**EMP effect calculator**

Top of Form

Parameter set 1:

|  |  |  |
| --- | --- | --- |
| X: |  | [suggested: 0.0]  X IS MAGNETIC WEST (northern hemisphere) |
| Y: |  | [suggested: 0.0]  Y IS MAGNETIC SOUTH (northern hemisphere) |
| Z: |  | [suggested: 0.0]  Z IS ALTITUDE (northern hemisphere) |
| HOB: |  | [suggested: 100.0]  HEIGHT OF BURST IN KILOMETERS > 50KM |
| GAMYLD: |  | [suggested: 0.001]  GAMMA YIELD OF BURST IN KILOTONS |
| BFIELD: |  | [suggested: 0.00002]  MAGNITLDE OF EARTHS MAGNETIC FIELD IN THE ABSORPTION REGICN BELOW THE BURST IN WEBERS/SQUARE METER |
| BANGLE: |  | [suggested: 20.]  DIP ANGLE OF THE MAGNETIC FIELD IN DEGREES |
| NDELR: |  | [suggested: 50]  NUMBER OF STEPS BETWEEN RMIN AND RMAX (50<=NDELR<=500) |
| OUX: |  | [suggested: 0]  OUTPUT CONTROL PARAMETER  VALID VALUES:   0 ==> PRINT PEAK VALUE AND ARRAYS   1 ==> PRINT PEAK VALUE AND MAKE PLOT   2 ==> PRINT EVERYTHING AND MAKE PLOT   3 ==> PRINT EVERYTHING |

Parameter set 2:

|  |  |  |
| --- | --- | --- |
| ITER: |  | [suggested: 020]  TIME OF ITERATION IN SHAKES 10<=ITER<=100 |

Parameter set 3:

|  |  |  |
| --- | --- | --- |
| AP: |  | [suggested: 2.2]  alpha? |
| BP: |  | [suggested: 0.25]  beta? |
| RNP: |  | [suggested: 5.62603]  rn? |
| TOP: |  | [suggested: 2.24]  to? |



Bottom of Form

formatted vals:

x: 0.0

y: 0.0

z: 0.0

hob: 100.0

gamyld: 0.003

bfield: 0.00002

bangle: 20.0

ndelr: 50

oux: 0

iter: 20

ap: 2.22

bp: 0.25

rnp: 5.62603

top: 2.24

---------------- BEGIN RESULT ----------------

1 THE BLAST WITH GAMMA YIELD OF 3.000E-03 KILOTCNS

IS AT AN ALTITUDE OF 1.000E+02 KILOMETERS.

THE TARGET IS AT COORDINATES 0.000E+00 0.000E+00 0.000E+00

WHICH IS 1.000E+05 METERS FROM THE BURST

DIRECT WAVE IS BEING CALCULATED

ITERATION TERMINATED AFTER 2.0000E+01 SHAKES

PEAK OCCURRED AT 2.0000E+01 SHAKES Step Number: 110

\* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \*

\* PEAK EFIELD AT TARGET IS 2.417E-10 VOLTS/METER \*

\* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \*

1 TIMES USED (IN SHAKES) ARE

0.1 0.2 0.3 0.4 0.5 0.6 0.7 0.8 0.9 1.0

1.1 1.2 1.3 1.4 1.5 1.6 1.7 1.8 1.9 2.0

2.1 2.2 2.3 2.4 2.5 2.6 2.7 2.8 2.9 3.0

3.1 3.2 3.3 3.4 3.5 3.6 3.7 3.8 3.9 4.0

4.1 4.2 4.3 4.4 4.5 4.6 4.7 4.8 4.9 5.0

5.1 5.2 5.3 5.4 5.5 5.6 5.7 5.8 5.9 6.0

6.1 6.2 6.3 6.4 6.5 6.6 6.7 6.8 6.9 7.0

7.1 7.2 7.3 7.4 7.5 7.6 7.7 7.8 7.9 8.0

8.1 8.2 8.3 8.4 8.5 8.6 8.7 8.8 8.9 9.0

9.1 9.2 9.3 9.4 9.5 9.6 9.7 9.8 9.9 10.0

11.0 12.0 13.0 14.0 15.0 16.0 17.0 18.0 19.0 20.0

EFIELD VALUES AT TARGET (IN V/M) ARE

0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00

0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00

0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00

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0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00

2.995E-23 2.995E-23 4.235E-23 5.187E-23 5.989E-23 7.336E-23 8.984E-23 1.160E-22 1.436E-22 1.772E-22

2.221E-22 2.761E-22 3.454E-22 4.298E-22 5.357E-22 6.670E-22 8.310E-22 1.036E-21 1.291E-21 1.609E-21

2.005E-21 2.498E-21 3.112E-21 3.878E-21 4.833E-21 6.022E-21 7.504E-21 9.350E-21 1.165E-20 1.452E-20

1.809E-20 2.254E-20 2.809E-20 3.500E-20 4.361E-20 5.435E-20 6.772E-20 8.439E-20 1.052E-19 1.310E-19

6.499E-19 5.518E-18 4.958E-17 4.473E-16 4.037E-15 3.643E-14 3.288E-13 2.967E-12 2.678E-11 2.417E-10

-----------------END RESULT ------------------

Resources:  
[Fortran Sourcecode](https://emp.lkdev.com/download.php?f=fortransource)