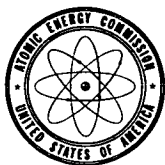


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AEC-NASA TECH BRIEF



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Subroutines GEORGE and DRASTC Simplify Operation of Automatic Digital Plotter

The problem:

To devise an easy means of plotting data on a CALCOMP 566 Digital Incremental Plotter. To provide the plotter with instructions for graphically displaying data points with the proper scaling of axes, numbering, lettering, tic marking, is often difficult and time consuming.

The solution:

Fortran language subroutines that enable the production of a tape for a 360-30 tape unit that controls the CALCOMP plotter.

How it's done:

During the execution of a Fortran IV program the subroutines are called upon when it is desired to construct a plot tape. The plot tape is physically removed from the computer and placed on the 360-30 tape unit driving the plotter.

Consider a Fortran IV program that generates "n" data points $(x_1, y_1), \dots, (x_n, y_n)$ and is to be plotted in $y=f(x)$ fashion. It is inconvenient and tedious to print these data and inspect "n" pairs in numbers to determine the range of the data and a reasonable scheme for scaling and numbering the axes. Truly automatic plotting requires that, given the required inputs, these tasks be accomplished by the plotting program.

GEORGE is a Fortran IV subroutine that checks, supplies, or calculates graph dimensions, and then calls DRASTC, another subroutine, to draw, scale,

tic-mark, and number the axes. GEORGE also labels the axes, titles the graph, and plots the data array providing a complete graphic display.

In general these subroutines aid in simplifying the process of plotting data with a CALCOMP 566 Digital Incremental Plotter.

Notes:

1. The subroutines are programmed for the IBM 7094 computer; however with minor adjustments they will operate on other computers.
2. The language used is Fortran IV.
3. Inquiries concerning this program may be directed to:

COSMIC
Computer Center
University of Georgia
Athens, Georgia 30601
Reference: B67-10222

Patent status:

No patent action is contemplated by AEC or NASA.

Source: Frank Engle, III, W. H. Gray,
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AEC-NASA Space Nuclear Propulsion Office
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