IN2.txt by Mark below

	0.0	0.0	0.0	100.0	0.001	2E-05
20	50	0.0				
	2.2	0.25	**4.86205**	2.24		

IN4.txt by Francis below

	0.0	0.0	0.0	100.0	0.001	2E-05	20.0	50.0	0.0	?
20	50									
	2.2	0.25	**5.62603**	2.24						

EMPNPLT EMP Program - **README file;** The EMPNPLT.fprogram comes from a thesis by Terry C. Chapman. The program listing was included in the thesis as an Appendix. This was scanned and converted into a text file using Optical Character Recognition (OCR) software. There were a number of errors in the OCR conversion. These were (hopefully) found and eliminated. In order not to confuse generations of the program, a suffix was appended; the latest version is; EMPNPLT FG2.f. (The ".f" at the end identifies a FORTRAN source listing.)

The resulting file was compiled using Microsoft FORTRAN. PowerStation and linked, resulting in the EMPNPLT_FG2.exe executable file. There was one warning message of no apparent consequence. To execute the file, a command window may be opened under Windows. (This was tested using Windows XP.) Change to the directory containing the software. There is an input data file; and the latest version is IN4.txt. To execute the program, simply issue the command --- "EMPNPLT_FG2 <IN4.txt".

The output will be displayed in the command window. There is also as second version of the program included, EMPNPLT_FG3. This is the same calculations with the time and E-Field output data reformatted in hopefully an easier to read fashion. It may be executed in the fashion above.

The input file contains three lines. The first line contains the variables X, Y, Z, HOB, GAMYLD, BFIELD, BANGLE, NDELR, and OUX using FORMAT 7FIO, 215. The second line contains ITER, the iteration time in shakes, using FORMAT B. The third line contains AP, BP, RNP, and TOP, using FORMAT FIO.O. For further details see the thesis or source code listing.
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The code is run the same as any other Fortran Extended program, but due to the running time it should be converted to binary form before execution. The plotting subroutine requires an on-line plotter and both linear and log plotting library subroutines.   The input data is read in the following order:

Data card # 1~ using FORMAT (7F10.0, 215), contains;

X,Y.Z	The target coordinates in meters
HOB	The height of the burst in kilometers (60 km < or = HOB)
GAMYLD	The gamma yield in kilotons (GAMYLD < or = to 1 kt)
BFIELD	The Earth's magnetic field in wb/m2 -
BANGLE	The magnetic field dip angle in degrees
NDELR	The # steps in r taken through the absorption region - (50 < or = NDELR < or = 500)
OUT	The output control parameter

Data card #2, using FORMAT (13) contains;
        ITER   The time period covered by the iterations in shakes
     (10   less than or = ITER   < or = to 100)   (ITER = TMAX)

Data card #3, using FORMAT (4FI0.0) , contains;   Note: Pom = Prof. Pomraning's 4 constants;
'A   Pom = Alpha in inverse shakes.   - And 'B'   Pom = Beta in inverse shakes
'RN'   Pom = N   in shakes -   And 'TO'= Pom To in shakes.   From PP 45.