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An IBM-7090 Subroutine for Making Linear Graphs Using the CALCOMP Plotter ,

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Abstract

An IBM-7090 subroutine has been written to facilitate the plotting of curves and points on linear graphs using the CALCOMP plotter. The subroutine must be used in conjunction with the subroutine package described in ORNL-TM-430.

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An IBM-7090 Subroutine for Making Linear Graphs Using the CALCOMP Plotter

A FORTRAN subroutine has been written to aid the programmer in making linear plots with the CALCOMP Digital Incremental Plotter. The subroutine works in a manner very similar to the routines SEMLOG and LOGLOG described previously,¹ and a familiarity with Ref. 1 will be necessary to use the subroutine described here. The routine LINEAR performs the initialization, the drawing of the grid, and the labeling of the grid lines. The operation of the other routines for titling and plotting remain the same as described in Ref. 1.

The labeling of the x axis and the size of the graph (7 in. x 10 in.), is the same as for the routine SEMLOG. The labeling of the y axis is done with three-figure accuracy. The total range is between -999 and 999. If the graph range is outside the specified range, or if values of the interval between lines do not correspond to the above described accuracy, truncation error in the labeling will result.

The routine is called by

```
CALL LINEAR(YZERO, DELY, NOINTY, XZERO, DELX, NOINTX,A)
```

where

YZERO = smallest value of y (dependent variable),

DELY = interval width or spacing between lines along y axis, each line being labeled,

NOINTY = number of intervals between lines along y axis, the largest value of y being $YZERO + NOINTY * DELY$,

XZERO = smallest value of x (independent variable),

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1. D. K. Trubey and M. B. Emmett, "An IBM-7090 Subroutine Package for Making Logarithmic and Semilogarithmic Graphs Using the CALCOMP Plotter," ORNL-TM-430 (Dec. 12, 1962).

DELX = interval width or spacing between lines along x axis, each line being labeled,

NOINTX = number of intervals between lines along x axis, the largest value of x being XZERO + NOINTX * DELX,

A = 5-cell array in main routine.

An example of a linear plot is shown in Fig. 1. The parameters were:

YZERO = 0.

XZERO = 0.

DELY = 100.

DELX = 20.

NOINTY = 5

NOINTX = 5

A slave of this subroutine is named YS, and so the user must not have a routine by this name or any name listed in the appendix of Ref. 1.

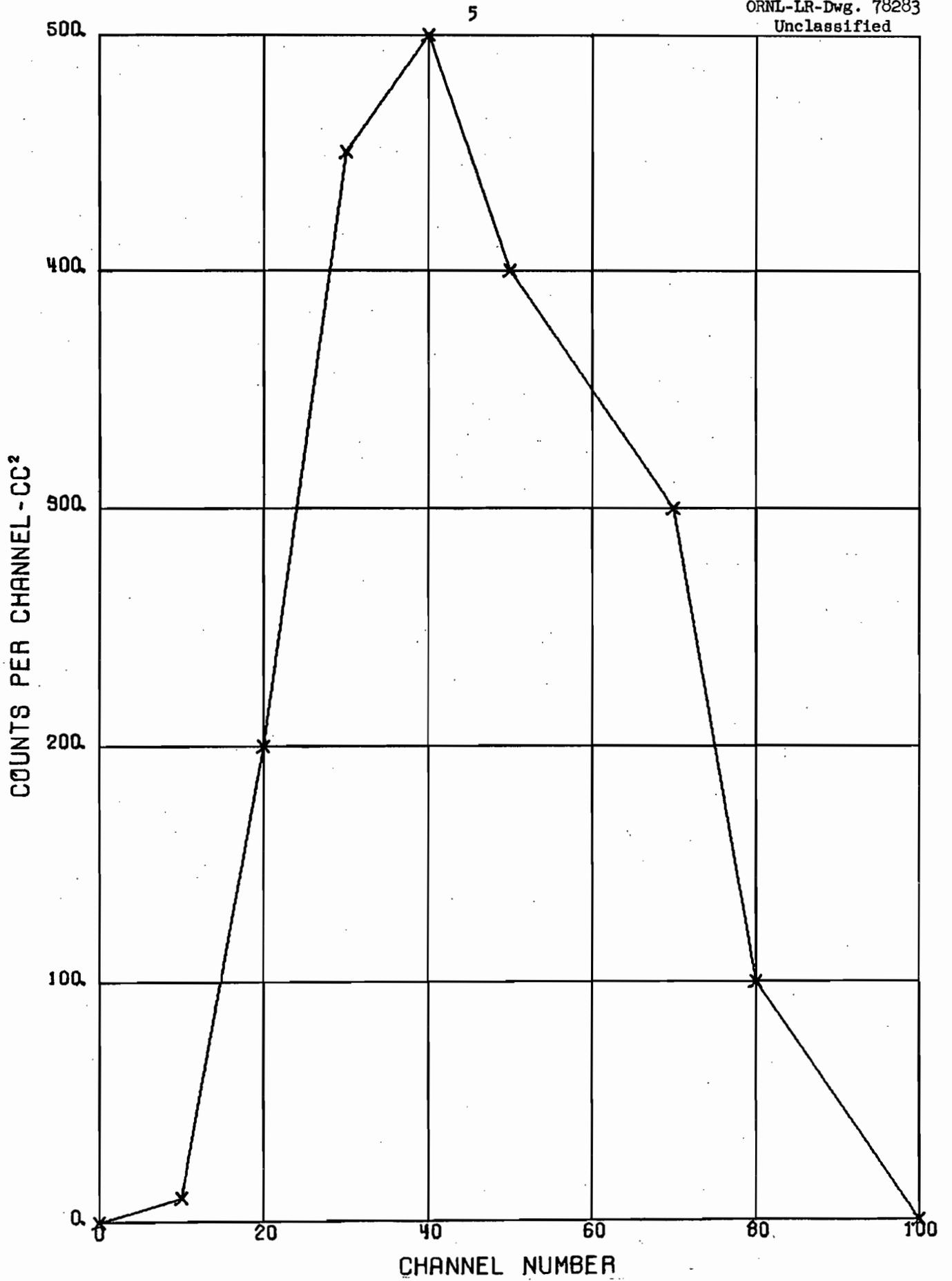
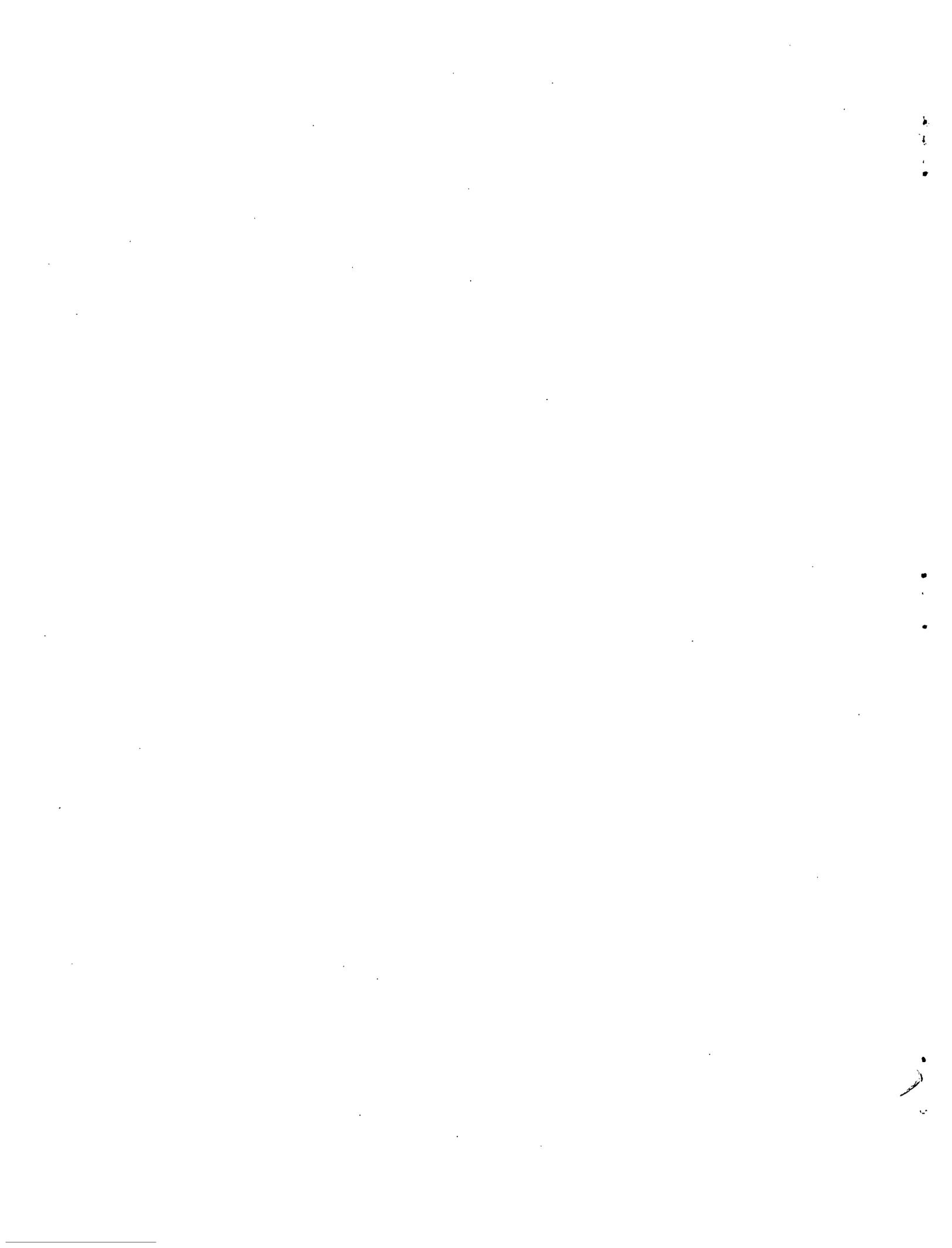


Fig. 1. Example of Linear Plot



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