420E-03	-0.4477E-06	-0.1137E-05	0.1968E-02
5	-0.1637E-03	-0.1326E-03	0.1220E-03	-0.7612E-06	0.2392E-06	0.1830E-02
6	-0.1569E-03	-0.1216E-03	0.1174E-03	0.4596E-05	-0.3436E-05	0.1779E-02
7	-0.1153E-03	-0.1371E-03	0.1049E-03	-0.1179E-05	0.9525E-06	0.2196E-02
8	-0.1266E-03	-0.1337E-03	0.1071E-03	-0.7969E-06	0.1395E-05	0.2025E-02
9	-0.1418E-03	-0.1258E-03	0.1124E-03	0.2096E-05	-0.1958E-05	0.1939E-02

ELEMENT GROUP 1		ELEMENT NO 7		STRESSES IN THE X-Y-Z SYSTEM		
NGPT	SIGX	SIGY	SIGZ	TAUZY	TAUXZ	TAUXY
1	-0.7690E+03	-0.3764E+04	0.2388E+02	0.1112E+00	-0.3836E+00	0.1931E+04
2	-0.2392E+03	-0.3140E+04	-0.1686E+00	-0.1879E+01	-0.1000E+00	0.1398E+04
3	-0.3586E+02	-0.2926E+04	-0.1227E+01	0.3720E+01	0.2004E-01	0.1220E+04
4	-0.5167E+03	-0.3940E+04	0.4030E+00	0.5110E+00	-0.8884E+00	0.1888E+04
5	-0.2862E+03	-0.3470E+04	-0.3445E+01	-0.4679E+00	-0.1736E+00	0.1571E+04
6	-0.2439E+03	-0.3340E+04	0.2317E+01	0.4050E+01	-0.1768E+00	0.1509E+04
7	0.5410E+03	-0.3280E+04	-0.3191E+00	-0.1083E+01	0.8921E-01	0.1080E+04
8	0.2753E+03	-0.3248E+04	-0.2712E+01	-0.1194E+01	0.5224E+00	0.1196E+04
9	0.5000E+02	-0.3325E+04	0.1635E+01	0.2088E+01	-0.3216E+00	0.1355E+04

ELEMENT GROUP 1		ELEMENT NO 7		STRESSES IN THE 1-2-3 SYSTEM		
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NGPT	SIG1	SIG2	SIG3	TAU23	TAU13	TAU12
1	-0.4197E+04	-0.3353E+03	0.2388E+02	-0.1926E+00	-0.3499E+00	0.1497E+04
2	-0.3088E+04	-0.2911E+03	-0.1686E+00	-0.1399E+01	0.1258E+01	0.1450E+04
3	-0.2701E+04	-0.2616E+03	-0.1227E+01	0.2645E+01	-0.2616E+01	0.1445E+04
4	-0.4117E+04	-0.3402E+03	0.4030E+00	-0.2669E+00	-0.9895E+00	0.1712E+04
5	-0.3449E+04	-0.3071E+03	-0.3445E+01	-0.4537E+00	0.2081E+00	0.1592E+04
6	-0.3301E+04	-0.2829E+03	0.2317E+01	0.2739E+01	-0.2989E+01	0.1548E+04
7	-0.2450E+04	-0.2890E+03	-0.3191E+00	-0.7025E+00	0.8287E+00	0.1910E+04
8	-0.2683E+04	-0.2900E+03	-0.2712E+01	-0.4749E+00	0.1214E+01	0.1762E+04
9	-0.2992E+04	-0.2825E+03	0.1635E+01	0.1249E+01	-0.1704E+01	0.1687E+04

ELEMENT GROUP 1			ELEMENT NO 8			STRAINS IN THE X-Y-Z SYSTEM		
NGPT	EPSX	EPSY	EPSZ	GAMYZ	GAMXZ	GAMXY		
1	0.7183E-03	-0.5529E-03	-0.8453E-04	0.1618E-04	-0.2794E-05	-0.7717E-04		
2	0.7726E-03	-0.6823E-03	-0.1568E-04	-0.4368E-05	-0.1010E-04	-0.1720E-03		
3	0.7195E-03	-0.9391E-03	0.9425E-04	-0.1318E-04	-0.1296E-04	-0.2443E-03		
4	0.5395E-03	-0.6117E-03	0.3304E-04	-0.6828E-05	-0.5867E-06	-0.7003E-04		
5	0.6822E-03	-0.7758E-03	0.2871E-04	-0.4000E-05	-0.3937E-06	-0.2034E-03		
6	0.7778E-03	-0.1023E-02	0.6539E-04	0.2512E-06	0.2506E-05	-0.2386E-03		
7	0.4956E-03	-0.6678E-03	0.9866E-04	-0.1070E-04	-0.8783E-07	-0.1960E-04		
8	0.7063E-03	-0.8634E-03	0.6394E-04	0.1968E-06	0.8724E-06	-0.1732E-03		
9	0.9140E-03	-0.1109E-02	0.7014E-04	0.2208E-05	0.2758E-05	-0.1694E-03		

ELEMENT GROUP 1			ELEMENT NO 8			STRAINS IN THE 1-2-3 SYSTEM		
NGPT	EPS1	EPS2	EPS3	GAM23	GAM13	GAM12		
1	0.1213E-03	0.4411E-04	-0.8453E-04	0.9462E-05	-0.1341E-04	0.1271E-02		
2	0.1312E-03	-0.4083E-04	-0.1568E-04	-0.1023E-04	-0.4050E-05	0.1455E-02		
3	0.1240E-04	-0.2319E-03	0.9425E-04	-0.1849E-04	0.1581E-06	0.1659E-02		
4	-0.1124E-05	-0.7115E-04	0.3304E-04	-0.5243E-05	0.4413E-05	0.1151E-02		
5	0.5490E-04	-0.1485E-03	0.2871E-04	-0.3107E-05	0.2550E-05	0.1458E-02		
6	-0.3474E-05	-0.2421E-03	0.6539E-04	0.1950E-05	0.1595E-05	0.1801E-02		
7	-0.7630E-04	-0.9590E-04	0.9866E-04	-0.7631E-05	0.7507E-05	0.1163E-02		
8	0.7998E-05	-0.1652E-03	0.6394E-04	0.7561E-06	0.4777E-06	0.1570E-02		
9	-0.1269E-04	-0.1821E-03	0.7014E-04	0.3511E-05	0.3887E-06	0.2023E-02		

ELEMENT GROUP 1			ELEMENT NO 8			STRESSES IN THE X-Y-Z SYSTEM		
NGPT	SIGX	SIGY	SIGZ	TAUYZ	TAUXZ	TAUXY		
1	0.2424E+04	0.2125E+03	-0.3058E+02	0.1224E+02	-0.4264E+01	-0.1196E+04		
2	0.2628E+04	0.9631E+02	0.4664E+02	-0.1819E+01	-0.6802E+01	-0.1345E+04		
3	0.1324E+04	-0.1562E+04	0.8749E+01	-0.7888E+01	-0.7693E+01	-0.2615E+03		
4	0.9147E+03	-0.1088E+04	0.6810E+01	-0.4925E+01	0.5054E+00	-0.3062E+02		
5	0.1679E+04	-0.8578E+03	-0.1820E+02	-0.2878E+01	0.2594E+00	-0.6403E+03		
6	0.1236E+04	-0.1898E+04	-0.7166E+02	-0.1593E+00	0.1803E+01	-0.1071E+03		
7	0.1229E+03	-0.1901E+04	0.5468E+02	-0.7834E+01	0.1402E+01	0.7118E+03		
8	0.1269E+04	-0.1462E+04	-0.9233E+00	0.2476E-01	0.6125E+00	-0.1778E+03		
9	0.1418E+04	-0.2102E+04	-0.2011E+02	0.1241E+01	0.1719E+01	0.2078E+02		

ELEMENT GROUP 1			ELEMENT NO 8			STRESSES IN THE 1-2-3 SYSTEM		
NGPT	SIG1	SIG2	SIG3	TAU23	TAU13	TAU12		
1	0.2514E+04	0.1229E+03	-0.3058E+02	0.5640E+01	-0.1167E+02	0.1106E+04		
2	0.2708E+04	0.1664E+02	0.4664E+02	-0.6096E+01	-0.3523E+01	0.1266E+04		
3	0.1426E+03	-0.3803E+03	0.8749E+01	-0.1102E+02	0.1376E+00	0.1443E+04		

4	-0.5624E+02	-0.1175E+03	0.6810E+01	-0.3125E+01	0.3840E+01	0.1002E+04
5	0.1051E+04	-0.2296E+03	-0.1820E+02	-0.1852E+01	0.2219E+01	0.1269E+04
6	-0.2242E+03	-0.4385E+03	-0.7166E+02	0.1162E+01	0.1387E+01	0.1567E+04
7	-0.1601E+04	-0.1774E+03	0.5468E+02	-0.4548E+01	0.6531E+01	0.1012E+04
8	0.8141E+02	-0.2742E+03	-0.9233E+00	0.4506E+00	0.4156E+00	0.1366E+04
9	-0.3625E+03	-0.3210E+03	-0.2011E+02	0.2093E+01	0.3382E+00	0.1760E+04

ELEMENT GROUP 1			ELEMENT NO 9			STRAINS IN THE X-Y-Z SYSTEM		
NGPT	EPSX	EPSY	EPSZ	GAMYZ	GAMXZ	GAMXY		
1	0.5536E-03	-0.8266E-03	0.1055E-03	-0.6974E-05	-0.2033E-06	-0.1418E-04		
2	0.7341E-03	-0.9139E-03	0.7457E-04	0.1762E-05	-0.1930E-06	-0.1334E-03		
3	0.8707E-03	-0.1070E-02	0.8090E-04	-0.5620E-07	0.1942E-06	-0.7296E-04		
4	0.6394E-03	-0.8828E-03	0.1022E-03	-0.4001E-05	-0.6328E-07	-0.3222E-05		
5	0.7209E-03	-0.9195E-03	0.8458E-04	0.5896E-06	0.8794E-07	-0.6209E-04		
6	0.7929E-03	-0.1010E-02	0.9184E-04	-0.8051E-06	0.5460E-06	-0.2965E-04		
7	0.6724E-03	-0.9399E-03	0.1070E-03	-0.2548E-05	-0.1169E-06	-0.5535E-05		
8	0.7116E-03	-0.9520E-03	0.9896E-04	0.9029E-07	-0.3134E-06	-0.3777E-04		
9	0.7497E-03	-0.1003E-02	0.1034E-03	0.1329E-05	-0.2820E-06	-0.1403E-04		

ELEMENT GROUP 1			ELEMENT NO 9			STRAINS IN THE 1-2-3 SYSTEM		
NGPT	EPS1	EPS2	EPS3	GAM23	GAM13	GAM12		
1	-0.1294E-03	-0.1436E-03	0.1055E-03	-0.5075E-05	0.4788E-05	0.1380E-02		
2	-0.2322E-04	-0.1566E-03	0.7457E-04	0.1110E-05	-0.1383E-05	0.1648E-02		
3	-0.6326E-04	-0.1362E-03	0.8090E-04	0.9760E-07	0.1771E-06	0.1941E-02		
4	-0.1201E-03	-0.1233E-03	0.1022E-03	-0.2874E-05	0.2784E-05	0.1522E-02		
5	-0.6823E-04	-0.1303E-03	0.8458E-04	0.4791E-06	-0.3547E-06	0.1640E-02		
6	-0.9361E-04	-0.1233E-03	0.9184E-04	-0.1832E-06	0.9554E-06	0.1803E-02		
7	-0.1310E-03	-0.1365E-03	0.1070E-03	-0.1884E-05	0.1719E-05	0.1612E-02		
8	-0.1013E-03	-0.1391E-03	0.9896E-04	-0.1578E-06	-0.2855E-06	0.1664E-02		
9	-0.1198E-03	-0.1339E-03	0.1034E-03	0.7405E-06	-0.1139E-05	0.1753E-02		

ELEMENT GROUP 1			ELEMENT NO 9			STRESSES IN THE X-Y-Z SYSTEM		
NGPT	SIGX	SIGY	SIGZ	TAUYZ	TAUXZ	TAUXY		
1	-0.3317E+03	-0.2733E+04	-0.1646E+02	-0.5084E+01	0.8065E+00	0.1219E+04		
2	0.1017E+04	-0.1850E+04	0.9620E+00	0.1318E+01	-0.3829E+00	0.1417E+03		
3	0.8690E+03	-0.2508E+04	-0.3546E+01	-0.6781E-01	0.1501E+00	0.5570E+03		
4	-0.8014E+02	-0.2729E+04	0.1599E+01	-0.2924E+01	0.5017E+00	0.1137E+04		
5	0.5648E+03	-0.2289E+04	0.4533E+01	0.4201E+00	-0.1631E-01	0.6105E+03		
6	0.4447E+03	-0.2692E+04	0.3352E+01	-0.6649E+00	0.5105E+00	0.8704E+03		
7	-0.1360E+03	-0.2941E+04	-0.9011E+01	-0.1851E+01	0.2634E+00	0.1239E+04		
8	0.2223E+03	-0.2672E+04	-0.2034E+01	0.1091E+00	-0.2421E+00	0.9390E+03		
9	0.1092E+03	-0.2941E+04	-0.4542E+01	0.1013E+01	-0.3888E+00	0.1128E+04		

ELEMENT GROUP 1			ELEMENT NO 9			STRESSES IN THE 1-2-3 SYSTEM		
NGPT	SIG1	SIG2	SIG3	TAU23	TAU13	TAU12		
1	-0.2751E+04	-0.3136E+03	-0.1646E+02	-0.3025E+01	0.4165E+01	0.1201E+04		
2	-0.5582E+03	-0.2748E+03	0.9620E+00	0.6614E+00	-0.1203E+01	0.1434E+04		
3	-0.1377E+04	-0.2625E+03	-0.3546E+01	0.5817E-01	0.1541E+00	0.1689E+04		
4	-0.2542E+04	-0.2674E+03	0.1599E+01	-0.1713E+01	0.2422E+01	0.1324E+04		
5	-0.1473E+04	-0.2518E+03	0.4533E+01	0.2855E+00	-0.3086E+00	0.1427E+04		
6	-0.1994E+04	-0.2532E+03	0.3352E+01	-0.1092E+00	0.8312E+00	0.1568E+04		
7	-0.2778E+04	-0.2995E+03	-0.9011E+01	-0.1123E+01	0.1495E+01	0.1403E+04		

8 -0.2164E+04 -0.2860E+03 -0.2034E+01 -0.9404E-01 -0.2484E+00 0.1447E+04
 9 -0.2544E+04 -0.2876E+03 -0.4542E+01 0.4413E+00 -0.9912E+00 0.1525E+04

ELEMENT GROUP 1			ELEMENT NO 10			STRAINS IN THE X-Y-Z SYSTEM		
NGPT	EPSX	EPSY	EPSZ	GAMYZ	GAMXZ	GAMXY		
1	0.6791E-03	-0.9350E-03	0.1095E-03	-0.2865E-05	-0.6153E-07	0.5778E-05		
2	0.7062E-03	-0.9564E-03	0.1043E-03	0.5136E-07	0.6711E-07	-0.1852E-04		
3	0.7334E-03	-0.9894E-03	0.1072E-03	0.2893E-05	0.6688E-06	-0.2911E-04		
4	0.6856E-03	-0.9478E-03	0.1090E-03	-0.3055E-05	-0.1806E-06	0.1170E-04		
5	0.6991E-03	-0.9527E-03	0.1051E-03	-0.3744E-07	0.1248E-06	-0.5492E-05		
6	0.7125E-03	-0.9694E-03	0.1072E-03	0.2939E-05	0.1826E-05	-0.8984E-05		
7	0.6968E-03	-0.9606E-03	0.1099E-03	-0.1015E-05	-0.1030E-05	0.1222E-05		
8	0.6966E-03	-0.9491E-03	0.1057E-03	-0.2359E-07	-0.3051E-05	-0.8866E-05		
9	0.6963E-03	-0.9494E-03	0.1051E-03	0.9595E-06	-0.2753E-05	-0.5255E-05		

ELEMENT GROUP 1			ELEMENT NO 10			STRAINS IN THE 1-2-3 SYSTEM		
NGPT	EPS1	EPS2	EPS3	GAM23	GAM13	GAM12		
1	-0.1309E-03	-0.1251E-03	0.1095E-03	-0.2070E-05	0.1983E-05	0.1614E-02		
2	-0.1158E-03	-0.1343E-03	0.1043E-03	0.8378E-07	0.1114E-07	0.1663E-02		
3	-0.1135E-03	-0.1426E-03	0.1072E-03	0.2518E-05	-0.1573E-05	0.1723E-02		
4	-0.1369E-03	-0.1252E-03	0.1090E-03	-0.2288E-05	0.2033E-05	0.1633E-02		
5	-0.1241E-03	-0.1296E-03	0.1051E-03	0.6176E-07	0.1147E-06	0.1652E-02		
6	-0.1240E-03	-0.1329E-03	0.1072E-03	0.3369E-05	-0.7870E-06	0.1682E-02		
7	-0.1325E-03	-0.1313E-03	0.1099E-03	-0.1445E-05	-0.1067E-07	0.1657E-02		
8	-0.1218E-03	-0.1307E-03	0.1057E-03	-0.2174E-05	-0.2140E-05	0.1646E-02		
9	-0.1239E-03	-0.1292E-03	0.1051E-03	-0.1268E-05	-0.2625E-05	0.1646E-02		

ELEMENT GROUP 1			ELEMENT NO 10			STRESSES IN THE X-Y-Z SYSTEM		
NGPT	SIGX	SIGY	SIGZ	TAUYZ	TAUXZ	TAUXY		
1	-0.1146E+03	-0.2923E+04	0.5632E+01	-0.2092E+01	0.3474E+00	0.1245E+04		
2	0.7453E+02	-0.2818E+04	0.2741E+00	0.2845E-01	0.4216E-01	0.1088E+04		
3	0.1430E+03	-0.2855E+04	0.1437E+01	0.2029E+01	0.9394E-01	0.1059E+04		
4	-0.1647E+03	-0.3007E+04	-0.7419E+00	-0.2215E+01	0.2861E+00	0.1306E+04		
5	-0.1771E+02	-0.2892E+04	-0.1133E+01	-0.4454E-01	0.9660E-01	0.1174E+04		
6	0.6861E+01	-0.2920E+04	0.4402E+00	0.1904E+01	0.9357E+00	0.1170E+04		
7	-0.1031E+03	-0.2987E+04	-0.5924E-01	-0.6026E+00	-0.6157E+00	0.1257E+04		
8	0.4122E+00	-0.2863E+04	0.9849E+00	0.4006E+00	-0.2233E+01	0.1150E+04		
9	-0.2043E+02	-0.2884E+04	-0.5645E+00	0.1081E+01	-0.2150E+01	0.1172E+04		

ELEMENT GROUP 1			ELEMENT NO 10			STRESSES IN THE 1-2-3 SYSTEM		
NGPT	SIG1	SIG2	SIG3	TAU23	TAU13	TAU12		
1	-0.2763E+04	-0.2742E+03	0.5632E+01	-0.1233E+01	0.1725E+01	0.1404E+04		
2	-0.2459E+04	-0.2843E+03	0.2741E+00	0.4993E-01	0.9690E-02	0.1446E+04		
3	-0.2415E+04	-0.2966E+03	0.1437E+01	0.1501E+01	-0.1368E+01	0.1499E+04		
4	-0.2891E+04	-0.2801E+03	-0.7419E+00	-0.1364E+01	0.1768E+01	0.1421E+04		
5	-0.2628E+04	-0.2811E+03	-0.1133E+01	0.3681E-01	0.9980E-01	0.1437E+04		
6	-0.2627E+04	-0.2860E+03	0.4402E+00	0.2008E+01	-0.6847E+00	0.1463E+04		
7	-0.2802E+04	-0.2877E+03	-0.5924E-01	-0.8615E+00	-0.9284E-02	0.1442E+04		
8	-0.2582E+04	-0.2810E+03	0.9849E+00	-0.1296E+01	-0.1862E+01	0.1432E+04		
9	-0.2624E+04	-0.2801E+03	-0.5645E+00	-0.7559E+00	-0.2284E+01	0.1432E+04		

ELEMENT GROUP 2
10 ELEMENTS

ELEMENT GROUP 2			ELEMENT NO 1	STRAINS IN THE X-Y-Z SYSTEM		
NGPT	EPSX	EPSY	EPSZ	GAMYZ	GAMXZ	GAMXY
1	0.6968E-03	-0.9606E-03	0.1099E-03	-0.1002E-05	0.1017E-05	-0.1222E-05
2	0.6966E-03	-0.9491E-03	0.1057E-03	-0.2094E-07	0.3057E-05	0.8866E-05
3	0.6963E-03	-0.9494E-03	0.1051E-03	0.9503E-06	0.2747E-05	0.5255E-05
4	0.6856E-03	-0.9478E-03	0.1090E-03	-0.3043E-05	0.1627E-06	-0.1170E-04
5	0.6991E-03	-0.9527E-03	0.1051E-03	-0.3963E-07	-0.1202E-06	0.5492E-05
6	0.7125E-03	-0.9694E-03	0.1072E-03	0.2942E-05	-0.1821E-05	0.8984E-05
7	0.6791E-03	-0.9350E-03	0.1095E-03	-0.2883E-05	0.3011E-07	-0.5778E-05
8	0.7062E-03	-0.9564E-03	0.1043E-03	0.2996E-07	-0.7971E-07	0.1852E-04
9	0.7334E-03	-0.9894E-03	0.1072E-03	0.2908E-05	-0.6768E-06	0.2911E-04

ELEMENT GROUP 2			ELEMENT NO 1	STRAINS IN THE 1-2-3 SYSTEM		
NGPT	EPS1	EPS2	EPS3	GAM23	GAM13	GAM12
1	-0.1325E-03	-0.1313E-03	0.1099E-03	-0.1427E-05	0.1065E-07	-0.1657E-02
2	-0.1218E-03	-0.1307E-03	0.1057E-03	-0.2176E-05	0.2147E-05	-0.1646E-02
3	-0.1239E-03	-0.1292E-03	0.1051E-03	-0.1271E-05	0.2615E-05	-0.1646E-02
4	-0.1369E-03	-0.1252E-03	0.1090E-03	-0.2267E-05	-0.2037E-05	-0.1633E-02
5	-0.1241E-03	-0.1296E-03	0.1051E-03	0.5696E-07	-0.1130E-06	-0.1652E-02
6	-0.1240E-03	-0.1329E-03	0.1072E-03	0.3368E-05	0.7925E-06	-0.1682E-02
7	-0.1309E-03	-0.1251E-03	0.1095E-03	-0.2060E-05	-0.2017E-05	-0.1614E-02
8	-0.1158E-03	-0.1343E-03	0.1043E-03	0.7755E-07	-0.3518E-07	-0.1663E-02
9	-0.1135E-03	-0.1426E-03	0.1072E-03	0.2535E-05	0.1578E-05	-0.1723E-02

ELEMENT GROUP 2			ELEMENT NO 1	STRESSES IN THE X-Y-Z SYSTEM		
NGPT	SIGX	SIGY	SIGZ	TAUZY	TAUXZ	TAUXY
1	-0.1031E+03	-0.2987E+04	-0.4220E-01	-0.5949E+00	0.6080E+00	-0.1257E+04
2	0.4130E+00	-0.2863E+04	0.9875E+00	0.4034E+00	0.2238E+01	-0.1150E+04
3	-0.2044E+02	-0.2884E+04	-0.5849E+00	0.1073E+01	0.2144E+01	-0.1172E+04
4	-0.1647E+03	-0.3007E+04	-0.7430E+00	-0.2209E+01	-0.2977E+00	-0.1306E+04
5	-0.1771E+02	-0.2892E+04	-0.1133E+01	-0.4551E-01	-0.9352E-01	-0.1174E+04
6	0.6863E+01	-0.2920E+04	0.4401E+00	0.1907E+01	-0.9319E+00	-0.1170E+04
7	-0.1145E+03	-0.2923E+04	0.5635E+01	-0.2109E+01	-0.3729E+00	-0.1245E+04
8	0.7453E+02	-0.2818E+04	0.2733E+00	0.1104E-01	-0.5432E-01	-0.1088E+04
9	0.1430E+03	-0.2855E+04	0.1439E+01	0.2039E+01	-0.9771E-01	-0.1059E+04

ELEMENT GROUP 2			ELEMENT NO 1	STRESSES IN THE 1-2-3 SYSTEM		
NGPT	SIG1	SIG2	SIG3	TAU23	TAU13	TAU12
1	-0.2802E+04	-0.2877E+03	-0.4220E-01	-0.8506E+00	0.9268E-02	-0.1442E+04
2	-0.2582E+04	-0.2810E+03	0.9875E+00	-0.1297E+01	0.1867E+01	-0.1432E+04
3	-0.2624E+04	-0.2801E+03	-0.5849E+00	-0.7573E+00	0.2275E+01	-0.1432E+04
4	-0.2892E+04	-0.2801E+03	-0.7430E+00	-0.1351E+01	-0.1772E+01	-0.1421E+04
5	-0.2628E+04	-0.2811E+03	-0.1133E+01	0.3395E-01	-0.9831E-01	-0.1437E+04
6	-0.2627E+04	-0.2860E+03	0.4401E+00	0.2007E+01	0.6895E+00	-0.1463E+04
7	-0.2763E+04	-0.2742E+03	0.5635E+01	-0.1228E+01	-0.1755E+01	-0.1404E+04
8	-0.2459E+04	-0.2843E+03	0.2733E+00	0.4622E-01	-0.3060E-01	-0.1446E+04
9	-0.2415E+04	-0.2966E+03	0.1439E+01	0.1511E+01	0.1373E+01	-0.1499E+04

ELEMENT GROUP 2			ELEMENT NO 2			STRAINS IN THE X-Y-Z SYSTEM		
NGPT	EPSX	EPSY	EPSZ	GAMYZ	GAMXZ	GAMXY		
1	0.6724E-03	-0.9399E-03	0.1070E-03	-0.2507E-05	0.7853E-07	0.5535E-05		
2	0.7116E-03	-0.9520E-03	0.9895E-04	0.1281E-06	0.3249E-06	0.3777E-04		
3	0.7497E-03	-0.1003E-02	0.1034E-03	0.1363E-05	0.2741E-06	0.1403E-04		
4	0.6394E-03	-0.8828E-03	0.1022E-03	-0.3977E-05	-0.2840E-07	0.3221E-05		
5	0.7209E-03	-0.9195E-03	0.8458E-04	0.5518E-06	-0.4753E-08	0.6209E-04		
6	0.7929E-03	-0.1010E-02	0.9185E-04	-0.7968E-06	-0.5605E-06	0.2965E-04		
7	0.5536E-03	-0.8266E-03	0.1055E-03	-0.6957E-05	-0.1178E-06	0.1417E-04		
8	0.7341E-03	-0.9139E-03	0.7457E-04	0.1704E-05	0.2571E-06	0.1334E-03		
9	0.8707E-03	-0.1070E-02	0.8091E-04	-0.3460E-07	-0.2545E-06	0.7296E-04		

ELEMENT GROUP 2			ELEMENT NO 2			STRAINS IN THE 1-2-3 SYSTEM		
NGPT	EPS1	EPS2	EPS3	GAM23	GAM13	GAM12		
1	-0.1310E-03	-0.1365E-03	0.1070E-03	-0.1828E-05	-0.1717E-05	-0.1612E-02		
2	-0.1013E-03	-0.1391E-03	0.9895E-04	-0.1392E-06	0.3203E-06	-0.1664E-02		
3	-0.1198E-03	-0.1339E-03	0.1034E-03	0.7698E-06	0.1157E-05	-0.1753E-02		
4	-0.1201E-03	-0.1233E-03	0.1022E-03	-0.2792E-05	-0.2832E-05	-0.1522E-02		
5	-0.6823E-04	-0.1303E-03	0.8458E-04	0.3936E-06	0.3868E-06	-0.1640E-02		
6	-0.9361E-04	-0.1233E-03	0.9185E-04	-0.1671E-06	-0.9598E-06	-0.1803E-02		
7	-0.1294E-03	-0.1436E-03	0.1055E-03	-0.4836E-05	-0.5003E-05	-0.1380E-02		
8	-0.2322E-04	-0.1566E-03	0.7457E-04	0.1023E-05	0.1387E-05	-0.1648E-02		
9	-0.6326E-04	-0.1362E-03	0.8091E-04	0.1555E-06	-0.2045E-06	-0.1941E-02		

ELEMENT GROUP 2			ELEMENT NO 2			STRESSES IN THE X-Y-Z SYSTEM		
NGPT	SIGX	SIGY	SIGZ	TAUZY	TAUXZ	TAUXY		
1	-0.1360E+03	-0.2941E+04	-0.9013E+01	-0.1827E+01	-0.2859E+00	-0.1239E+04		
2	0.2223E+03	-0.2672E+04	-0.2038E+01	0.1384E+00	0.2557E+00	-0.9390E+03		
3	0.1092E+03	-0.2941E+04	-0.4541E+01	0.1036E+01	0.3876E+00	-0.1128E+04		
4	-0.8015E+02	-0.2729E+04	0.1595E+01	-0.2919E+01	-0.5656E+00	-0.1137E+04		
5	0.5648E+03	-0.2289E+04	0.4528E+01	0.4038E+00	0.7211E-01	-0.6105E+03		
6	0.4447E+03	-0.2692E+04	0.3357E+01	-0.6608E+00	-0.5200E+00	-0.8704E+03		
7	-0.3317E+03	-0.2733E+04	-0.1641E+02	-0.5116E+01	-0.1039E+01	-0.1219E+04		
8	0.1017E+04	-0.1850E+04	0.9772E+00	0.1284E+01	0.4219E+00	-0.1417E+03		
9	0.8690E+03	-0.2508E+04	-0.3545E+01	-0.6023E-01	-0.1913E+00	-0.5570E+03		

ELEMENT GROUP 2			ELEMENT NO 2			STRESSES IN THE 1-2-3 SYSTEM		
NGPT	SIG1	SIG2	SIG3	TAU23	TAU13	TAU12		
1	-0.2778E+04	-0.2995E+03	-0.9013E+01	-0.1090E+01	-0.1494E+01	-0.1403E+04		
2	-0.2164E+04	-0.2860E+03	-0.2038E+01	-0.8298E-01	0.2787E+00	-0.1447E+04		
3	-0.2544E+04	-0.2876E+03	-0.4541E+01	0.4588E+00	0.1007E+01	-0.1525E+04		
4	-0.2542E+04	-0.2674E+03	0.1595E+01	-0.1664E+01	-0.2464E+01	-0.1324E+04		
5	-0.1473E+04	-0.2518E+03	0.4528E+01	0.2346E+00	0.3365E+00	-0.1427E+04		
6	-0.1994E+04	-0.2532E+03	0.3357E+01	-0.9957E-01	-0.8350E+00	-0.1568E+04		
7	-0.2751E+04	-0.3136E+03	-0.1641E+02	-0.2882E+01	-0.4352E+01	-0.1201E+04		
8	-0.5582E+03	-0.2748E+03	0.9772E+00	0.6098E+00	0.1206E+01	-0.1434E+04		
9	-0.1377E+04	-0.2625E+03	-0.3545E+01	0.9269E-01	-0.1779E+00	-0.1689E+04		

ELEMENT GROUP 2			ELEMENT NO 3			STRAINS IN THE X-Y-Z SYSTEM		
NGPT	EPSX	EPSY	EPSZ	GAMYZ	GAMXZ	GAMXY		
1	0.9717E-03	-0.1224E-02	0.1049E-03	-0.1545E-05	0.1194E-06	0.2186E-04		
2	0.8823E-03	-0.1143E-02	0.1071E-03	-0.1550E-05	-0.4519E-06	0.7156E-05		

3	0.8359E-03	-0.1104E-02	0.1124E-03	0.2822E-05	-0.6723E-07	-0.1607E-04
4	0.8140E-03	-0.1153E-02	0.1420E-03	0.4454E-06	0.1076E-05	-0.5226E-04
5	0.7667E-03	-0.1063E-02	0.1220E-03	-0.6789E-06	0.3664E-06	-0.3111E-04
6	0.7504E-03	-0.1029E-02	0.1174E-03	0.5643E-05	-0.8182E-06	-0.3530E-04
7	0.6880E-03	-0.1033E-02	0.1560E-03	0.6596E-07	0.4252E-06	-0.5510E-04
8	0.6958E-03	-0.9712E-03	0.1148E-03	-0.2583E-05	0.6687E-06	-0.1728E-04
9	0.7083E-03	-0.9530E-03	0.1014E-03	0.5338E-05	-0.1025E-05	-0.1109E-04

ELEMENT GROUP 2		ELEMENT NO 3		STRAINS IN THE 1-2-3 SYSTEM		
NGPT	EPS1	EPS2	EPS3	GAM23	GAM13	GAM12
1	-0.1153E-03	-0.1371E-03	0.1049E-03	-0.1177E-05	-0.1008E-05	-0.2196E-02
2	-0.1266E-03	-0.1337E-03	0.1071E-03	-0.7765E-06	-0.1416E-05	-0.2025E-02
3	-0.1418E-03	-0.1258E-03	0.1124E-03	0.2043E-05	0.1948E-05	-0.1939E-02
4	-0.1958E-03	-0.1436E-03	0.1420E-03	-0.4460E-06	0.1076E-05	-0.1968E-02
5	-0.1637E-03	-0.1326E-03	0.1220E-03	-0.7391E-06	-0.2210E-06	-0.1830E-02
6	-0.1569E-03	-0.1216E-03	0.1174E-03	0.4569E-05	0.3412E-05	-0.1779E-02
7	-0.2002E-03	-0.1451E-03	0.1560E-03	-0.2540E-06	0.3473E-06	-0.1721E-02
8	-0.1464E-03	-0.1291E-03	0.1148E-03	-0.2300E-05	-0.1354E-05	-0.1667E-02
9	-0.1279E-03	-0.1168E-03	0.1014E-03	0.4499E-05	0.3049E-05	-0.1661E-02

ELEMENT GROUP 2		ELEMENT NO 3		STRESSES IN THE X-Y-Z SYSTEM		
NGPT	SIGX	SIGY	SIGZ	TAUZY	TAUXZ	TAUXY
1	0.5410E+03	-0.3280E+04	-0.3192E+00	-0.1116E+01	-0.1241E+00	-0.1080E+04
2	0.2753E+03	-0.3248E+04	-0.2704E+01	-0.1198E+01	-0.5436E+00	-0.1196E+04
3	0.5000E+02	-0.3325E+04	0.1637E+01	0.2060E+01	0.3374E+00	-0.1355E+04
4	-0.5167E+03	-0.3940E+04	0.3954E+00	0.4739E+00	0.8498E+00	-0.1888E+04
5	-0.2862E+03	-0.3470E+04	-0.3447E+01	-0.4474E+00	0.1756E+00	-0.1571E+04
6	-0.2439E+03	-0.3340E+04	0.2313E+01	0.4024E+01	0.1734E+00	-0.1509E+04
7	-0.7690E+03	-0.3764E+04	0.2387E+02	0.1066E+00	0.3207E+00	-0.1931E+04
8	-0.2392E+03	-0.3140E+04	-0.1706E+00	-0.1802E+01	0.1362E+00	-0.1398E+04
9	-0.3586E+02	-0.2926E+04	-0.1229E+01	0.3772E+01	-0.2023E-01	-0.1220E+04

ELEMENT GROUP 2		ELEMENT NO 3		STRESSES IN THE 1-2-3 SYSTEM		
NGPT	SIG1	SIG2	SIG3	TAU23	TAU13	TAU12
1	-0.2450E+04	-0.2890E+03	-0.3192E+00	-0.7014E+00	-0.8768E+00	-0.1910E+04
2	-0.2683E+04	-0.2900E+03	-0.2704E+01	-0.4628E+00	-0.1232E+01	-0.1762E+04
3	-0.2992E+04	-0.2825E+03	0.1637E+01	0.1218E+01	0.1695E+01	-0.1687E+04
4	-0.4117E+04	-0.3402E+03	0.3954E+00	-0.2658E+00	0.9360E+00	-0.1712E+04
5	-0.3449E+04	-0.3071E+03	-0.3447E+01	-0.4405E+00	-0.1922E+00	-0.1592E+04
6	-0.3301E+04	-0.2829E+03	0.2313E+01	0.2723E+01	0.2968E+01	-0.1548E+04
7	-0.4197E+04	-0.3353E+03	0.2387E+02	-0.1514E+00	0.3022E+00	-0.1497E+04
8	-0.3088E+04	-0.2911E+03	-0.1706E+00	-0.1371E+01	-0.1178E+01	-0.1450E+04
9	-0.2701E+04	-0.2616E+03	-0.1229E+01	0.2681E+01	0.2653E+01	-0.1445E+04

ELEMENT GROUP 2		ELEMENT NO 4		STRAINS IN THE X-Y-Z SYSTEM		
NGPT	EPSX	EPSY	EPSZ	GAMYZ	GAMXZ	GAMXY
1	0.4956E-03	-0.6677E-03	0.9863E-04	-0.1040E-04	-0.4222E-06	0.1960E-04
2	0.7063E-03	-0.8634E-03	0.6392E-04	0.4068E-06	-0.8163E-06	0.1732E-03
3	0.9140E-03	-0.1109E-02	0.7014E-04	0.2474E-05	-0.2576E-05	0.1694E-03
4	0.5395E-03	-0.6117E-03	0.3295E-04	-0.6850E-05	0.1502E-06	0.7004E-04
5	0.6822E-03	-0.7758E-03	0.2868E-04	-0.4021E-05	0.1770E-06	0.2034E-03
6	0.7778E-03	-0.1023E-02	0.6539E-04	0.2773E-06	-0.2601E-05	0.2386E-03

7	0.7183E-03	-0.5529E-03	-0.8438E-04	0.1615E-04	0.3387E-05	0.7719E-04
8	0.7726E-03	-0.6823E-03	-0.1560E-04	-0.4398E-05	0.1038E-04	0.1720E-03
9	0.7196E-03	-0.9391E-03	0.9423E-04	-0.1325E-04	0.1297E-04	0.2443E-03

ELEMENT GROUP 2		ELEMENT NO 4		STRAINS IN THE 1-2-3 SYSTEM		
NGPT	EPS1	EPS2	EPS3	GAM23	GAM13	GAM12
1	-0.7629E-04	-0.9589E-04	0.9863E-04	-0.7052E-05	-0.7649E-05	-0.1163E-02
2	0.8002E-05	-0.1652E-03	0.6392E-04	0.8649E-06	-0.2896E-06	-0.1570E-02
3	-0.1269E-04	-0.1821E-03	0.7014E-04	0.3571E-05	-0.7235E-07	-0.2023E-02
4	-0.1121E-05	-0.7116E-04	0.3295E-04	-0.4950E-05	-0.4738E-05	-0.1151E-02
5	0.5490E-04	-0.1485E-03	0.2868E-04	-0.2968E-05	-0.2718E-05	-0.1458E-02
6	-0.3473E-05	-0.2421E-03	0.6539E-04	0.2035E-05	-0.1643E-05	-0.1801E-02
7	0.1213E-03	0.4409E-04	-0.8438E-04	0.9023E-05	0.1381E-04	-0.1271E-02
8	0.1312E-03	-0.4085E-04	-0.1560E-04	-0.1045E-04	0.4228E-05	-0.1455E-02
9	0.1240E-04	-0.2319E-03	0.9423E-04	-0.1854E-04	-0.1967E-06	-0.1659E-02

ELEMENT GROUP 2		ELEMENT NO 4		STRESSES IN THE X-Y-Z SYSTEM		
NGPT	SIGX	SIGY	SIGZ	TAUZY	TAUXZ	TAUXY
1	0.1229E+03	-0.1901E+04	0.5462E+02	-0.7678E+01	-0.1734E+01	-0.7117E+03
2	0.1269E+04	-0.1462E+04	-0.9582E+00	0.1864E+00	-0.5426E+00	0.1779E+03
3	0.1418E+04	-0.2102E+04	-0.2011E+02	0.1460E+01	-0.1549E+01	-0.2078E+02
4	0.9146E+03	-0.1088E+04	0.6621E+01	-0.5001E+01	-0.8284E+00	0.3065E+02
5	0.1679E+04	-0.8578E+03	-0.1828E+02	-0.2923E+01	-0.4212E+00	0.6404E+03
6	0.1236E+04	-0.1898E+04	-0.7166E+02	-0.1531E+00	-0.1869E+01	0.1071E+03
7	0.2424E+04	0.2126E+03	-0.3030E+02	0.1230E+02	0.4695E+01	0.1196E+04
8	0.2628E+04	0.9632E+02	0.4679E+02	-0.1802E+01	0.7004E+01	0.1345E+04
9	0.1324E+04	-0.1562E+04	0.8717E+01	-0.7933E+01	0.7691E+01	0.2615E+03

ELEMENT GROUP 2		ELEMENT NO 4		STRESSES IN THE 1-2-3 SYSTEM		
NGPT	SIG1	SIG2	SIG3	TAU23	TAU13	TAU12
1	-0.1601E+04	-0.1774E+03	0.5462E+02	-0.4203E+01	-0.6655E+01	-0.1012E+04
2	0.8148E+02	-0.2742E+03	-0.9582E+00	0.5155E+00	-0.2519E+00	-0.1366E+04
3	-0.3625E+03	-0.3210E+03	-0.2011E+02	0.2128E+01	-0.6294E-01	-0.1760E+04
4	-0.5626E+02	-0.1176E+03	0.6621E+01	-0.2950E+01	-0.4122E+01	-0.1002E+04
5	0.1051E+04	-0.2296E+03	-0.1828E+02	-0.1769E+01	-0.2365E+01	-0.1269E+04
6	-0.2242E+03	-0.4385E+03	-0.7166E+02	0.1213E+01	-0.1430E+01	-0.1567E+04
7	0.2514E+04	0.1229E+03	-0.3030E+02	0.5378E+01	0.1202E+02	-0.1106E+04
8	0.2708E+04	0.1667E+02	0.4679E+02	-0.6227E+01	0.3679E+01	-0.1266E+04
9	0.1426E+03	-0.3803E+03	0.8717E+01	-0.1105E+02	-0.1711E+00	-0.1443E+04

ELEMENT GROUP 2		ELEMENT NO 5		STRAINS IN THE X-Y-Z SYSTEM		
NGPT	EPSX	EPSY	EPSZ	GAMYZ	GAMXZ	GAMXY
1	0.1065E-02	-0.1249E-02	0.9870E-04	0.2383E-05	-0.2442E-05	0.3449E-04
2	0.8303E-03	-0.1199E-02	0.1473E-03	0.5246E-05	-0.9366E-06	-0.4862E-04
3	0.5921E-03	-0.1108E-02	0.1698E-03	0.6470E-05	-0.9041E-06	-0.9374E-04
4	0.9726E-03	-0.1159E-02	0.1093E-03	0.1946E-05	-0.3310E-05	0.6656E-04
5	0.8931E-03	-0.1287E-02	0.1738E-03	0.3239E-05	-0.2156E-05	0.5799E-04
6	0.8466E-03	-0.1323E-02	0.2024E-03	0.4859E-05	-0.1465E-05	-0.1026E-03
7	0.7576E-03	-0.1176E-02	0.1688E-03	-0.1479E-04	0.1160E-04	0.3352E-03
8	0.8809E-03	-0.1564E-02	0.2594E-03	-0.1790E-04	0.7906E-05	0.4243E-03
9	0.1084E-02	-0.1792E-02	0.3043E-03	-0.1864E-04	0.4804E-05	0.9380E-04

ELEMENT GROUP 2			ELEMENT NO 5	STRAINS IN THE 1-2-3 SYSTEM		
NGPT	EPS1	EPS2	EPS3	GAM23	GAM13	GAM12
1	-0.7460E-04	-0.1091E-03	0.9870E-04	0.3412E-05	-0.4174E-07	-0.2314E-02
2	-0.2087E-03	-0.1601E-03	0.1473E-03	0.4372E-05	0.3047E-05	-0.2029E-02
3	-0.3050E-03	-0.2112E-03	0.1698E-03	0.5214E-05	0.3936E-05	-0.1700E-02
4	-0.5968E-04	-0.1262E-03	0.1093E-03	0.3716E-05	-0.9643E-06	-0.2131E-02
5	-0.1677E-03	-0.2257E-03	0.1738E-03	0.3815E-05	0.7657E-06	-0.2180E-02
6	-0.2897E-03	-0.1871E-03	0.2024E-03	0.4472E-05	0.2400E-05	-0.2170E-02
7	-0.4142E-04	-0.3767E-03	0.1688E-03	-0.1866E-04	-0.2251E-05	-0.1933E-02
8	-0.1295E-03	-0.5539E-03	0.2594E-03	-0.1824E-04	-0.7064E-05	-0.2445E-02
9	-0.3066E-03	-0.4004E-03	0.3043E-03	-0.1658E-04	-0.9782E-05	-0.2876E-02

ELEMENT GROUP 2			ELEMENT NO 5	STRESSES IN THE X-Y-Z SYSTEM		
NGPT	SIGX	SIGY	SIGZ	TAUZY	TAUXZ	TAUXY
1	0.1124E+04	-0.2903E+04	0.4526E+02	0.1412E+01	-0.1464E+01	-0.6870E+03
2	-0.6231E+03	-0.4154E+04	-0.1356E+02	0.3717E+01	0.3222E-01	-0.2008E+04
3	-0.2016E+04	-0.4975E+04	-0.9290E+02	0.4618E+01	0.2237E+00	-0.2948E+04
4	0.1112E+04	-0.2596E+04	0.6522E+02	0.9730E+00	-0.2159E+01	-0.5264E+03
5	-0.1164E+03	-0.3909E+04	0.2065E+02	0.2079E+01	-0.1137E+01	-0.1557E+04
6	-0.1379E+04	-0.5155E+04	0.6213E+01	0.3361E+01	-0.4082E+00	-0.2808E+04
7	0.8291E+03	-0.2535E+04	-0.6598E+01	-0.9249E+01	0.6479E+01	-0.1955E+03
8	0.1324E+03	-0.4122E+04	-0.4590E+02	-0.1203E+02	0.3343E+01	-0.9789E+03
9	-0.1171E+04	-0.6175E+04	0.2077E+02	-0.1300E+02	0.9677E+00	-0.2853E+04

ELEMENT GROUP 2			ELEMENT NO 5	STRESSES IN THE 1-2-3 SYSTEM		
NGPT	SIG1	SIG2	SIG3	TAU23	TAU13	TAU12
1	-0.1577E+04	-0.2026E+03	0.4526E+02	0.2034E+01	-0.3631E-01	-0.2013E+04
2	-0.4397E+04	-0.3803E+03	-0.1356E+02	0.2606E+01	0.2651E+01	-0.1766E+04
3	-0.6444E+04	-0.5474E+03	-0.9290E+02	0.3108E+01	0.3424E+01	-0.1479E+04
4	-0.1268E+04	-0.2157E+03	0.6522E+02	0.2215E+01	-0.8389E+00	-0.1854E+04
5	-0.3569E+04	-0.4559E+03	0.2065E+02	0.2274E+01	0.6661E+00	-0.1896E+04
6	-0.6075E+04	-0.4585E+03	0.6213E+01	0.2665E+01	0.2088E+01	-0.1888E+04
7	-0.1048E+04	-0.6573E+03	-0.6598E+01	-0.1112E+02	-0.1958E+01	-0.1682E+04
8	-0.2974E+04	-0.1016E+04	-0.4590E+02	-0.1087E+02	-0.6146E+01	-0.2127E+04
9	-0.6526E+04	-0.8199E+03	0.2077E+02	-0.9879E+01	-0.8511E+01	-0.2502E+04

ELEMENT GROUP 2			ELEMENT NO 6	STRAINS IN THE X-Y-Z SYSTEM		
NGPT	EPSX	EPSY	EPSZ	GAMYZ	GAMXZ	GAMXY
1	0.7577E-03	-0.1176E-02	0.1732E-03	-0.1143E-04	-0.7545E-05	-0.3352E-03
2	0.8810E-03	-0.1564E-02	0.2632E-03	-0.1610E-04	-0.2012E-05	-0.4241E-03
3	0.1084E-02	-0.1792E-02	0.3055E-03	-0.1820E-04	0.2765E-05	-0.9348E-04
4	0.9726E-03	-0.1159E-02	0.1109E-03	0.8376E-06	0.3822E-05	-0.6655E-04
5	0.8931E-03	-0.1287E-02	0.1751E-03	0.2671E-05	0.1187E-05	-0.5791E-04
6	0.8466E-03	-0.1323E-02	0.2028E-03	0.4684E-05	-0.8635E-06	0.1027E-03
7	0.1065E-02	-0.1249E-02	0.9912E-04	0.1379E-05	0.2450E-05	-0.3448E-04
8	0.8303E-03	-0.1199E-02	0.1470E-03	0.5083E-05	-0.4018E-06	0.4859E-04
9	0.5921E-03	-0.1108E-02	0.1696E-03	0.6505E-05	-0.1284E-05	0.9366E-04

ELEMENT GROUP 2			ELEMENT NO 6	STRAINS IN THE 1-2-3 SYSTEM		
NGPT	EPS1	EPS2	EPS3	GAM23	GAM13	GAM12
1	-0.3766E-03	-0.4144E-04	0.1732E-03	-0.2744E-05	-0.1341E-04	-0.1934E-02
2	-0.5538E-03	-0.1297E-03	0.2632E-03	-0.9961E-05	-0.1281E-04	-0.2445E-02

3	-0.4003E-03	-0.3068E-03	0.3055E-03	-0.1483E-04	-0.1092E-04	-0.2876E-02
4	-0.1262E-03	-0.5969E-04	0.1109E-03	-0.2111E-05	0.3295E-05	-0.2131E-02
5	-0.2257E-03	-0.1678E-03	0.1751E-03	0.1049E-05	0.2728E-05	-0.2180E-02
6	-0.1871E-03	-0.2898E-03	0.2028E-03	0.3922E-05	0.2701E-05	-0.2170E-02
7	-0.1091E-03	-0.7461E-04	0.9912E-04	-0.7569E-06	0.2708E-05	-0.2314E-02
8	-0.1601E-03	-0.2087E-03	0.1470E-03	0.3878E-05	0.3310E-05	-0.2029E-02
9	-0.2113E-03	-0.3049E-03	0.1696E-03	0.5508E-05	0.3692E-05	-0.1700E-02

ELEMENT GROUP 2			ELEMENT NO 6			STRESSES IN THE X-Y-Z SYSTEM		
NGPT	SIGX	SIGY	SIGZ	TAUZY	TAUXZ	TAUXY		
1	-0.2350E+04	-0.5714E+04	-0.6492E+01	-0.9409E+01	-0.7096E+01	-0.3770E+04		
2	-0.3892E+04	-0.8147E+04	-0.4909E+02	-0.1208E+02	-0.3680E+01	-0.5502E+04		
3	-0.2059E+04	-0.7063E+04	0.2074E+02	-0.1296E+02	-0.4669E+00	-0.3851E+04		
4	0.4813E+03	-0.3227E+04	0.6672E+02	0.1138E+01	0.2917E+01	-0.1236E+04		
5	-0.6656E+03	-0.4458E+04	0.2179E+02	0.2120E+01	0.1236E+01	-0.2175E+04		
6	-0.4036E+03	-0.4180E+04	0.9650E+01	0.3315E+01	0.8676E-02	-0.1714E+04		
7	0.7964E+03	-0.3230E+04	0.4520E+02	0.1347E+01	0.1985E+01	-0.1055E+04		
8	-0.1621E+03	-0.3693E+04	-0.1304E+02	0.3671E+01	0.4019E+00	-0.1490E+04		
9	-0.1127E+04	-0.4085E+04	-0.9091E+02	0.4592E+01	-0.5017E-01	-0.1949E+04		

ELEMENT GROUP 2			ELEMENT NO 6			STRESSES IN THE 1-2-3 SYSTEM		
NGPT	SIG1	SIG2	SIG3	TAU23	TAU13	TAU12		
1	-0.7802E+04	-0.2625E+03	-0.6492E+01	-0.1636E+01	-0.1167E+02	-0.1682E+04		
2	-0.1152E+05	-0.5177E+03	-0.4909E+02	-0.5937E+01	-0.1114E+02	-0.2127E+04		
3	-0.8412E+04	-0.7097E+03	0.2074E+02	-0.8837E+01	-0.9497E+01	-0.2502E+04		
4	-0.2609E+04	-0.1367E+03	0.6672E+02	-0.1258E+01	0.2867E+01	-0.1854E+04		
5	-0.4736E+04	-0.3872E+03	0.2179E+02	0.6251E+00	0.2373E+01	-0.1896E+04		
6	-0.4005E+04	-0.5780E+03	0.9650E+01	0.2338E+01	0.2350E+01	-0.1888E+04		
7	-0.2271E+04	-0.1620E+03	0.4520E+02	-0.4511E+00	0.2356E+01	-0.2013E+04		
8	-0.3418E+04	-0.4373E+03	-0.1304E+02	0.2311E+01	0.2880E+01	-0.1766E+04		
9	-0.4555E+04	-0.6569E+03	-0.9091E+02	0.3283E+01	0.3212E+01	-0.1479E+04		

ELEMENT GROUP 2			ELEMENT NO 7			STRAINS IN THE X-Y-Z SYSTEM		
NGPT	EPSX	EPSY	EPSZ	GAMYZ	GAMXZ	GAMXY		
1	0.6880E-03	-0.1033E-02	0.1557E-03	0.2207E-06	-0.6297E-06	0.5508E-04		
2	0.6958E-03	-0.9712E-03	0.1146E-03	-0.2652E-05	0.3440E-06	0.1729E-04		
3	0.7083E-03	-0.9530E-03	0.1013E-03	0.5263E-05	-0.1051E-05	0.1112E-04		
4	0.8140E-03	-0.1153E-02	0.1413E-03	0.8834E-06	-0.1301E-05	0.5225E-04		
5	0.7667E-03	-0.1063E-02	0.1214E-03	-0.5849E-06	-0.5477E-07	0.3112E-04		
6	0.7504E-03	-0.1029E-02	0.1171E-03	0.5770E-05	-0.1195E-05	0.3533E-04		
7	0.9717E-03	-0.1224E-02	0.1051E-03	-0.1462E-05	-0.1294E-07	-0.2186E-04		
8	0.8823E-03	-0.1143E-02	0.1070E-03	-0.1686E-05	0.6087E-06	-0.7149E-05		
9	0.8359E-03	-0.1104E-02	0.1124E-03	0.2893E-05	-0.1206E-05	0.1609E-04		

ELEMENT GROUP 2			ELEMENT NO 7			STRAINS IN THE 1-2-3 SYSTEM		
NGPT	EPS1	EPS2	EPS3	GAM23	GAM13	GAM12		
1	-0.1451E-03	-0.2002E-03	0.1557E-03	0.6014E-06	-0.2892E-06	-0.1721E-02		
2	-0.1291E-03	-0.1464E-03	0.1146E-03	-0.2118E-05	-0.1632E-05	-0.1667E-02		
3	-0.1168E-03	-0.1279E-03	0.1013E-03	0.4464E-05	0.2979E-05	-0.1661E-02		
4	-0.1436E-03	-0.1958E-03	0.1413E-03	0.1545E-05	-0.2953E-06	-0.1968E-02		
5	-0.1326E-03	-0.1637E-03	0.1214E-03	-0.3749E-06	-0.4523E-06	-0.1830E-02		
6	-0.1216E-03	-0.1569E-03	0.1171E-03	0.4925E-05	0.3235E-05	-0.1779E-02		

7	-0.1371E-03	-0.1153E-03	0.1051E-03	-0.1024E-05	-0.1043E-05	-0.2196E-02
8	-0.1337E-03	-0.1266E-03	0.1070E-03	-0.1622E-05	-0.7616E-06	-0.2025E-02
9	-0.1258E-03	-0.1419E-03	0.1124E-03	0.2898E-05	0.1193E-05	-0.1939E-02

ELEMENT GROUP 2		ELEMENT NO 7		STRESSES IN THE X-Y-Z SYSTEM		
NGPT	SIGX	SIGY	SIGZ	TAUZY	TAUXZ	TAUXY
1	-0.2461E+03	-0.3241E+04	0.2461E+02	0.7551E-01	-0.4314E+00	-0.1344E+04
2	-0.7536E+02	-0.2976E+04	-0.2528E+00	-0.1897E+01	-0.1111E+00	-0.1214E+04
3	0.6944E+02	-0.2821E+04	-0.1226E+01	0.3714E+01	-0.4904E-01	-0.1101E+04
4	-0.2107E+02	-0.3445E+04	0.3687E+00	0.4693E+00	-0.8327E+00	-0.1331E+04
5	0.8686E+01	-0.3175E+04	-0.3846E+01	-0.4362E+00	-0.1203E+00	-0.1239E+04
6	0.9110E+02	-0.3005E+04	0.2567E+01	0.4065E+01	-0.8566E-01	-0.1133E+04
7	0.3336E+03	-0.3487E+04	-0.4237E+00	-0.1073E+01	-0.2097E+00	-0.1313E+04
8	0.2074E+03	-0.3316E+04	-0.3046E+01	-0.1152E+01	0.2152E+00	-0.1273E+04
9	0.2027E+03	-0.3172E+04	0.1926E+01	0.1955E+01	-0.4877E+00	-0.1183E+04

ELEMENT GROUP 2		ELEMENT NO 7		STRESSES IN THE 1-2-3 SYSTEM		
NGPT	SIG1	SIG2	SIG3	TAU23	TAU13	TAU12
1	-0.3087E+04	-0.3999E+03	0.2461E+02	0.3584E+00	-0.2516E+00	-0.1497E+04
2	-0.2740E+04	-0.3115E+03	-0.2528E+00	-0.1263E+01	-0.1420E+01	-0.1450E+04
3	-0.2477E+04	-0.2747E+03	-0.1226E+01	0.2661E+01	0.2591E+01	-0.1445E+04
4	-0.3064E+04	-0.4018E+03	0.3687E+00	0.9206E+00	-0.2569E+00	-0.1712E+04
5	-0.2822E+04	-0.3439E+03	-0.3846E+01	-0.2234E+00	-0.3935E+00	-0.1592E+04
6	-0.2590E+04	-0.3244E+03	0.2567E+01	0.2935E+01	0.2814E+01	-0.1548E+04
7	-0.2890E+04	-0.2633E+03	-0.4237E+00	-0.6106E+00	-0.9072E+00	-0.1910E+04
8	-0.2827E+04	-0.2817E+03	-0.3046E+01	-0.9670E+00	-0.6626E+00	-0.1762E+04
9	-0.2668E+04	-0.3013E+03	0.1926E+01	0.1727E+01	0.1038E+01	-0.1687E+04

ELEMENT GROUP 2		ELEMENT NO 8		STRAINS IN THE X-Y-Z SYSTEM		
NGPT	EPSX	EPSY	EPSZ	GAMYZ	GAMXZ	GAMXY
1	0.7182E-03	-0.5526E-03	-0.8409E-04	0.1701E-04	-0.2050E-05	-0.7748E-04
2	0.7726E-03	-0.6824E-03	-0.1290E-04	-0.9773E-06	-0.8007E-05	-0.1723E-03
3	0.7197E-03	-0.9392E-03	0.9816E-04	-0.8951E-05	-0.9561E-05	-0.2444E-03
4	0.5395E-03	-0.6116E-03	0.3415E-04	-0.6491E-05	-0.7888E-06	-0.7004E-04
5	0.6822E-03	-0.7758E-03	0.3104E-04	-0.3840E-05	-0.3129E-06	-0.2034E-03
6	0.7779E-03	-0.1023E-02	0.6736E-04	-0.7915E-06	0.3002E-05	-0.2386E-03
7	0.4956E-03	-0.6678E-03	0.9930E-04	-0.1073E-04	-0.4907E-06	-0.1950E-04
8	0.7063E-03	-0.8635E-03	0.6592E-04	-0.2205E-06	0.5127E-06	-0.1731E-03
9	0.9140E-03	-0.1109E-02	0.7151E-04	0.1049E-05	0.2636E-05	-0.1693E-03

ELEMENT GROUP 2		ELEMENT NO 8		STRAINS IN THE 1-2-3 SYSTEM		
NGPT	EPS1	EPS2	EPS3	GAM23	GAM13	GAM12
1	0.4404E-04	0.1215E-03	-0.8409E-04	0.1348E-04	0.1058E-04	-0.1271E-02
2	-0.4098E-04	0.1313E-03	-0.1290E-04	0.4971E-05	-0.6353E-05	-0.1455E-02
3	-0.2320E-03	0.1243E-04	0.9816E-04	0.4315E-06	-0.1309E-04	-0.1659E-02
4	-0.7110E-04	-0.1061E-05	0.3415E-04	-0.4032E-05	-0.5147E-05	-0.1151E-02
5	-0.1485E-03	0.5492E-04	0.3104E-04	-0.2494E-05	-0.2937E-05	-0.1458E-02
6	-0.2421E-03	-0.3471E-05	0.6736E-04	-0.2682E-05	0.1563E-05	-0.1801E-02
7	-0.9587E-04	-0.7636E-04	0.9930E-04	-0.7240E-05	-0.7934E-05	-0.1163E-02
8	-0.1652E-03	0.7939E-05	0.6592E-04	-0.5185E-06	0.2067E-06	-0.1570E-02
9	-0.1821E-03	-0.1272E-04	0.7151E-04	-0.1122E-05	0.2605E-05	-0.2023E-02

ELEMENT GROUP 2			ELEMENT NO 8	STRESSES IN THE X-Y-Z SYSTEM		
NGPT	SIGX	SIGY	SIGZ	TAUZY	TAUXZ	TAUXY
1	0.1691E+04	-0.5200E+03	-0.3154E+02	0.1219E+02	0.8276E+00	0.3719E+03
2	0.9958E+03	-0.1536E+04	0.4780E+02	-0.1813E+01	-0.6003E+01	-0.4898E+03
3	-0.9926E+03	-0.3879E+04	0.1035E+02	-0.7871E+01	-0.8235E+01	-0.2344E+04
4	0.2512E+03	-0.1752E+04	0.7343E+01	-0.4866E+01	-0.1467E+01	-0.7156E+03
5	-0.2501E+03	-0.2787E+04	-0.1872E+02	-0.2858E+01	-0.7554E+00	-0.1528E+04
6	-0.1028E+04	-0.4162E+04	-0.7381E+02	-0.1689E+00	0.2092E+01	-0.2437E+04
7	-0.6238E+02	-0.2087E+04	0.5544E+02	-0.7932E+01	-0.1830E+01	-0.9204E+03
8	-0.3734E+03	-0.3105E+04	-0.1430E+01	-0.9138E-01	0.3456E+00	-0.1668E+04
9	-0.1891E+03	-0.3709E+04	-0.2173E+02	0.1130E+01	0.2076E+01	-0.1827E+04

ELEMENT GROUP 2			ELEMENT NO 8	STRESSES IN THE 1-2-3 SYSTEM		
NGPT	SIG1	SIG2	SIG3	TAU23	TAU13	TAU12
1	0.9574E+03	0.2137E+03	-0.3154E+02	0.8032E+01	0.9202E+01	-0.1106E+04
2	-0.7599E+03	0.2198E+03	0.4780E+02	0.2963E+01	-0.5527E+01	-0.1266E+04
3	-0.4780E+04	-0.9191E+02	0.1035E+02	0.2572E+00	-0.1139E+02	-0.1443E+04
4	-0.1466E+04	-0.3466E+02	0.7343E+01	-0.2403E+01	-0.4478E+01	-0.1001E+04
5	-0.3047E+04	0.9761E+01	-0.1872E+02	-0.1486E+01	-0.2555E+01	-0.1269E+04
6	-0.5032E+04	-0.1583E+03	-0.7381E+02	-0.1599E+01	0.1360E+01	-0.1567E+04
7	-0.1995E+04	-0.1541E+03	0.5544E+02	-0.4315E+01	-0.6903E+01	-0.1012E+04
8	-0.3407E+04	-0.7059E+02	-0.1430E+01	-0.3090E+00	0.1798E+00	-0.1366E+04
9	-0.3776E+04	-0.1222E+03	-0.2173E+02	-0.6687E+00	0.2266E+01	-0.1760E+04

ELEMENT GROUP 2			ELEMENT NO 9	STRAINS IN THE X-Y-Z SYSTEM		
NGPT	EPSX	EPSY	EPSZ	GAMZY	GAMXZ	GAMXY
1	0.5536E-03	-0.8266E-03	0.1057E-03	-0.6857E-05	-0.4245E-06	-0.1412E-04
2	0.7341E-03	-0.9139E-03	0.7618E-04	0.1822E-05	-0.2389E-06	-0.1334E-03
3	0.8707E-03	-0.1070E-02	0.8210E-04	-0.1904E-06	0.3658E-06	-0.7298E-04
4	0.6394E-03	-0.8828E-03	0.1022E-03	-0.3958E-05	0.3459E-07	-0.3202E-05
5	0.7209E-03	-0.9195E-03	0.8544E-04	0.5497E-06	0.5471E-06	-0.6208E-04
6	0.7929E-03	-0.1010E-02	0.9239E-04	-0.1030E-05	0.8893E-06	-0.2966E-04
7	0.6724E-03	-0.9399E-03	0.1070E-03	-0.2701E-05	0.7853E-07	-0.5528E-05
8	0.7116E-03	-0.9520E-03	0.9936E-04	0.6102E-08	0.1242E-07	-0.3776E-04
9	0.7497E-03	-0.1003E-02	0.1036E-03	0.1276E-05	-0.8389E-06	-0.1402E-04

ELEMENT GROUP 2			ELEMENT NO 9	STRAINS IN THE 1-2-3 SYSTEM		
NGPT	EPS1	EPS2	EPS3	GAM23	GAM13	GAM12
1	-0.1435E-03	-0.1294E-03	0.1057E-03	-0.4548E-05	-0.5149E-05	-0.1380E-02
2	-0.1566E-03	-0.2322E-04	0.7618E-04	0.1457E-05	0.1119E-05	-0.1648E-02
3	-0.1362E-03	-0.6325E-04	0.8210E-04	-0.3933E-06	0.1241E-06	-0.1941E-02
4	-0.1233E-03	-0.1201E-03	0.1022E-03	-0.2823E-05	-0.2774E-05	-0.1522E-02
5	-0.1303E-03	-0.6823E-04	0.8544E-04	0.1885E-08	0.7756E-06	-0.1640E-02
6	-0.1233E-03	-0.9361E-04	0.9239E-04	-0.1357E-05	-0.9947E-07	-0.1803E-02
7	-0.1365E-03	-0.1310E-03	0.1070E-03	-0.1965E-05	-0.1854E-05	-0.1612E-02
8	-0.1391E-03	-0.1013E-03	0.9936E-04	-0.4464E-08	0.1309E-07	-0.1664E-02
9	-0.1339E-03	-0.1198E-03	0.1036E-03	0.1495E-05	0.3090E-06	-0.1753E-02

ELEMENT GROUP 2			ELEMENT NO 9	STRESSES IN THE X-Y-Z SYSTEM		
NGPT	SIGX	SIGY	SIGZ	TAUZY	TAUXZ	TAUXY
1	-0.4659E+03	-0.2867E+04	-0.1646E+02	-0.5084E+01	-0.1251E+01	-0.1370E+04
2	-0.2479E+03	-0.3115E+04	0.7991E+00	0.1303E+01	0.7449E-01	-0.1564E+04

3	0.1770E+03	-0.3200E+04	-0.3025E+01	-0.8942E-01	0.2421E+00	-0.1335E+04
4	-0.1107E+03	-0.2759E+04	0.1482E+01	-0.2897E+01	-0.5169E+00	-0.1171E+04
5	-0.2396E+02	-0.2878E+04	0.4677E+01	0.4779E+00	0.4763E+00	-0.1272E+04
6	0.1635E+03	-0.2973E+04	0.3691E+01	-0.6331E+00	0.5107E+00	-0.1187E+04
7	-0.1885E+03	-0.2994E+04	-0.9069E+01	-0.1969E+01	-0.3125E+00	-0.1298E+04
8	-0.1359E+03	-0.3031E+04	-0.2192E+01	0.6173E-02	0.9936E-02	-0.1342E+04
9	-0.2385E+02	-0.3074E+04	-0.4421E+01	0.8203E+00	-0.4402E+00	-0.1278E+04

ELEMENT GROUP 2		ELEMENT NO 9		STRESSES IN THE 1-2-3 SYSTEM		
NGPT	SIG1	SIG2	SIG3	TAU23	TAU13	TAU12
1	-0.3036E+04	-0.2969E+03	-0.1646E+02	-0.2711E+01	-0.4479E+01	-0.1201E+04
2	-0.3245E+04	-0.1178E+03	0.7991E+00	0.8685E+00	0.9739E+00	-0.1434E+04
3	-0.2847E+04	-0.1764E+03	-0.3025E+01	-0.2344E+00	0.1079E+00	-0.1689E+04
4	-0.2606E+04	-0.2637E+03	0.1482E+01	-0.1683E+01	-0.2414E+01	-0.1324E+04
5	-0.2724E+04	-0.1786E+03	0.4677E+01	0.1124E-02	0.6747E+00	-0.1427E+04
6	-0.2591E+04	-0.2182E+03	0.3691E+01	-0.8088E+00	-0.8654E-01	-0.1568E+04
7	-0.2889E+04	-0.2930E+03	-0.9069E+01	-0.1171E+01	-0.1613E+01	-0.1403E+04
8	-0.2925E+04	-0.2416E+03	-0.2192E+01	-0.2661E-02	0.1139E-01	-0.1447E+04
9	-0.2827E+04	-0.2710E+03	-0.4421E+01	0.8913E+00	0.2688E+00	-0.1525E+04

ELEMENT GROUP 2		ELEMENT NO 10		STRAINS IN THE X-Y-Z SYSTEM		
NGPT	EPSX	EPSY	EPSZ	GAMYZ	GAMXZ	GAMXY
1	0.6791E-03	-0.9350E-03	0.1095E-03	-0.2913E-05	0.1137E-06	0.5783E-05
2	0.7062E-03	-0.9564E-03	0.1045E-03	0.5290E-07	0.1810E-06	-0.1852E-04
3	0.7334E-03	-0.9894E-03	0.1074E-03	0.2891E-05	-0.4117E-06	-0.2912E-04
4	0.6856E-03	-0.9478E-03	0.1088E-03	-0.2841E-05	-0.2992E-07	0.1171E-04
5	0.6991E-03	-0.9527E-03	0.1052E-03	0.2966E-07	0.1934E-06	-0.5484E-05
6	0.7125E-03	-0.9694E-03	0.1074E-03	0.2831E-05	0.8061E-06	-0.8977E-05
7	0.6968E-03	-0.9606E-03	0.1099E-03	-0.9148E-06	-0.8543E-06	0.1226E-05
8	0.6966E-03	-0.9491E-03	0.1058E-03	0.6003E-08	-0.2798E-05	-0.8857E-05
9	0.6963E-03	-0.9494E-03	0.1052E-03	0.9156E-06	-0.3304E-05	-0.5241E-05

ELEMENT GROUP 2		ELEMENT NO 10		STRAINS IN THE 1-2-3 SYSTEM		
NGPT	EPS1	EPS2	EPS3	GAM23	GAM13	GAM12
1	-0.1251E-03	-0.1309E-03	0.1095E-03	-0.2140E-05	-0.1979E-05	-0.1614E-02
2	-0.1343E-03	-0.1158E-03	0.1045E-03	-0.9061E-07	0.1654E-06	-0.1663E-02
3	-0.1426E-03	-0.1135E-03	0.1074E-03	0.2335E-05	0.1753E-05	-0.1723E-02
4	-0.1252E-03	-0.1369E-03	0.1088E-03	-0.1988E-05	-0.2030E-05	-0.1633E-02
5	-0.1296E-03	-0.1241E-03	0.1052E-03	-0.1158E-06	0.1577E-06	-0.1652E-02
6	-0.1329E-03	-0.1240E-03	0.1074E-03	0.1432E-05	0.2572E-05	-0.1682E-02
7	-0.1313E-03	-0.1325E-03	0.1099E-03	-0.4280E-07	-0.1251E-05	-0.1657E-02
8	-0.1307E-03	-0.1218E-03	0.1058E-03	0.1983E-05	-0.1975E-05	-0.1646E-02
9	-0.1292E-03	-0.1239E-03	0.1052E-03	0.2984E-05	-0.1689E-05	-0.1646E-02

ELEMENT GROUP 2		ELEMENT NO 10		STRESSES IN THE X-Y-Z SYSTEM		
NGPT	SIGX	SIGY	SIGZ	TAUZY	TAUXZ	TAUXY
1	-0.5966E+02	-0.2868E+04	0.5759E+01	-0.2120E+01	-0.3157E+00	-0.1183E+04
2	-0.1011E+03	-0.2994E+04	0.2960E+00	0.6358E-01	0.1400E+00	-0.1285E+04
3	-0.1332E+03	-0.3131E+04	0.1098E+01	0.2063E+01	0.9430E-01	-0.1370E+04
4	-0.5379E+02	-0.2896E+04	-0.8114E+00	-0.2087E+01	-0.4112E+00	-0.1181E+04
5	-0.6974E+02	-0.2944E+04	-0.1097E+01	0.4823E-01	0.1458E+00	-0.1232E+04
6	-0.7826E+02	-0.3005E+04	0.5024E+00	0.2186E+01	0.9787E+00	-0.1266E+04

7	-0.9154E+02	-0.2975E+04	-0.4531E-02	-0.7876E+00	-0.7516E+00	-0.1244E+04
8	-0.8366E+02	-0.2947E+04	0.9512E+00	-0.3790E+00	-0.2050E+01	-0.1245E+04
9	-0.7018E+02	-0.2934E+04	-0.5876E+00	0.2186E+00	-0.2296E+01	-0.1228E+04

ELEMENT GROUP 2		ELEMENT NO 10		STRESSES IN THE 1-2-3 SYSTEM		
NGPT	SIG1	SIG2	SIG3	TAU23	TAU13	TAU12
1	-0.2647E+04	-0.2809E+03	0.5759E+01	-0.1275E+01	-0.1722E+01	-0.1404E+04
2	-0.2832E+04	-0.2625E+03	0.2960E+00	-0.5400E-01	0.1439E+00	-0.1446E+04
3	-0.3002E+04	-0.2624E+03	0.1098E+01	0.1392E+01	0.1525E+01	-0.1499E+04
4	-0.2656E+04	-0.2939E+03	-0.8114E+00	-0.1185E+01	-0.1766E+01	-0.1421E+04
5	-0.2739E+04	-0.2746E+03	-0.1097E+01	-0.6900E-01	0.1372E+00	-0.1437E+04
6	-0.2808E+04	-0.2754E+03	0.5024E+00	0.8535E+00	0.2238E+01	-0.1463E+04
7	-0.2778E+04	-0.2892E+03	-0.4531E-02	-0.2551E-01	-0.1088E+01	-0.1442E+04
8	-0.2760E+04	-0.2706E+03	0.9512E+00	0.1182E+01	-0.1718E+01	-0.1432E+04
9	-0.2730E+04	-0.2739E+03	-0.5876E+00	0.1778E+01	-0.1469E+01	-0.1432E+04

END OF EXECUTION

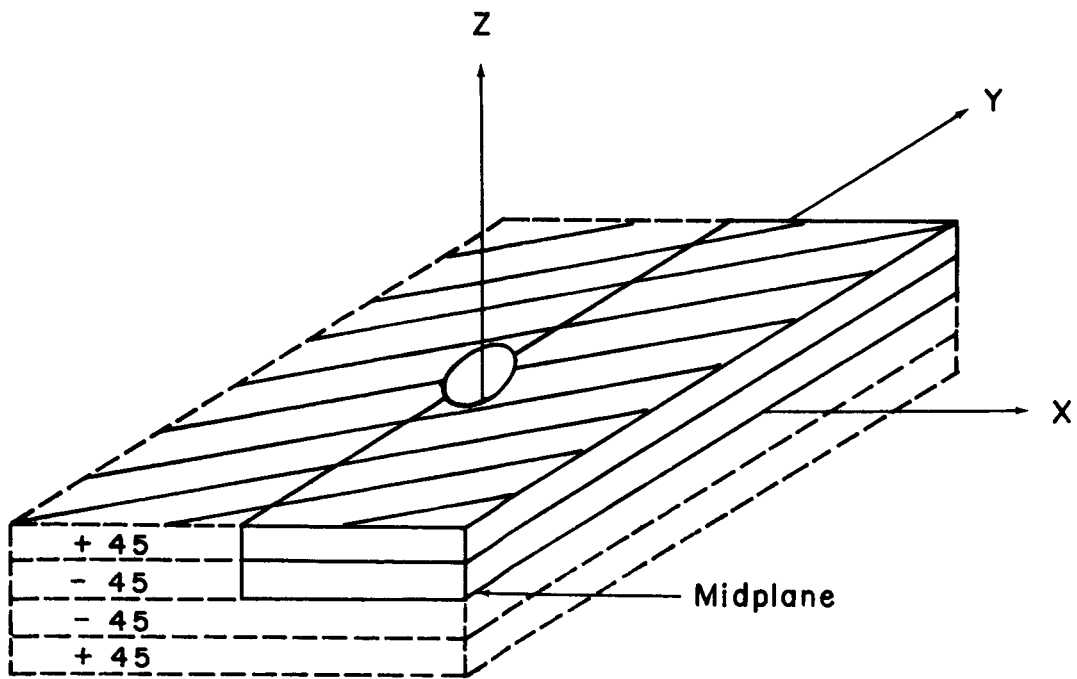


Figure A-1. Symmetric angle ply plate with a central hole.

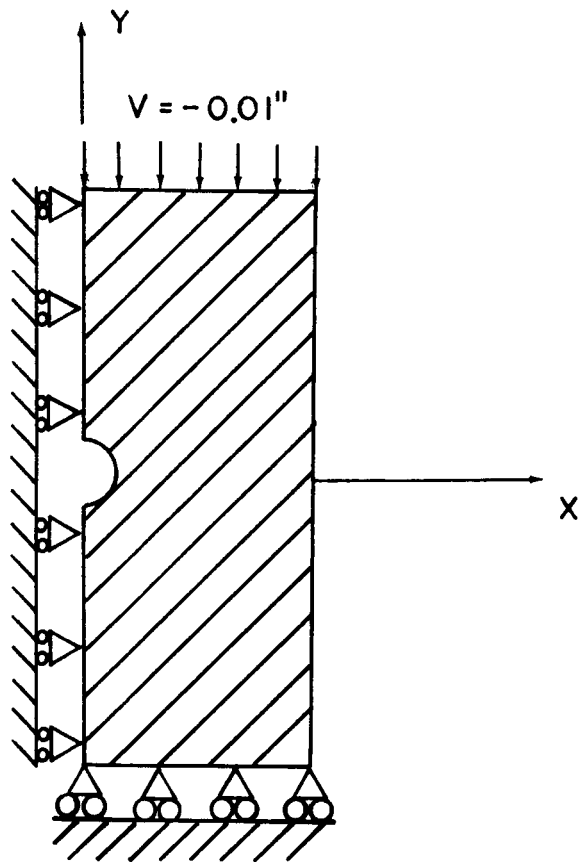


Figure A-2. Quarter section of the plate shown in figure A-1. The plate is split above the midplane and along the Y-axis.

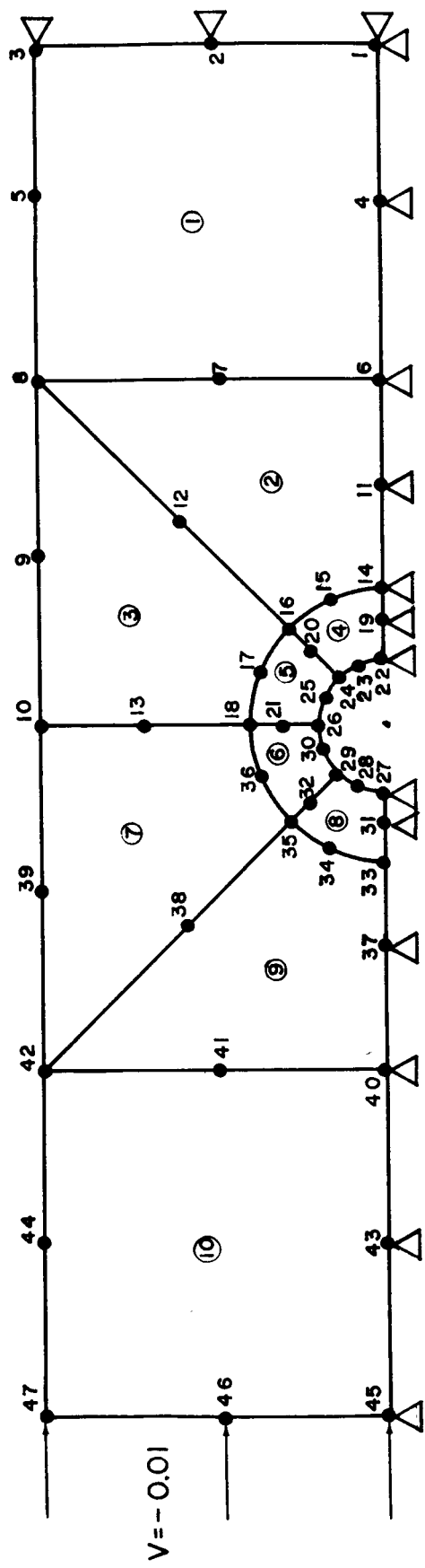


Figure A-3. 10 element group for a single ply.

BIBLIOGRAPHIC DATA SHEET	1. Report No. CCMS-86-03 VPI-E-86-12	2.	3. Recipient's Accession No.
4. Title and Subtitle ANISAP -- A Three Dimensional Finite Element Program for Laminated Composites Subjected to Mechanical Loading		5. Report Date May 1986	
7. Author(s) Stephen Burns, Steven Mathison, Carl T. Herakovich		8. Performing Organization Rept. No. VPI-E-86-12	
9. Performing Organization Name and Address Virginia Polytechnic Institute and State University Engineering Science and Mechanics Blacksburg, Virginia 24061		10. Project/Task/Work Unit No.	
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15. Supplementary Notes		13. Type of Report & Period Covered	
16. Abstracts ANISAP is a 3-D finite element FORTRAN 77 computer code for linear elastic, small strain, analysis of laminated composites with arbitrary geometry including free edges and holes. Individual layers may be isotropic or transversely isotropic in material principal coordinates; individual layers may be rotated off-axis about a global z-axis. The laminate may be a hybrid. Three different isoparametric elements, variable order of gaussian integration, calculation of stresses at element boundaries, and loading by either nodal displacement or forces are included in the program capability. Post processing capability includes failure analysis using the tensor polynomial failure criterion.		14.	
17. Key Words and Document Analysis. 17a. Descriptors 3-D finite element analysis. laminated composites, computer code, linear elastic material, small strains, free edge, holes, nodal displacements, stresses, strains, Fortran 77, pre-processing, post-processing, failure analysis 17b. Identifiers/Open-Ended Terms 17c. COSATI Field/Group			
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