

TABLES OF PSI AND B IN TOKAPOLE II

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Attached are the computer printouts of ψ and B on a half-cm grid in the upper half plane of Tokapole II for the design case without plasma and without soak-in at either the hoops or walls. The index I corresponds to the horizontal position from the inner wall (I=1) to the outer wall (I=89). The index J corresponds to the vertical position from the midplane (J=1) to the lid (J=45). The machine was designed to be symmetric about the horizontal midplane. ψ is normalized so as to be 0 at the surface of the hoops and 10 at walls. B is in units of kG for a total flux of 0.15 webers in the core. Also shown are currents in each hoop, currents in each wall, inductance, forces on each hoop, maximum B in the machine, ψ at the separatrix and ψ_{critical} , all for a core flux of 0.15 webers. Other cases, including different hoop positions and different amounts of soak-in are available in 3285 Chamberlin.

CASE 10 DATE 07/01/77
FOR A TOTAL FLUX OF 0.15 WEBERS:

THE INPUT PARAMETERS ARE:

RZERO	WR	HZ	X1	Y1	X2	Y2	D1	D2	PW	PH	H	EPS
28.00	44.00	22.00	7.74	7.74	7.50	7.50	5.00	5.00	10.00	.00	.50	.10-05

CURRENTS:

INNER WALL	241.1	KA
OUTER WALL	115.3	KA
TOP OR BOTTOM	164.7	KA
INNER HOOP	223.5	KA
OUTER HOOP	121.3	KA
TOTAL FOUR	689.6	KA

INDUCTANCE: .218 MICROHENRIES

VERTICAL FORCES:

INNER HOOP:	20652.6	LB
OUTER HOOP:	7193.5	LB

Table with 12 columns and 14 rows of numerical data. Each row contains 12 values, ranging from 1.00000+01 to 9.96993+00.

TABLE OF PSI FUNCTION

Table with 11 columns (labeled J = 21 to J = 30) and 28 rows (labeled I = 1 to I = 28) of numerical data. Values range from 0.00000 to 9.47717+00.

12	7.52837+00	8.16776+00	8.78865+00	9.39734+00	1.00000+01
13	7.35072+00	8.03873+00	8.70450+00	9.35581+00	1.00000+01
14	7.20122+00	7.93010+00	8.63362+00	9.32081+00	1.00000+01
15	7.08506+00	7.84528+00	8.57808+00	9.29332+00	1.00000+01
16	7.00592+00	7.78664+00	8.53929+00	9.27401+00	1.00000+01
17	6.96538+00	7.75521+00	8.51788+00	9.26317+00	1.00000+01
18	6.96262+00	7.75047+00	8.51354+00	9.26067+00	1.00000+01
19	6.99454+00	7.77045+00	8.52510+00	9.26595+00	1.00000+01
20	7.05632+00	7.81201+00	8.55067+00	9.27812+00	1.00000+01
21	7.14206+00	7.87125+00	8.58788+00	9.29606+00	1.00000+01
22	7.24557+00	7.94399+00	8.63413+00	9.31853+00	1.00000+01
23	7.36093+00	8.02611+00	8.68683+00	9.34428+00	1.00000+01
24	7.48295+00	8.11389+00	8.74360+00	9.37214+00	1.00000+01
25	7.60731+00	8.20417+00	8.80236+00	9.40109+00	1.00000+01
26	7.73062+00	8.29438+00	8.86140+00	9.43027+00	1.00000+01
27	7.85036+00	8.38256+00	8.91938+00	9.45902+00	1.00000+01
28	7.96476+00	8.46727+00	8.97530+00	9.48681+00	1.00000+01
29	8.07267+00	8.54754+00	9.02847+00	9.51328+00	1.00000+01
30	8.17337+00	8.62274+00	9.07842+00	9.53620+00	1.00000+01
31	8.26654+00	8.69252+00	9.12488+00	9.56141+00	1.00000+01
32	8.35207+00	8.75676+00	9.16773+00	9.58283+00	1.00000+01
33	8.43006+00	8.81545+00	9.20694+00	9.60246+00	1.00000+01
34	8.50071+00	8.86871+00	9.24256+00	9.62030+00	1.00000+01
35	8.56429+00	8.91669+00	9.27469+00	9.63641+00	1.00000+01
36	8.62109+00	8.95961+00	9.30345+00	9.65083+00	1.00000+01
37	8.67143+00	8.99768+00	9.32897+00	9.66364+00	1.00000+01
38	8.71561+00	9.03112+00	9.35140+00	9.67490+00	1.00000+01
39	8.75392+00	9.06012+00	9.37087+00	9.68467+00	1.00000+01
40	8.78661+00	9.08488+00	9.38749+00	9.69301+00	1.00000+01
41	8.81390+00	9.10558+00	9.40138+00	9.69998+00	1.00000+01
42	8.83598+00	9.12230+00	9.41262+00	9.70563+00	1.00000+01
43	8.85299+00	9.13519+00	9.42127+00	9.70998+00	1.00000+01
44	8.86503+00	9.14431+00	9.42740+00	9.71305+00	1.00000+01
45	8.87216+00	9.14971+00	9.43102+00	9.71487+00	1.00000+01
46	8.87438+00	9.15138+00	9.43215+00	9.71543+00	1.00000+01
47	8.87166+00	9.14931+00	9.43075+00	9.71473+00	1.00000+01
48	8.86392+00	9.14344+00	9.42680+00	9.71275+00	1.00000+01
49	8.85102+00	9.13365+00	9.42022+00	9.70944+00	1.00000+01
50	8.83279+00	9.11983+00	9.41093+00	9.70477+00	1.00000+01
51	8.80900+00	9.10179+00	9.39881+00	9.69869+00	1.00000+01
52	8.77936+00	9.07932+00	9.38372+00	9.69111+00	1.00000+01
53	8.74356+00	9.05219+00	9.36551+00	9.68196+00	1.00000+01
54	8.70119+00	9.02011+00	9.34398+00	9.67116+00	1.00000+01
55	8.65186+00	8.98278+00	9.31894+00	9.65859+00	1.00000+01
56	8.59509+00	8.93986+00	9.29017+00	9.64416+00	1.00000+01
57	8.53041+00	8.89102+00	9.25745+00	9.62776+00	1.00000+01
58	8.45731+00	8.83590+00	9.22058+00	9.60929+00	1.00000+01
59	8.37534+00	8.77420+00	9.17935+00	9.58865+00	1.00000+01
60	8.28409+00	8.70566+00	9.13363+00	9.56578+00	1.00000+01
61	8.18326+00	8.63013+00	9.08335+00	9.54067+00	1.00000+01
62	8.07275+00	8.54763+00	9.02856+00	9.51334+00	1.00000+01
63	7.95276+00	8.45840+00	8.96946+00	9.48393+00	1.00000+01
64	7.82392+00	8.36306+00	8.90656+00	9.45267+00	1.00000+01
65	7.68744+00	8.26284+00	8.84057+00	9.41997+00	1.00000+01
66	7.54532+00	8.15878+00	8.77264+00	9.38640+00	1.00000+01
67	7.40053+00	8.05376+00	8.70435+00	9.35276+00	1.00000+01
68	7.25718+00	7.95074+00	8.63775+00	9.32008+00	1.00000+01

69	7.12063+00	7.85356+00	8.57537+00	9.28960+00	1.00000+01
70	6.99740+00	7.76684+00	8.52014+00	9.26273+00	1.00000+01
71	6.89487+00	7.69564+00	8.47522+00	9.24101+00	1.00000+01
72	6.82067+00	7.64506+00	8.44375+00	9.22592+00	1.00000+01
73	6.78179+00	7.61969+00	8.42851+00	9.21878+00	1.00000+01
74	6.78363+00	7.62305+00	8.43164+00	9.22059+00	1.00000+01
75	6.82913+00	7.65710+00	8.45432+00	9.23193+00	1.00000+01
76	6.91841+00	7.72198+00	8.49669+00	9.25287+00	1.00000+01
77	7.04882+00	7.81612+00	8.55785+00	9.28300+00	1.00000+01
78	7.21559+00	7.93651+00	8.63604+00	9.32151+00	1.00000+01
79	7.41269+00	8.07924+00	8.72892+00	9.36729+00	1.00000+01
80	7.63367+00	8.24003+00	8.83386+00	9.41911+00	1.00000+01
81	7.87245+00	8.41470+00	8.94627+00	9.47571+00	1.00000+01
82	8.12371+00	8.59949+00	9.06975+00	9.53594+00	1.00000+01
83	8.38323+00	8.79131+00	9.19626+00	9.59881+00	1.00000+01
84	8.64785+00	8.98777+00	9.32626+00	9.66351+00	1.00000+01
85	8.91545+00	9.18720+00	9.45859+00	9.72947+00	1.00000+01
86	9.18478+00	9.38852+00	9.59244+00	9.79627+00	1.00000+01
87	9.45528+00	9.59117+00	9.72739+00	9.86369+00	1.00000+01
88	9.72692+00	9.79497+00	9.86325+00	9.93161+00	1.00000+01
89	1.00000+01	1.00000+01	1.00000+01	1.00000+01	1.00000+01

12	9.67158+00	9.19049+00	6.85374+00	8.65433+00	8.54529+00
13	1.01393+01	9.64964+00	9.31048+00	9.11104+00	8.99531+00
14	1.04940+01	1.00005+01	9.66173+00	9.48362+00	9.34315+00
15	1.07170+01	1.02293+01	9.69656+00	9.70277+00	9.58075+00
16	1.07969+01	1.03221+01	1.00092+01	9.82311+00	9.70430+00
17	1.07327+01	1.02967+01	1.00001+01	9.82768+00	9.71497+00
18	1.05337+01	1.01431+01	9.87641+00	9.72106+00	9.61905+00
19	1.02184+01	9.82214+00	9.65095+00	9.51575+00	9.42748+00
20	9.81166+00	9.53365+00	9.34082+00	9.22744+00	9.15464+00
21	9.34000+00	9.11779+00	8.96537+00	8.87306+00	8.81712+00
22	8.82899+00	8.66245+00	8.54421+00	8.47367+00	8.43212+00
23	8.30075+00	8.18153+00	8.07565+00	8.04396+00	8.01621+00
24	7.77302+00	7.69376+00	7.63562+00	7.60024+00	7.58430+00
25	7.25906+00	7.21234+00	7.17712+00	7.15535+00	7.14908+00
26	6.76806+00	6.74705+00	6.73019+00	6.71941+00	6.72074+00
27	6.30589+00	6.30465+00	6.30208+00	6.29994+00	6.30696+00
28	5.87580+00	5.88938+00	5.89766+00	5.90212+00	5.91323+00
29	5.47912+00	5.50353+00	5.51985+00	5.52925+00	5.54314+00
30	5.11582+00	5.14778+00	5.17010+00	5.18308+00	5.19874+00
31	4.78502+00	4.82253+00	4.84873+00	4.86425+00	4.88089+00
32	4.48525+00	4.52633+00	4.55528+00	4.57253+00	4.58960+00
33	4.21473+00	4.25606+00	4.28879+00	4.30717+00	4.32425+00
34	3.97155+00	4.01618+00	4.04795+00	4.06703+00	4.08386+00
35	3.75376+00	3.79901+00	3.83133+00	3.85078+00	3.86721+00
36	3.55951+00	3.60490+00	3.63741+00	3.65701+00	3.67293+00
37	3.38698+00	3.43222+00	3.46467+00	3.48428+00	3.49964+00
38	3.23459+00	3.27946+00	3.31172+00	3.33171+00	3.34602+00
39	3.10082+00	3.14521+00	3.17718+00	3.19650+00	3.21079+00
40	2.98436+00	3.02823+00	3.05984+00	3.07897+00	3.09278+00
41	2.88405+00	2.92737+00	2.95865+00	2.97756+00	2.99092+00
42	2.79891+00	2.84173+00	2.87262+00	2.89132+00	2.90430+00
43	2.72808+00	2.77041+00	2.80096+00	2.81946+00	2.83211+00
44	2.67088+00	2.71276+00	2.74300+00	2.76131+00	2.77371+00
45	2.62676+00	2.66823+00	2.69818+00	2.71633+00	2.72854+00
46	2.59531+00	2.63642+00	2.66611+00	2.68410+00	2.69617+00
47	2.57626+00	2.61704+00	2.64650+00	2.66434+00	2.67634+00
48	2.56947+00	2.60995+00	2.63917+00	2.65687+00	2.66886+00
49	2.57492+00	2.61510+00	2.64410+00	2.66165+00	2.67369+00
50	2.59272+00	2.63259+00	2.66135+00	2.67875+00	2.69087+00
51	2.62311+00	2.66263+00	2.69110+00	2.70832+00	2.72058+00
52	2.66643+00	2.70552+00	2.73365+00	2.75065+00	2.76306+00
53	2.72317+00	2.76168+00	2.78937+00	2.80608+00	2.81867+00
54	2.79388+00	2.83165+00	2.85874+00	2.87508+00	2.88785+00
55	2.87925+00	2.91600+00	2.94230+00	2.95813+00	2.97105+00
56	2.98006+00	3.01541+00	3.04063+00	3.05579+00	3.06880+00
57	3.09711+00	3.13057+00	3.15435+00	3.16859+00	3.18159+00
58	3.23129+00	3.26218+00	3.28406+00	3.29702+00	3.30984+00
59	3.38342+00	3.41005+00	3.43006+00	3.44106+00	3.45387+00
60	3.55425+00	3.57706+00	3.59281+00	3.60206+00	3.61371+00
61	3.74432+00	3.76101+00	3.77220+00	3.77866+00	3.78907+00
62	3.95383+00	3.96247+00	3.96774+00	3.97057+00	3.97913+00
63	4.18242+00	4.18062+00	4.17827+00	4.17647+00	4.18239+00
64	4.42893+00	4.41375+00	4.40174+00	4.39411+00	4.39641+00
65	4.69103+00	4.65898+00	4.63494+00	4.62012+00	4.61765+00
66	4.96487+00	4.91197+00	4.87326+00	4.84973+00	4.84123+00
67	5.24455+00	5.16654+00	5.11042+00	5.07667+00	5.06081+00
68	5.52176+00	5.41445+00	5.33835+00	5.29299+00	5.26856+00

69	5.78541+00	5.64531+00	5.54725+00	5.48927+00	5.45537+00
70	6.02168+00	5.84684+00	5.72590+00	5.65492+00	5.61118+00
71	6.21461+00	6.00553+00	5.86238+00	5.77889+00	5.72571+00
72	6.34758+00	6.10792+00	5.94513+00	5.85062+00	5.78926+00
73	6.40562+00	6.14230+00	5.96426+00	5.86119+00	5.79372+00
74	6.37813+00	6.10047+00	5.91291+00	5.80437+00	5.73350+00
75	6.26114+00	5.97921+00	5.78821+00	5.67747+00	5.60612+00
76	6.05812+00	5.75081+00	5.59172+00	5.48164+00	5.41251+00
77	5.77912+00	5.51255+00	5.32910+00	5.22168+00	5.15683+00
78	5.43866+00	5.18542+00	5.00918+00	4.90523+00	4.84586+00
79	5.05320+00	4.81239+00	4.64271+00	4.54179+00	4.48815+00
80	4.63904+00	4.40689+00	4.24109+00	4.14159+00	4.09303+00
81	4.21108+00	3.98167+00	3.81541+00	3.71460+00	3.66974+00
82	3.78234+00	3.54824+00	3.37575+00	3.26989+00	3.22674+00
83	3.36431+00	3.11699+00	2.93106+00	2.81521+00	2.77120+00
84	2.96783+00	2.69782+00	2.48957+00	2.39701+00	2.30884+00
85	2.60446+00	2.30170+00	2.05985+00	1.90089+00	1.84389+00
86	2.28833+00	1.94317+00	1.65356+00	1.45282+00	1.37921+00
87	2.03760+00	1.64442+00	1.29165+00	1.02324+00	9.16531-01
88	1.87401+00	1.43875+00	1.01802+00	6.44596-01	4.56707-01
89	1.81543+00	1.36355+00	9.09702-01	4.55011-01	0.00000

*XQ! ED*VAC,46S2

CASE 10 DATE 07/01/77
FOR A TOTAL FLUX OF 0.15 WEBERS:

THE INPUT PARAMETERS ARE:

RZERO	WR	HZ	X1	Y1	X2	Y2	D1	D2	PW	PH	H	EPS
28.00	44.00	22.00	7.74	7.74	7.50	7.50	5.00	5.00	10.00	.00	.50	.10-05

B AT OUTER WALL MIDPLANE 2.01 KG

MAXIMUM VALUE OF B 24.34 KG

PSI AT SEPARATRIX 5.04

PSI AT CRITICAL 8.23

DESIGN CASE

*XQT ED*VAC,ABS3
*FIN

RUNID: CC0007	PROJECT: 02980	USER: 2431196993
16:03:44	PLOTTING USING STD OUTPUT	
16:08:51	PLOTTER OUTPUT BY INITPL	
16:09:07	GSP: END OF PLOT, 264	SECTORS WRITTEN

ITEM	AMOUNT	COST
CPU TIME	00:06:15.625	\$5.63
FILE I/O REQUESTS	348	\$0.06
FILE I/O WORDS	285325	\$0.05
MEMORY USAGE	4,353	\$1.15
CARDS IN	25	\$0.01
PAGES PRINTED	20	\$0.32
ER + CC	13	\$0.05
JOB CHARGE	1	\$0.08
TOTAL COST		\$7.35

THE ABOVE DOLLAR AMOUNTS ARE APPROXIMATE AND ARE BASED ON RATES FOR WEEKEND RUNS
USER BALANCE \$186.48

INITIATION TIME: 16:03:40 JUL 2, 1977

TERMINATION TIME: 16:09:09 JUL 2, 1977

PREVIOUS RUN TIME: 16:01:07 JUL 2, 1977