

CALCULATED FIELD DISTRIBUTIONS FOR THE 45T HYBRID

VRS# 32-36-H-5c-4.04P

z [mm]	r = 0.0 [mm]			r = 32 / 4 = 8.0 [mm]			r = 32 / 2 = 16.0 [mm]		
	Bz/Bo [1]	dBz/(dzBo) [1/mm]	Bz*dBz/(dzBo^2) [1/mm]	Bz/Bo [1]	dBz/(dzBo) [1/mm]	Bz*dBz/(dzBo^2) [1/mm]	Bz/Bo [1]	dBz/(dzBo) [1/mm]	Bz*dBz/(dzBo^2) [1/mm]
0	1.000000E+00	6.309207E-16	6.309207E-16	1.000139E+00	1.104111E-15	1.104265E-15	1.000554E+00	-1.577302E-15	-1.578176E-15
1	9.999956E-01	8.706311E-06	8.706274E-06	1.000135E+00	8.663935E-06	8.665102E-06	1.000550E+00	8.540227E-06	8.544926E-06
2	9.999826E-01	1.741529E-05	1.741499E-05	1.000122E+00	1.733046E-05	1.733257E-05	1.000537E+00	1.708284E-05	1.709202E-05
3	9.999608E-01	2.612961E-05	2.612858E-05	1.000100E+00	2.600219E-05	2.600479E-05	1.000516E+00	2.563025E-05	2.564347E-05
4	9.999303E-01	3.485195E-05	3.484952E-05	1.000070E+00	3.468171E-05	3.468413E-05	1.000486E+00	3.418484E-05	3.420145E-05
5	9.998911E-01	4.358500E-05	4.358026E-05	1.000031E+00	4.337165E-05	4.337299E-05	1.000448E+00	4.274902E-05	4.276816E-05
6	9.998432E-01	5.233149E-05	5.232328E-05	9.999830E-01	5.207465E-05	5.207377E-05	1.000401E+00	5.132523E-05	5.134580E-05
7	9.997864E-01	6.109414E-05	6.108109E-05	9.999266E-01	6.079338E-05	6.078891E-05	1.000345E+00	5.991591E-05	5.993658E-05
8	9.997210E-01	6.987573E-05	6.985623E-05	9.998614E-01	6.953050E-05	6.952087E-05	1.000281E+00	6.852352E-05	6.854276E-05
9	9.996467E-01	7.867905E-05	7.865125E-05	9.997875E-01	7.828875E-05	7.827212E-05	1.000208E+00	7.715054E-05	7.716659E-05
10	9.995636E-01	8.750694E-05	8.746875E-05	9.997049E-01	8.707088E-05	8.704518E-05	1.000126E+00	8.579951E-05	8.581036E-05
20	9.982407E-01	1.778014E-04	1.774886E-04	9.983888E-01	1.768477E-04	1.765628E-04	9.988303E-01	1.740782E-04	1.738745E-04
30	9.959874E-01	2.742116E-04	2.731113E-04	9.961484E-01	2.725363E-04	2.714865E-04	9.966272E-01	2.677055E-04	2.668026E-04
40	9.927208E-01	3.814261E-04	3.786497E-04	9.929038E-01	3.785903E-04	3.759038E-04	9.934459E-01	3.704992E-04	3.680709E-04
50	9.882982E-01	5.070777E-04	5.011440E-04	9.885190E-01	5.021418E-04	4.963767E-04	9.891680E-01	4.882357E-04	4.829471E-04
60	9.824730E-01	6.651043E-04	6.534470E-04	9.827613E-01	6.560642E-04	6.447546E-04	9.835996E-01	6.307782E-04	6.204332E-04
70	9.748013E-01	8.824945E-04	8.602568E-04	9.752153E-01	8.656696E-04	8.442143E-04	9.764086E-01	8.173024E-04	7.980211E-04
80	9.644697E-01	1.206331E-03	1.163470E-03	9.651009E-01	1.180789E-03	1.139581E-03	9.669659E-01	1.092903E-03	1.056800E-03
90	9.502041E-01	1.664538E-03	1.581651E-03	9.510194E-01	1.665001E-03	1.583448E-03	9.538035E-01	1.606563E-03	1.532345E-03
100	9.312737E-01	2.088573E-03	1.945033E-03	9.317601E-01	2.140103E-03	1.994063E-03	9.330307E-01	2.377699E-03	2.218466E-03
200	6.365905E-01	3.980369E-03	2.533865E-03	6.366715E-01	3.995396E-03	2.543755E-03	6.369335E-01	4.024679E-03	2.563453E-03
300	3.634550E-01	1.549071E-03	5.630174E-04	3.632386E-01	1.546318E-03	5.616825E-04	3.625909E-01	1.538091E-03	5.576977E-04
400	2.547541E-01	7.784308E-04	1.983084E-04	2.546891E-01	7.777602E-04	1.980870E-04	2.544944E-01	7.757557E-04	1.974255E-04
500	1.920915E-01	5.124498E-04	9.843725E-05	1.920637E-01	5.122656E-04	9.838760E-05	1.919802E-01	5.117144E-04	9.823906E-05
600	1.480929E-01	3.785845E-04	5.606569E-05	1.480760E-01	3.785226E-04	5.605011E-05	1.480251E-01	3.783374E-04	5.600344E-05
700	1.149954E-01	2.879555E-04	3.311355E-05	1.149829E-01	2.879215E-04	3.310605E-05	1.149454E-01	2.878195E-04	3.308353E-05
800	8.977568E-02	2.194780E-04	1.970379E-05	8.976612E-02	2.194524E-04	1.969939E-05	8.973744E-02	2.193577E-04	1.968621E-05
900	7.056395E-02	1.671316E-04	1.179346E-05	7.055667E-02	1.671114E-04	1.179082E-05	7.053483E-02	1.670507E-04	1.178289E-05
1000	5.592728E-02	1.274643E-04	7.128733E-06	5.592179E-02	1.274486E-04	7.127157E-06	5.590533E-02	1.274016E-04	7.122428E-06
2000	9.088630E-03	1.293574E-05	1.175682E-07	9.088245E-03	1.293487E-05	1.175553E-07	9.087091E-03	1.293226E-05	1.175166E-07
3000	2.802615E-03	2.747506E-06	7.700202E-09	2.802558E-03	2.747414E-06	7.699788E-09	2.802387E-03	2.747138E-06	7.698545E-09
4000	1.197185E-03	8.886452E-07	1.063873E-09	1.197171E-03	8.886280E-07	1.063840E-09	1.197129E-03	8.885763E-07	1.063741E-09
5000	6.163125E-04	3.674422E-07	2.264592E-10	6.163078E-04	3.674376E-07	2.264547E-10	6.162938E-04	3.674238E-07	2.264410E-10
6000	3.576892E-04	1.780742E-07	6.369523E-11	3.576873E-04	1.780727E-07	6.369433E-11	3.576816E-04	1.780680E-07	6.369165E-11
7000	2.256341E-04	9.639855E-08	2.256300E-11	2.256332E-04	9.639793E-08	2.256306E-11	2.256306E-04	9.639606E-08	2.256300E-11
8000	1.513224E-04	5.661157E-08	8.566599E-12	1.513220E-04	5.661129E-08	8.566530E-12	1.513206E-04	5.661044E-08	8.566326E-12
9000	1.063575E-04	3.538663E-08	3.763635E-12	1.063573E-04	3.538649E-08	3.763611E-12	1.063565E-04	3.538607E-08	3.763540E-12
10000	7.757563E-05	2.323782E-08	1.802689E-12	7.757548E-05	2.323775E-08	1.802679E-12	7.757504E-05	2.323752E-08	1.802652E-12

r [mm]	z = 0.0 [mm]			z = 100.0 [mm]			z = 1000.0 [mm]		
	Bz/Bo [1]	dBz/(drBo) [1/mm]	Bz*dBz/(drBo^2) [1/mm]	Bz/Bo [1]	dBz/(drBo) [1/mm]	Bz*dBz/(drBo^2) [1/mm]	Bz/Bo [1]	dBz/(drBo) [1/mm]	Bz*dBz/(drBo^2) [1/mm]
0	1.000000E+00	0.000000E+00	0.000000E+00	9.312737E-01	0.000000E+00	0.000000E+00	5.592728E-02	0.000000E+00	0.000000E+00
1	1.000002E+00	-4.352670E-06	-4.352679E-06	9.312813E-01	-1.520487E-05	-1.416001E-05	5.592720E-02	1.715613E-07	9.594945E-09
2	1.000009E+00	-8.704340E-06	-8.704416E-06	9.313041E-01	-3.041749E-05	-2.832793E-05	5.592694E-02	3.431217E-07	1.918975E-08
3	1.000020E+00	-1.305401E-05	-1.305427E-05	9.313421E-01	-4.564189E-05	-4.250822E-05	5.592651E-02	5.146801E-07	2.878426E-08
4	1.000035E+00	-1.740069E-05	-1.740130E-05	9.313954E-01	-6.087401E-05	-5.669777E-05	5.592591E-02	6.862356E-07	3.837835E-08
5	1.000054E+00	-2.174339E-05	-2.174457E-05	9.314639E-01	-7.609585E-05	-7.088053E-05	5.592514E-02	8.577871E-07	4.797186E-08
6	1.000078E+00	-2.608112E-05	-2.608316E-05	9.315476E-01	-9.126702E-05	-8.501957E-05	5.592420E-02	1.029334E-06	5.756466E-08
7	1.000107E+00	-3.041291E-05	-3.041615E-05	9.316464E-01	-1.063122E-04	-9.904535E-05	5.592308E-02	1.200875E-06	6.715661E-08
8	1.000139E+00	-3.473778E-05	-3.474261E-05	9.317601E-01	-1.211015E-04	-1.128376E-04	5.592179E-02	1.372409E-06	7.674755E-08
9	1.000176E+00	-3.905477E-05	-3.906165E-05	9.318884E-01	-1.354205E-04	-1.261968E-04	5.592034E-02	1.543935E-06	8.633734E-08
10	1.000217E+00	-4.336294E-05	-4.337236E-05	9.320308E-01	-1.489205E-04	-1.387985E-04	5.591871E-02	1.715452E-06	9.592585E-08
11	1.000263E+00	-4.766136E-05	-4.767388E-05	9.321860E-01	-1.610391E-04	-1.501184E-04	5.591690E-02	1.886959E-06	1.055129E-07
12	1.000313E+00	-5.194909E-05	-5.196532E-05	9.323523E-01	-1.708631E-04	-1.593046E-04	5.591493E-02	2.058456E-06	1.150984E-07
13	1.000367E+00	-5.622523E-05	-5.624584E-05	9.325267E-01	-1.768868E-04	-1.649517E-04	5.591279E-02	2.229941E-06	1.246822E-07
14	1.000425E+00	-6.048889E-05	-6.051460E-05	9.327045E-01	-1.765621E-04	-1.646803E-04	5.591047E-02	2.401413E-06	1.342642E-07
15	1.000488E+00	-6.473919E-05	-6.477076E-05	9.328772E-01	-1.654221E-04	-1.543185E-04	5.590798E-02	2.572872E-06	1.438441E-07
16	1.000554E+00	-6.897528E-05	-6.901353E-05	9.330307E-01	-1.353594E-04	-1.262945E-04	5.590533E-02	2.744316E-06	1.534219E-07
1000	-3.724728E-02	-9.265264E-05	3.451059E-06	-3.650496E-02	-9.227848E-05	3.368622E-06	8.535779E-03	3.587817E-05	3.062481E-07
2000	-5.011791E-03	-7.613265E-06	3.815609E-08	-4.954436E-03	-7.471244E-06	3.701580E-08	-1.350763E-03	1.595582E-07	-2.155254E-10
3000	-1.463681E-03	-1.477773E-06	2.162987E-09	-1.456206E-03	-1.465185E-06	2.133611E-09	-8.638403E-04	-5.504732E-07	4.755209E-10
4000	-6.133556E-04	-4.628195E-07	2.838729E-10	-6.116057E-04	-4.606142E-07	2.817143E-10	-4.591872E-04	-2.780520E-07	1.276779E-10
5000	-3.129815E-04	-1.885565E-07	5.901471E-11	-3.124126E-04	-1.879843E-07	5.872865E-11	-2.605543E-04	-1.375115E-07	3.582921E-11
6000	-1.807804E-04	-9.065302E-08	1.638829E-11	-1.805528E-04	-9.046255E-08	1.633327E-11	-1.592829E-04	-7.306567E-08	1.163811E-11
7000	-1.137116E-04	-4.883912E-08	5.553577E-12	-1.136067E-04	-4.876389E-08	5.539902E-12	-1.036444E-04	-4.174454E-08	4.326589E-12
8000	-7.611967E-05	-2.859264E-08	2.176462E-12	-7.606593E-05	-2.855896E-08	2.172364E-12	-7.091547E-05	-2.537330E-08	1.799359E-12
9000	-5.343304E-05	-1.783470E-08	9.529623E-13	-5.340326E-05	-1.781812E-08	9.515457E-13	-5.052954E-05	-1.623467E-08	8.203305E-13
10000	-3.893789E-05	-1.169400E-08	4.553399E-13	-3.892033E-05	-1.168521E-08	4.547920E-13	-3.721682E-05	-1.083909E-08	4.033966E-13

r [mm]	z = 0 [mm]
5604	B(total) = 100 G
12058	B(total) = 10 G

Bz: vertical field component dBz/dz: vertical gradient of the vertical field component
 Bt: total field dBz/dr: horizontal gradient of the vertical field component
 Bo: peak field (estimate = 45.048 T @ I = 57.8 kA)