

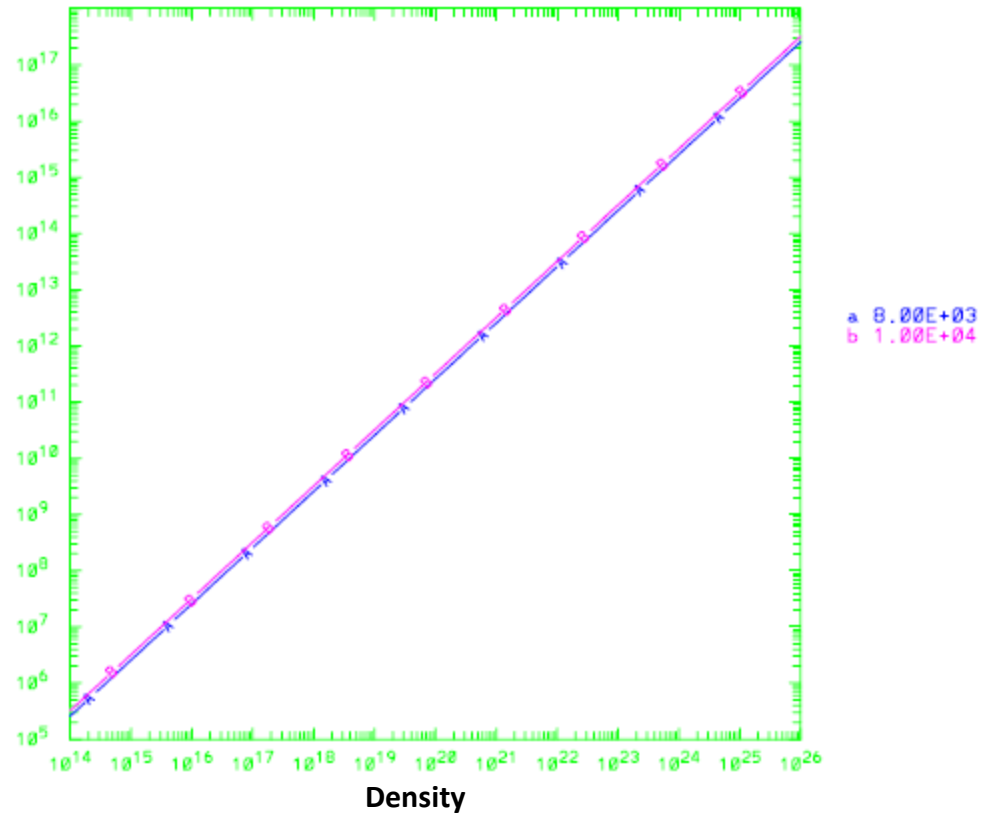
Addendum:

Selected fusion parameter space plots at
8 keV and 10 keV for spherical and
cylindrical geometries

I.R. Lindemuth and R.E. Siemon, "The Fundamental
Parameter Space of Controlled Thermonuclear
Fusion," Am .J. Phys., **77**(5), 407-416, May 2009

Pressure vs. Density with temperature as a parameter

ARPAE1 01/26/14
Spherical variants on Fig. 7. MTF Bohm minimum quantities. B=5 M

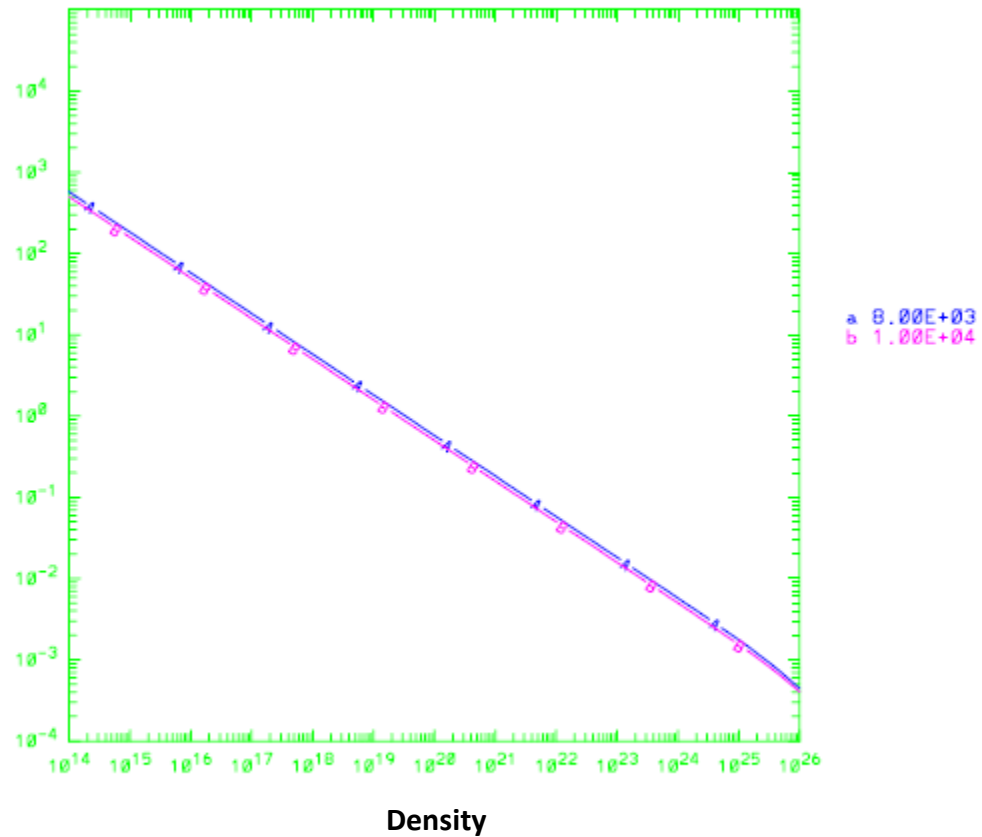


pressure vs. density with temp. as a parameter
abar= 2.500E+00 zo= 1.000E+00 mag. fld.= 5.000E+06 matl= 1 1
diffusion coefficient=5

Spherical Geometry

Minimum Dimension vs. Density with temperature as a parameter

ARPAE1 01/26/14
Spherical variants on Fig. 7. MTF Bohm minimum quantities, B=5 M

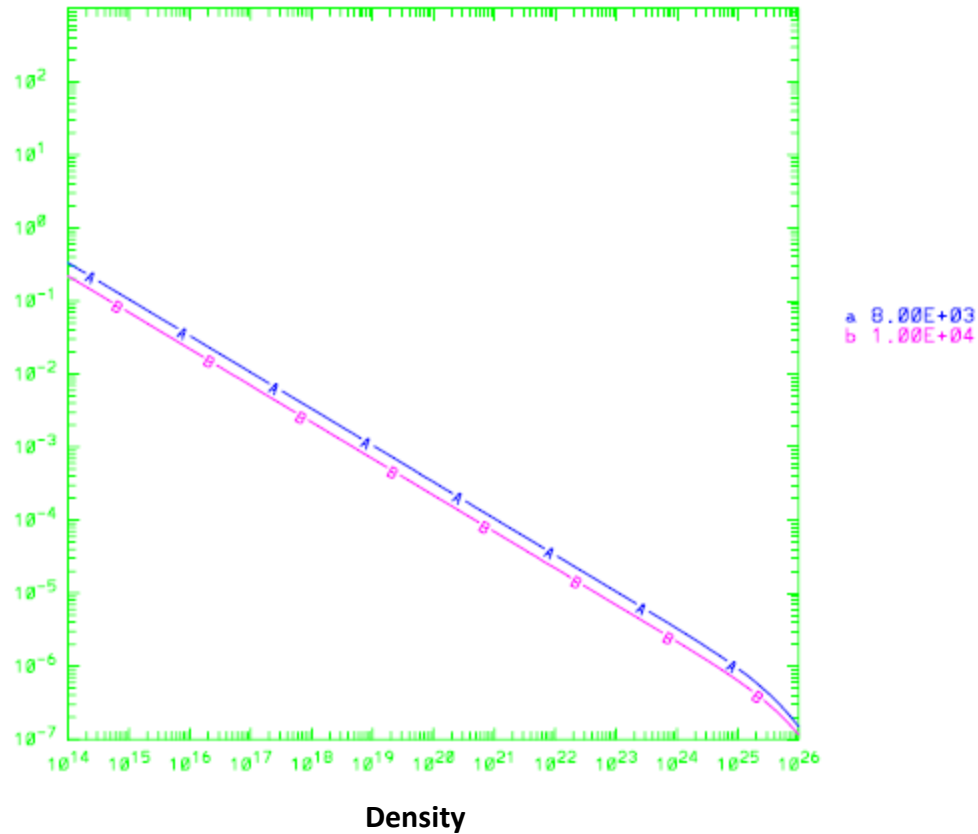


min. dim. vs. density with temp. as a parameter
abarc= $2.500E+00$ zo= $1.000E+00$ mag. fld.= $5.000E+06$ matl= 1 1
tc params= $1.750E+00$
diffusion coefficient=5

Spherical Geometry

Minimum Mass vs. Density with temperature as a parameter

ARPAE1 01/26/14
Spherical variants on Fig. 7. MTF Bohm minimum quantities. B=5 M

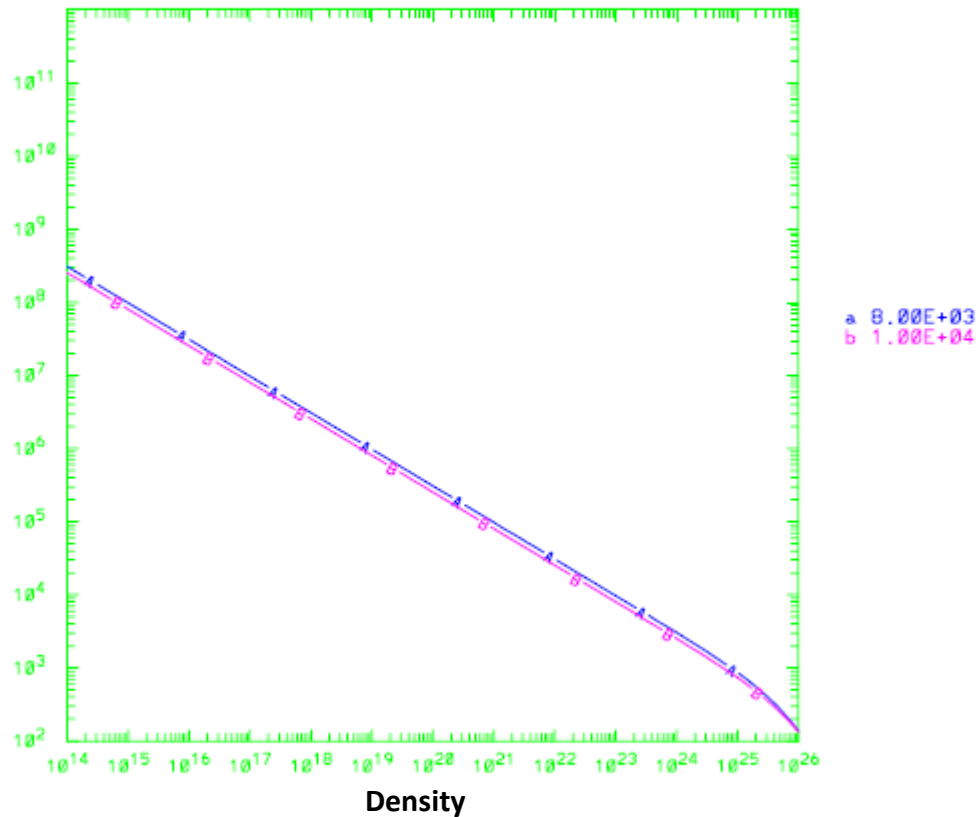


min. mass vs. density with temp. as a parameter
abar= 2.500E+00 zo= 1.000E+00 mag. fld.= 5.000E+06 matl= 1 1
tc params= 1.750E+00
diffusion coefficient=5

Spherical Geometry

Minimum Energy vs. Density with temperature as a parameter

ARPAE1 01/26/14
Spherical variants on Fig. 7. MTF Bohm minimum quantities. B=5 M

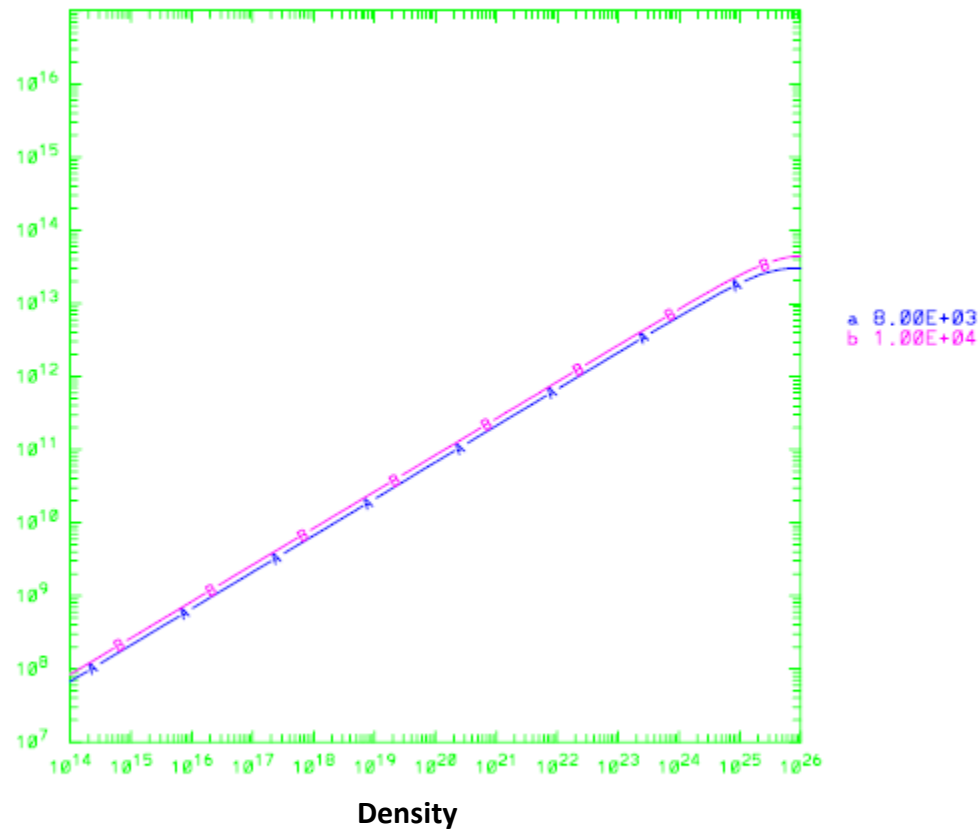


min. energy vs. density with temp. as a parameter
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tc params= 1.750E+00
diffusion coefficient=5

Spherical Geometry

Minimum Power vs. Density with temperature as a parameter

ARPAE1 01/26/14
Spherical variants on Fig. 7. MTF Bohm minimum quantities. B=5 M

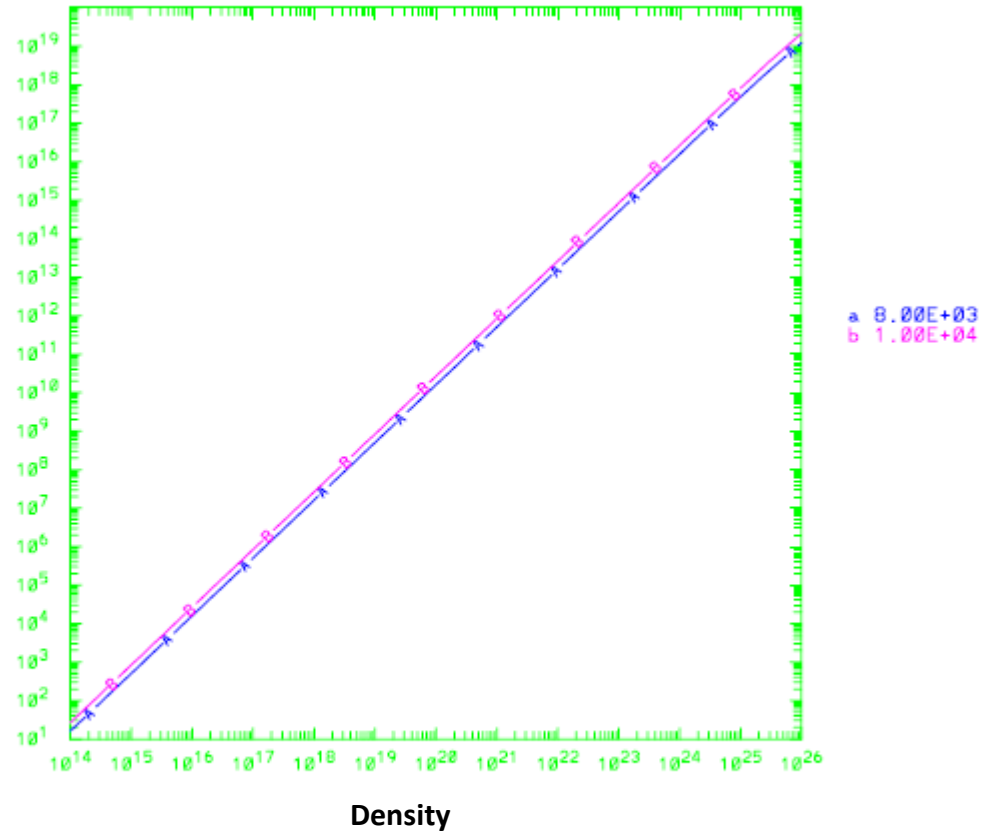


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tc params= 1.750E+00
diffusion coefficient=5

Spherical Geometry

Minimum Intensity vs. Density with temperature as a parameter

ARPAE1 01/26/14
Spherical variants on Fig. 7, MTF Bohm minimum quantities, B=5 M

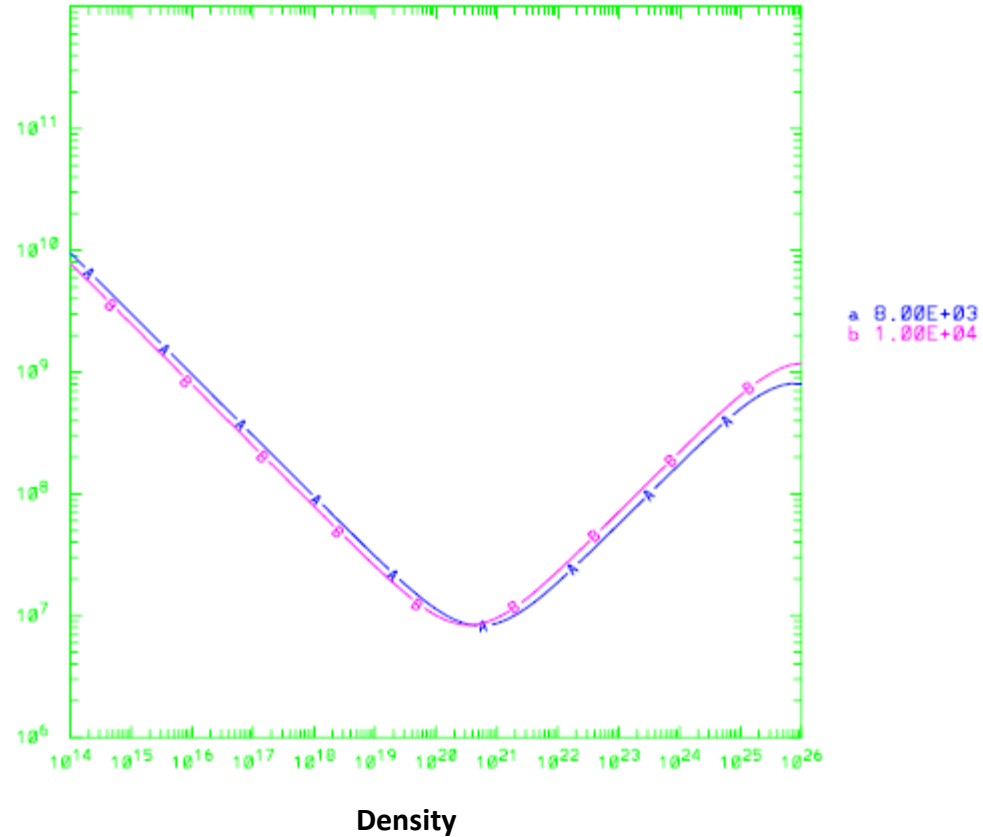


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diffusion coefficient=5

Spherical Geometry

Minimum Cost vs. Density with temperature as a parameter

ARPAE1 01/26/14
Spherical variants on Fig. 7. MTF Bohm minimum quantities. B=5 M

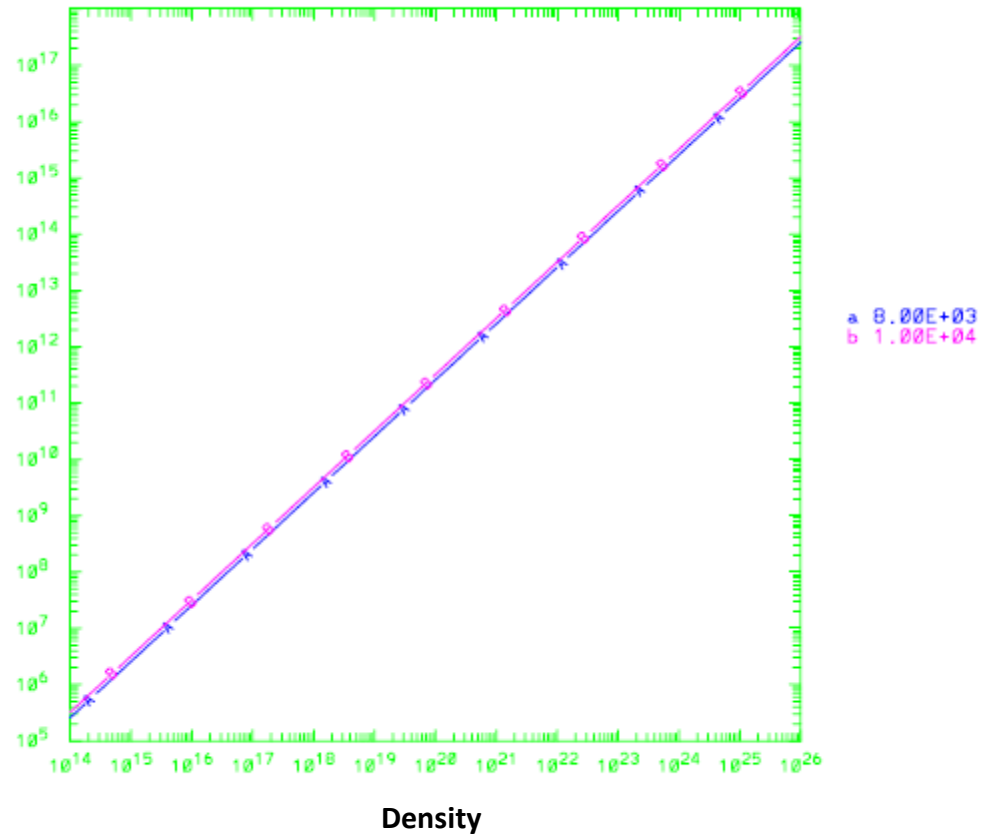


min. cost vs. density with temp. as a parameter
abar= 2.500E+00 zo= 1.000E+00 mag. fld.= 5.000E+06 matl= 1 1
tc params= 1.750E+00
diffusion coefficient=5

Spherical Geometry

Pressure vs. Density with temperature as a parameter

ARPAE1 01/26/14
Cyl. B_phi L/d=3 variants on Fig. 7. MTF Bohm minimum quantities

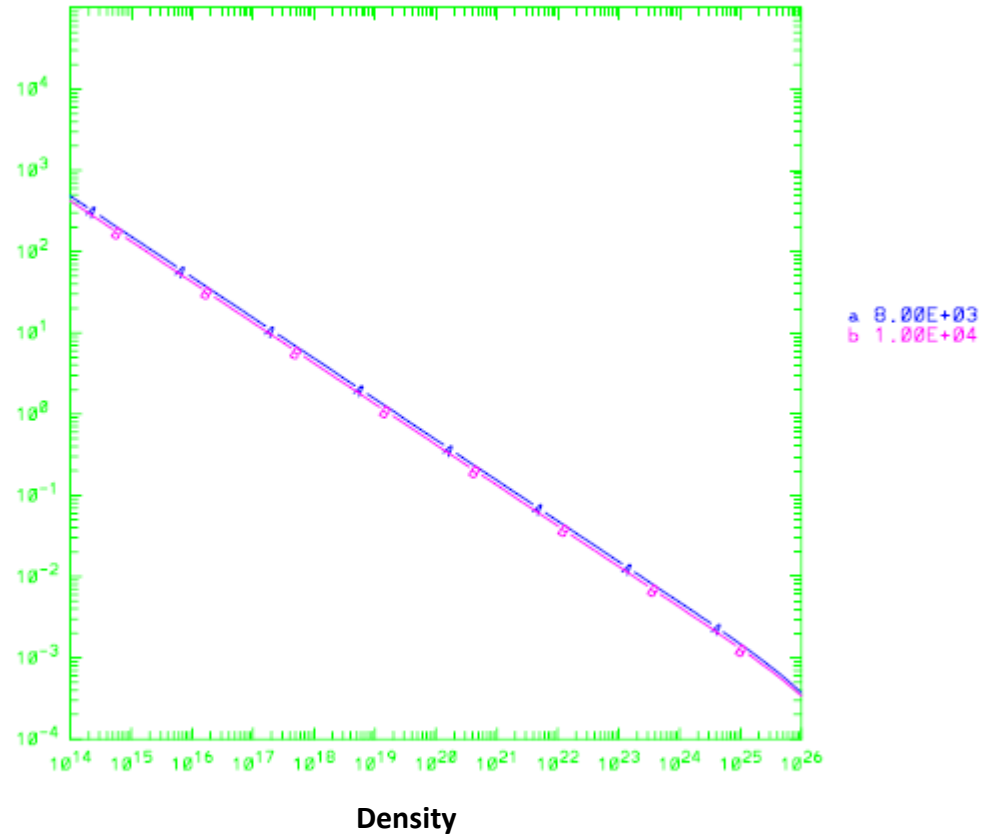


pressure vs. density with temp. as a parameter
abar= 2.500E+00 zo= 1.000E+00 mag. fld.= 5.000E+06 matl= 1 2
diffusion coefficient=5

Cylindrical Geometry

Minimum Dimension vs. Density with temperature as a parameter

ARPAE1 01/26/14
Cyl. B_phi L/d=3 variants on Fig. 7, MTF Bohm minimum quantities

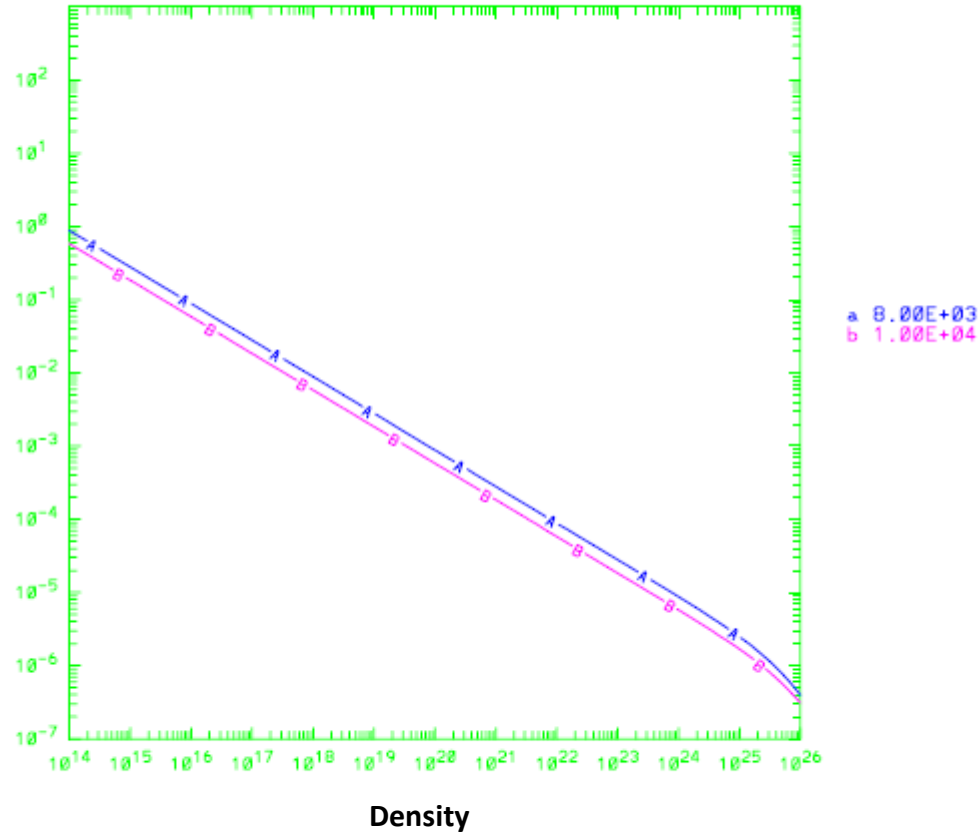


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Cylindrical Geometry

Minimum Mass vs. Density with temperature as a parameter

ARPAE1 01/26/14
Cyl. B_phi L/d=3 variants on Fig. 7. MTF Bohm minimum quantities

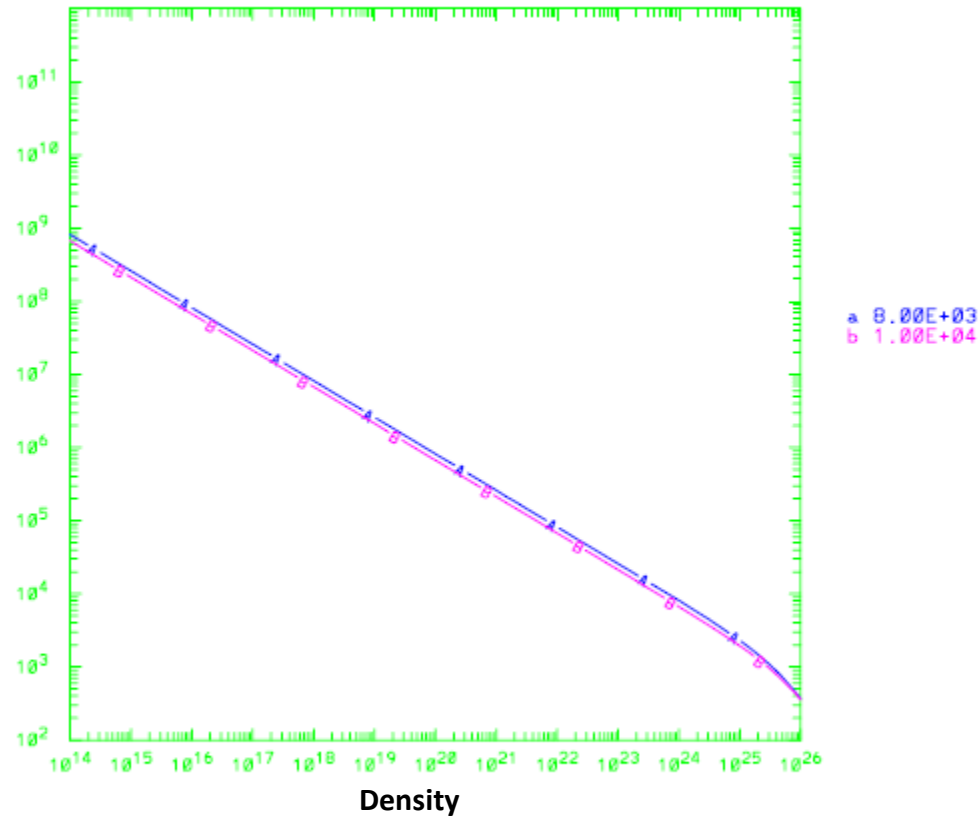


min. mass vs. density with temp. as a parameter
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tc params= 1.750E+00
diffusion coefficient=5

Cylindrical Geometry

Minimum Energy vs. Density with temperature as a parameter

ARPAE1 01/26/14
Cyl. B_phi L/d=3 variants on Fig. 7. MTF Bohm minimum quantities

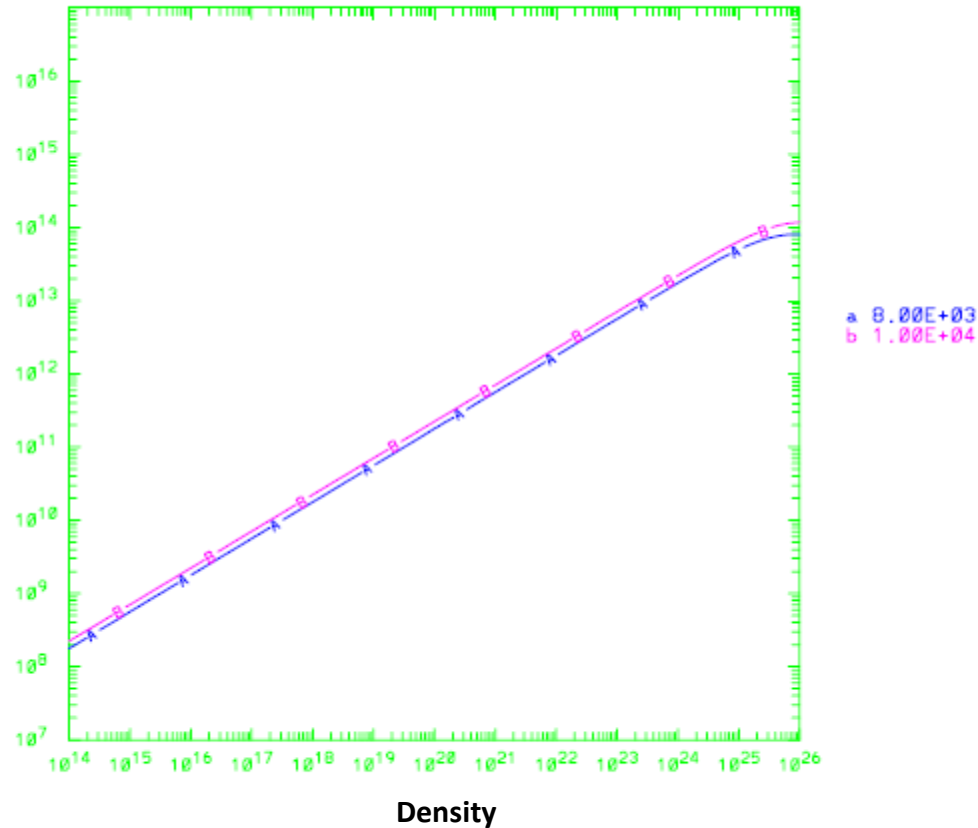


min. energy vs. density with temp. as a parameter
abar= 2.500E+00 zo= 1.000E+00 mag. fld.= 5.000E+06 matl= 1 2
tc params= 1.750E+00
diffusion coefficient=5

Cylindrical Geometry

Minimum Power vs. Density with temperature as a parameter

ARPAE1 01/26/14
Cyl. B_phi L/d=3 variants on Fig. 7. MTF Bohm minimum quantities

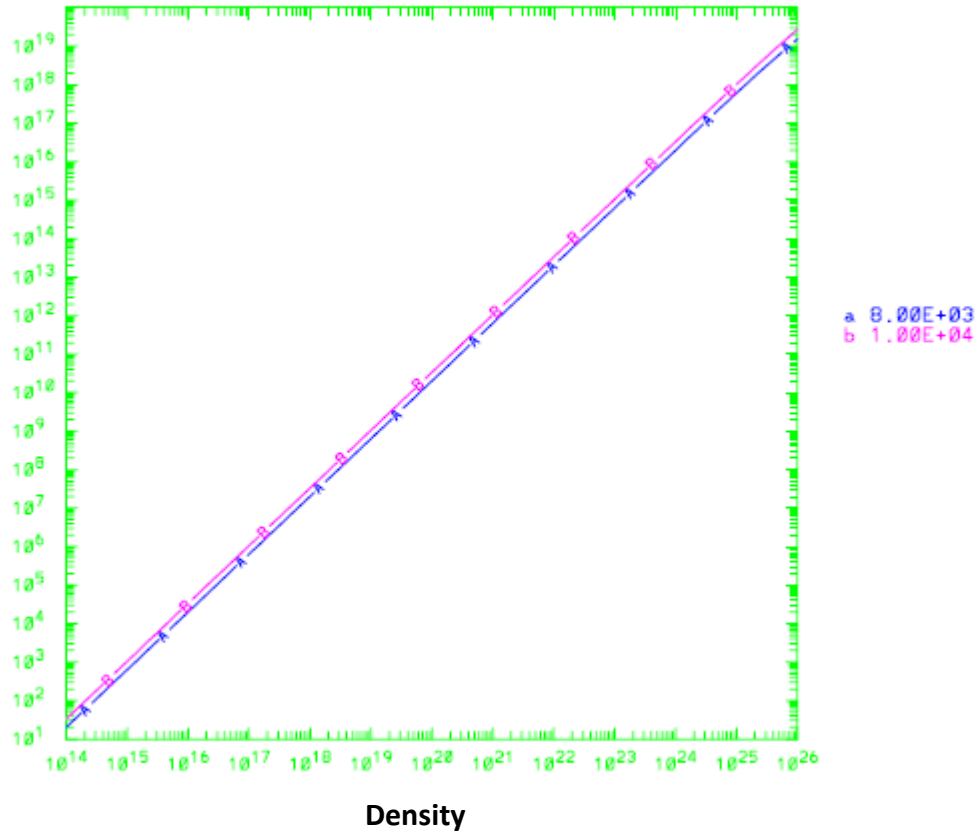


min. power vs. density with temp. as a parameter
abar= 2.500E+00 zo= 1.000E+00 mag. fld.= 5.000E+06 matl= 1 2
tc params= 1.750E+00
diffusion coefficient=5

Cylindrical Geometry

Minimum Intensity vs. Density with temperature as a parameter

ARPAE1 01/26/14
Cyl. B_phi L/d=3 variants on Fig. 7, MTF Bohm minimum quantities

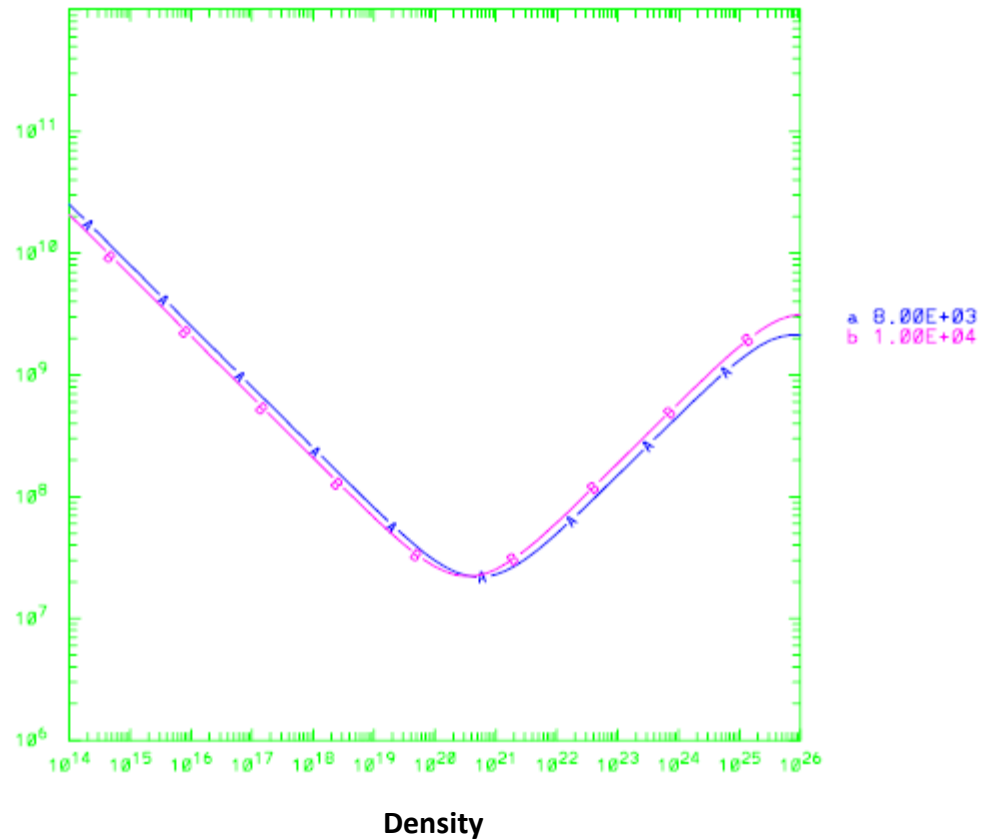


min. inten vs. density with temp. as a parameter
abar= 2.500E+00 zo= 1.000E+00 mag. fld.= 5.000E+06 matl= 1 2
tc params= 1.750E+00
diffusion coefficient=5

Cylindrical Geometry

Minimum Cost vs. Density with temperature as a parameter

ARPAE1 01/26/14
Cyl. B_phi L/d=3 variants on Fig. 7, MTF Bohm minimum quantities

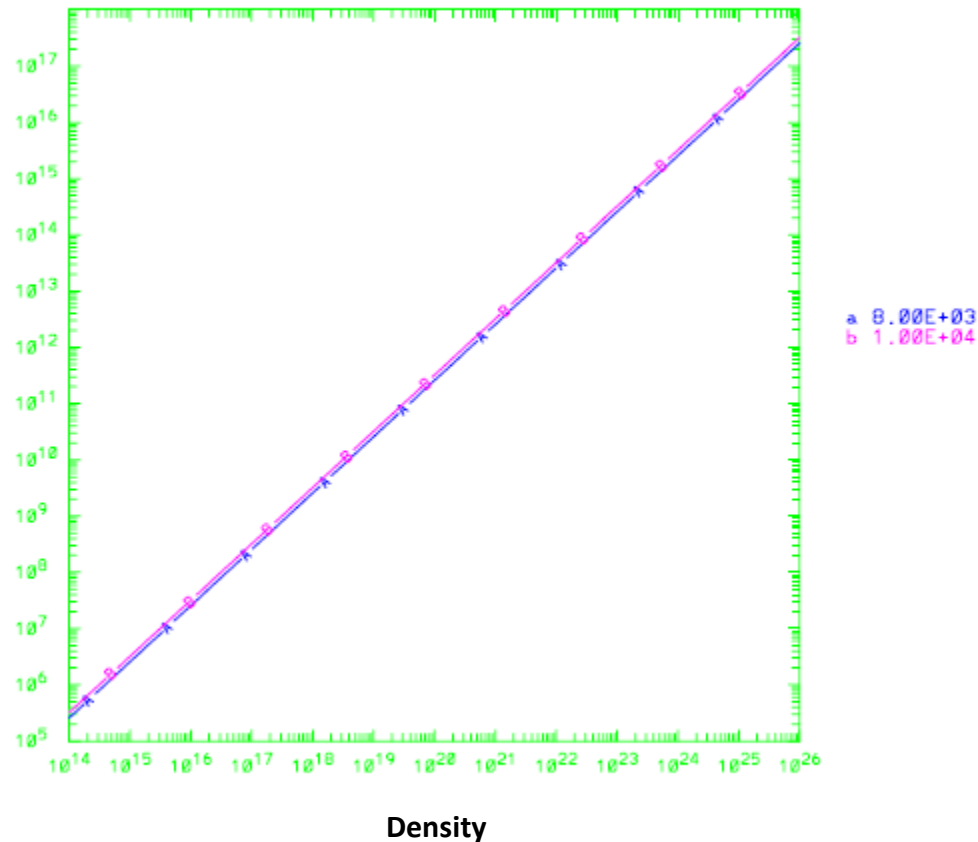


min. cost vs. density with temp. as a parameter
abar= 2.500E+00 zo= 1.000E+00 mag. fld.= 5.000E+06 matl= 1 2
tc params= 1.750E+00
diffusion coefficient=5

Cylindrical Geometry

Pressure vs. Density with temperature as a parameter

ARPAE1 01/26/14
Cyl. B_phi L/d=25 variants on Fig. 7. MTF Bohm minimum quantitie

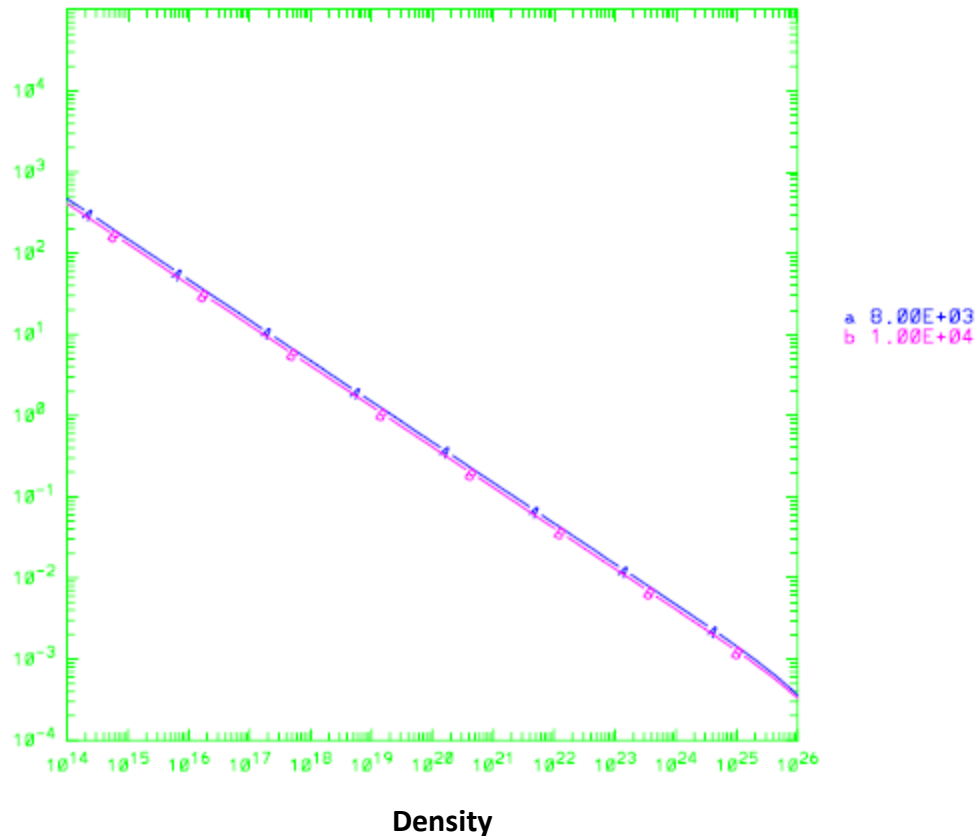


pressure vs. density with temp. as a parameter
abar= 2.500E+00 zo= 1.000E+00 mag. fld.= 5.000E+06 matl= 1 3
diffusion coefficient=5

Cylindrical Geometry

Minimum Dimension vs. Density with temperature as a parameter

ARPAE1 01/26/14
Cyl. B_phi L/d=25 variants on Fig. 7. MTF Bohm minimum quantitie

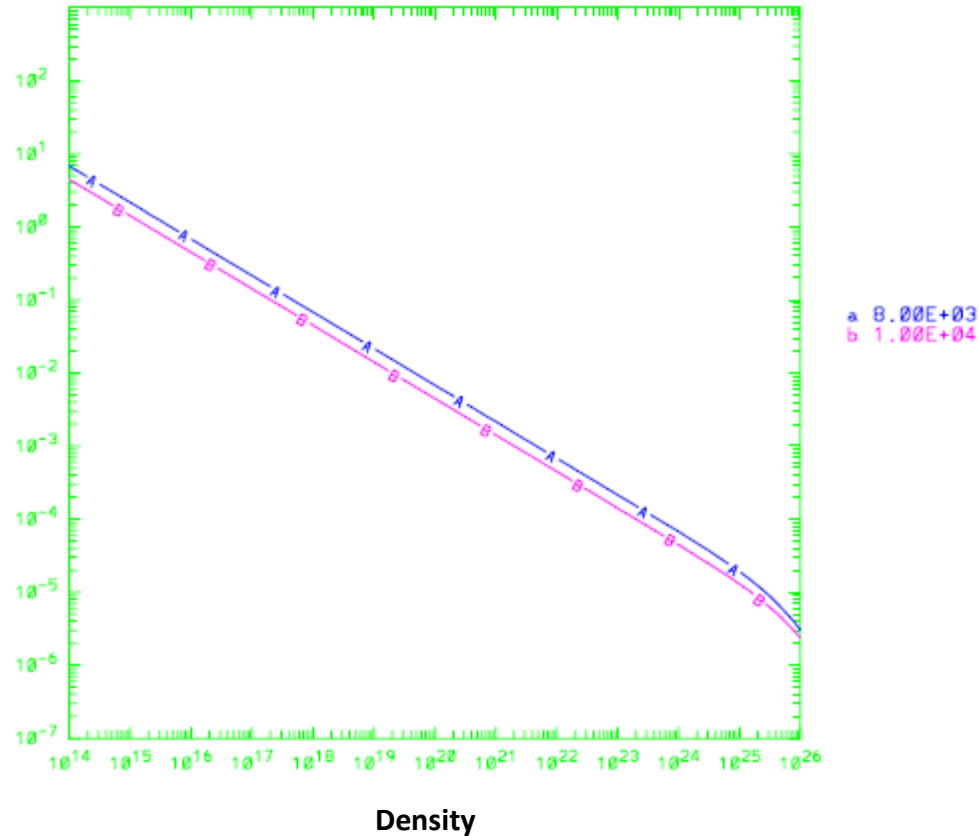


min. dim. vs. density with temp. as a parameter
abar= 2.500E+00 zo= 1.000E+00 mag. fld.= 5.000E+06 matl= 1 3
tc params= 1.750E+00
diffusion coefficient=5

Cylindrical Geometry

Minimum Mass vs. Density with temperature as a parameter

ARPAE1 01/26/14
Cyl. B_phi L/d=25 variants on Fig. 7. MTF Bohm minimum quantitie

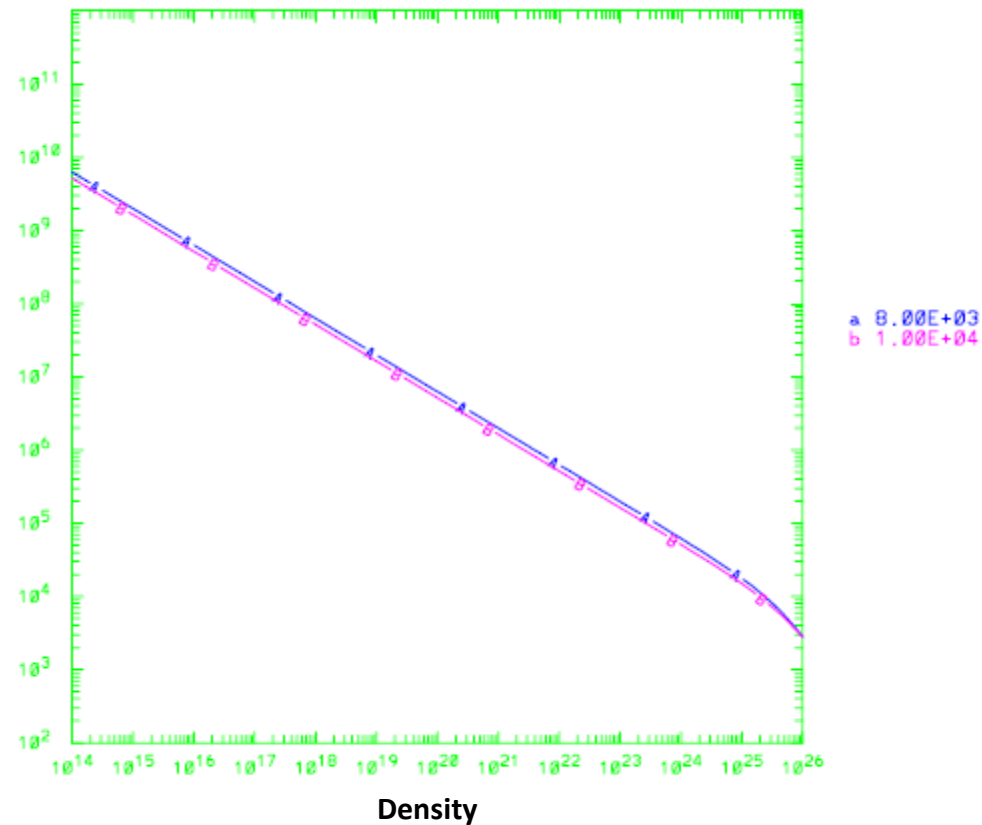


min. mass vs. density with temp. as a parameter
abar= 2.500E+00 zo= 1.000E+00 mag. fld.= 5.000E+06 matl= 1 3
tc params= 1.750E+00
diffusion coefficient=5

Cylindrical Geometry

Minimum Energy vs. Density with temperature as a parameter

ARPAE1 01/26/14
Cyl. B_phi L/d=25 variants on Fig. 7. MTF Bohm minimum quantitie

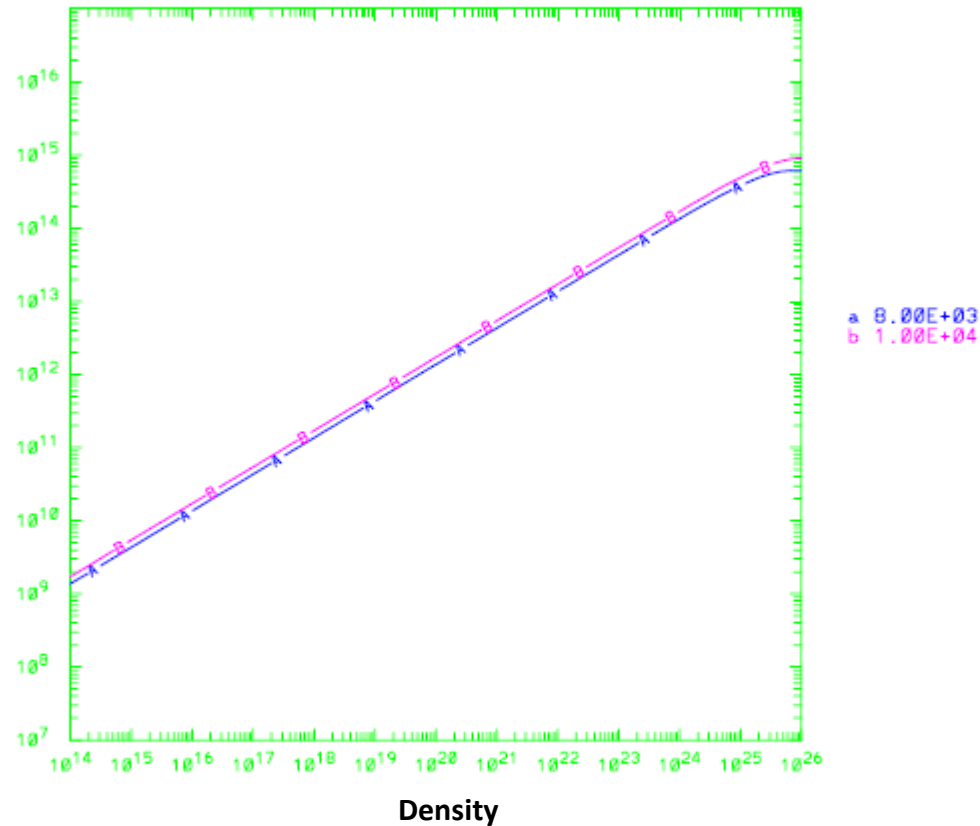


min. enrgy vs. density with temp. as a parameter
abar= 2.500E+00 zo= 1.000E+00 mag. fld.= 5.000E+06 matl= 1 3
tc params= 1.750E+00
diffusion coefficient=5

Cylindrical Geometry

Minimum Power vs. Density with temperature as a parameter

ARPAE1 01/26/14
Cyl. B_phi L/d=25 variants on Fig. 7. MTF Bohm minimum quantitie

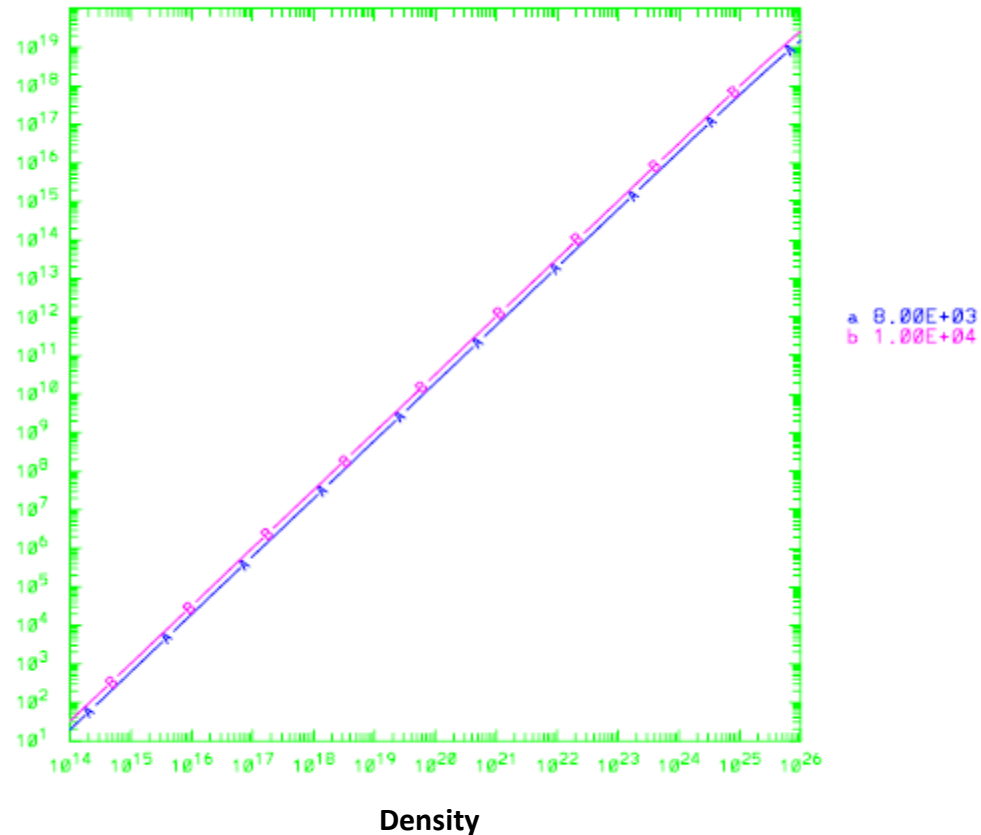


min. power vs. density with temp. as a parameter
abar= 2.500E+00 zo= 1.000E+00 mag. fld.= 5.000E+06 matl= 1 3
tc params= 1.750E+00
diffusion coefficient=5

Cylindrical Geometry

Minimum Intensity vs. Density with temperature as a parameter

ARPAE1 01/26/14
Cyl. B_phi L/d=25 variants on Fig. 7. MTF Bohm minimum quantitie

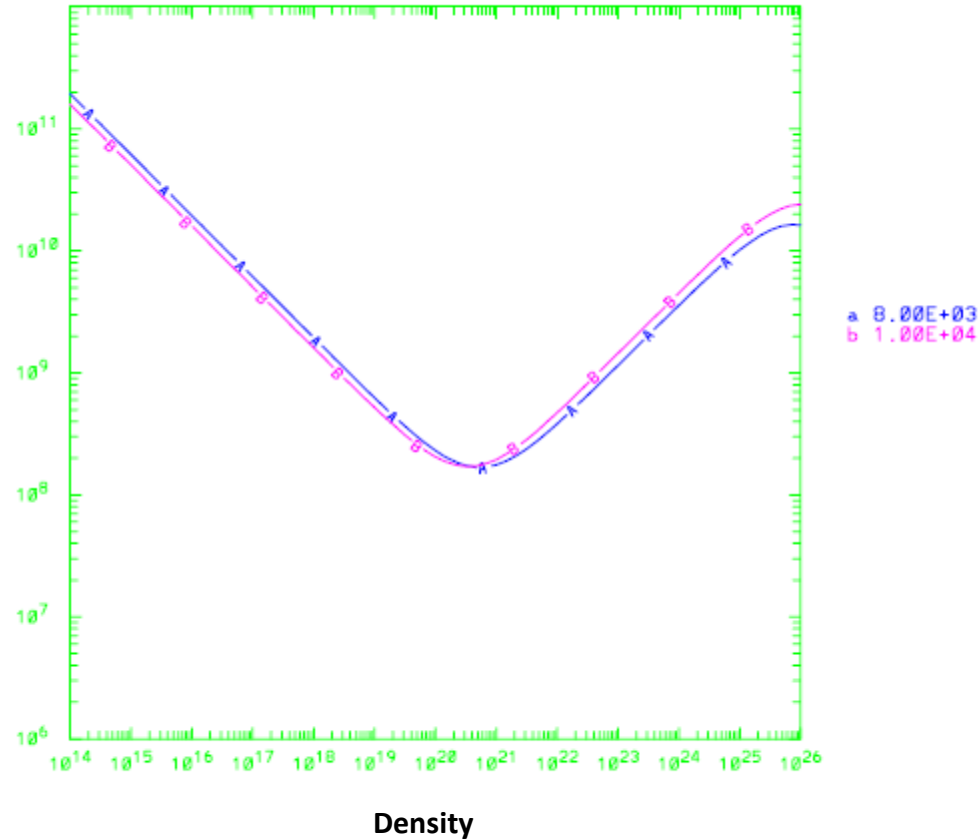


min. inten vs. density with temp. as a parameter
abar= 2.500E+00 zo= 1.000E+00 mag. fld.= 5.000E+06 matl= 1 3
tc params= 1.750E+00
diffusion coefficient=5

Cylindrical Geometry

Minimum Cost vs. Density with temperature as a parameter

ARPAE1 01/26/14
Cyl. B_phi L/d=25 variants on Fig. 7. MTF Bohm minimum quantitie

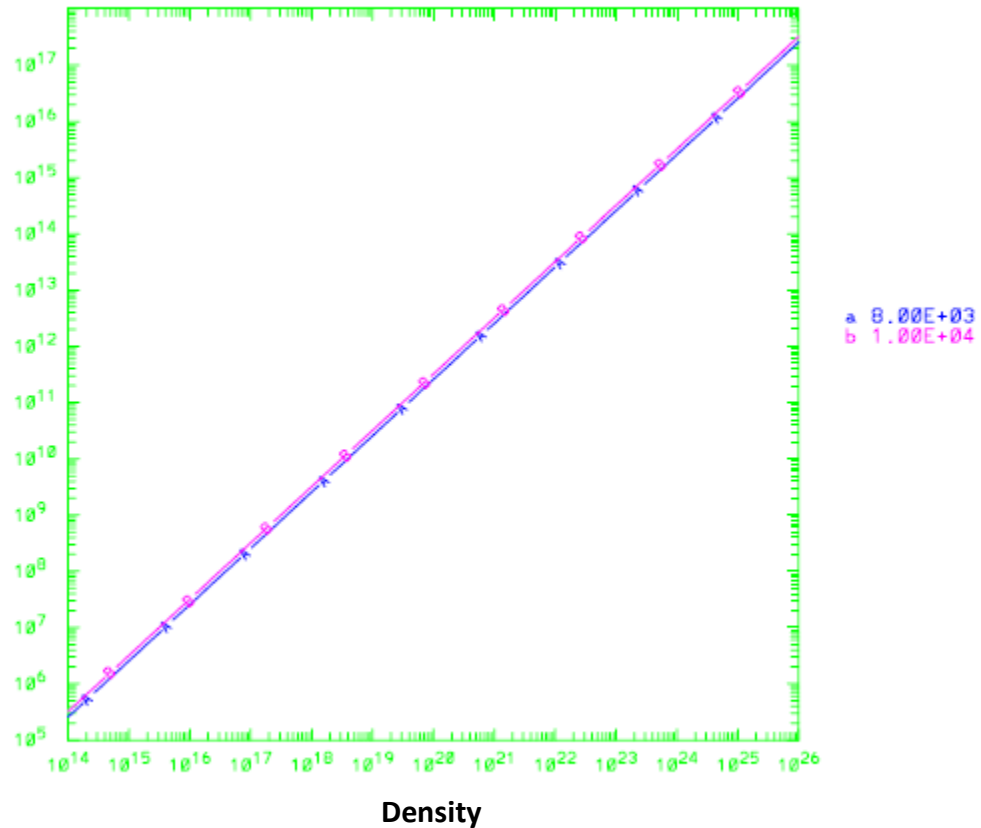


min. cost vs. density with temp. as a parameter
abar= 2.500E+00 zo= 1.000E+00 mag. fld.= 5.000E+06 matl= 1 3
tc params= 1.750E+00
diffusion coefficient=5

Cylindrical Geometry

Pressure vs. Density with temperature as a parameter

ARPAE1 01/26/14
Cyl. Bz L/d=3 variants on Fig. 7. MTF Bohm minimum quantities. B

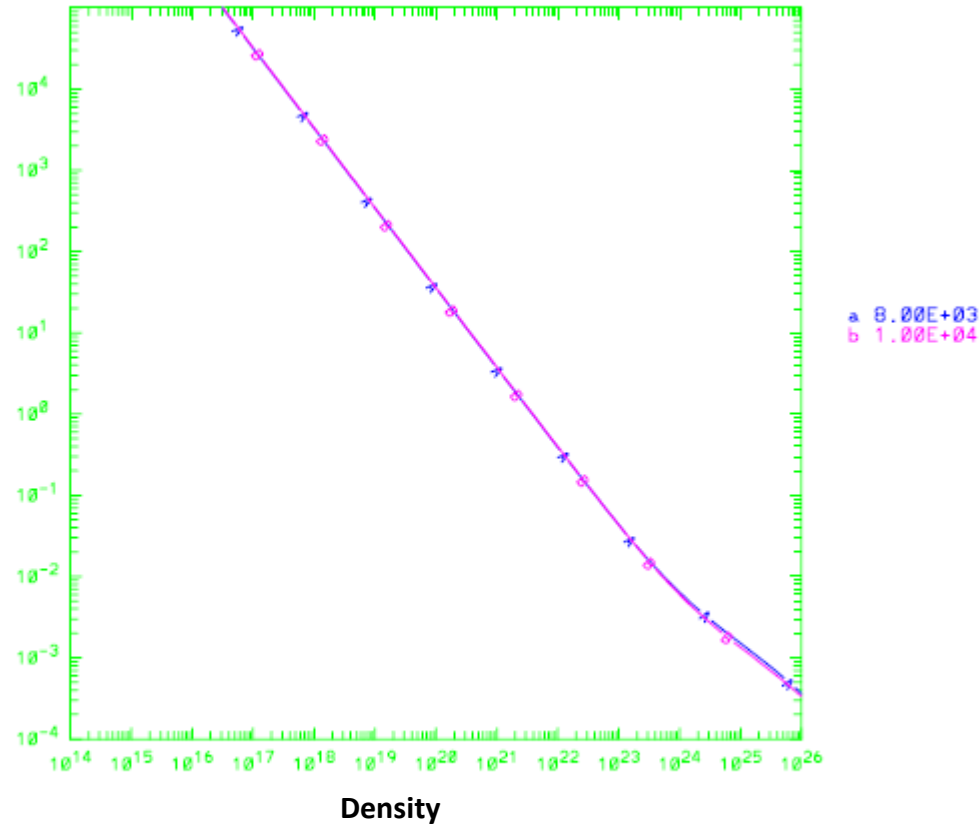


pressure vs. density with temp. as a parameter
abar= 2.500E+00 zo= 1.000E+00 mag. fld.= 5.000E+06 matl= 1 4
diffusion coefficient=5

Cylindrical Geometry

Minimum Dimension vs. Density with temperature as a parameter

ARPAE1 01/26/14
Cyl. Bz L/d=3 variants on Fig. 7. MTF Bohm minimum quantities. B

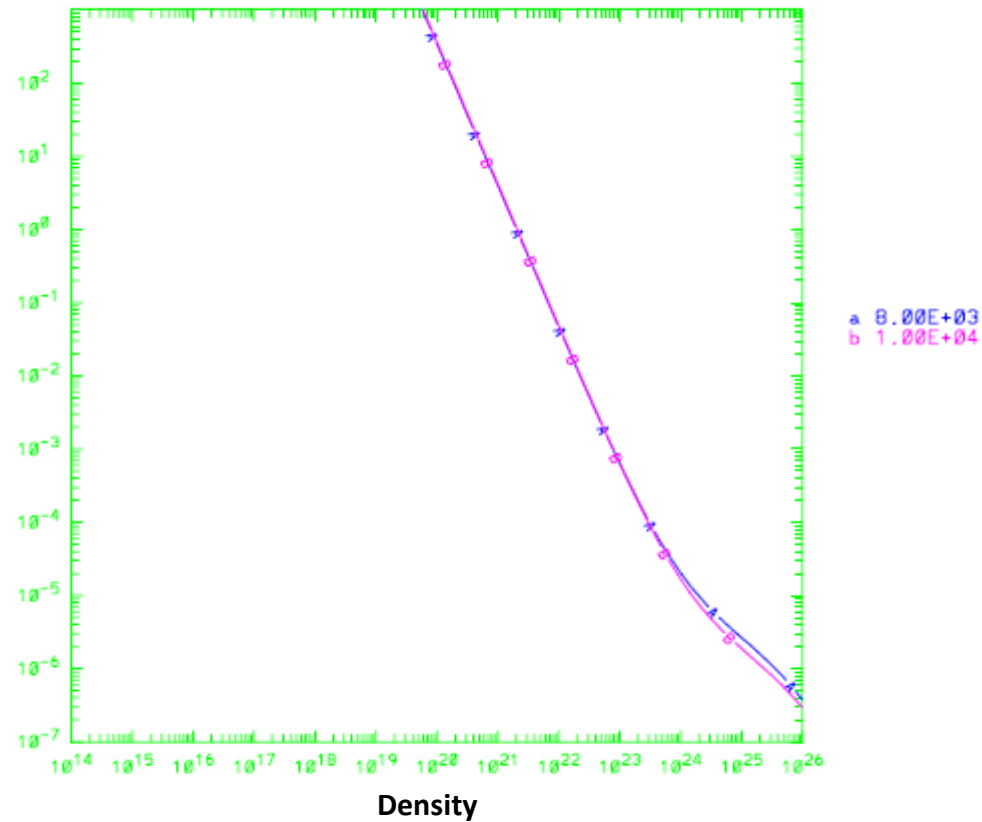


min. dim. vs. density with temp. as a parameter
abar= 2.500E+00 zo= 1.000E+00 mag. fld.= 5.000E+06 matl= 1 4
tc params= 1.750E+00
diffusion coefficient=5

Cylindrical Geometry

Minimum Mass vs. Density with temperature as a parameter

ARPAE1 01/26/14
Cyl. Bz L/d=3 variants on Fig. 7, MTF Bohm minimum quantities, B

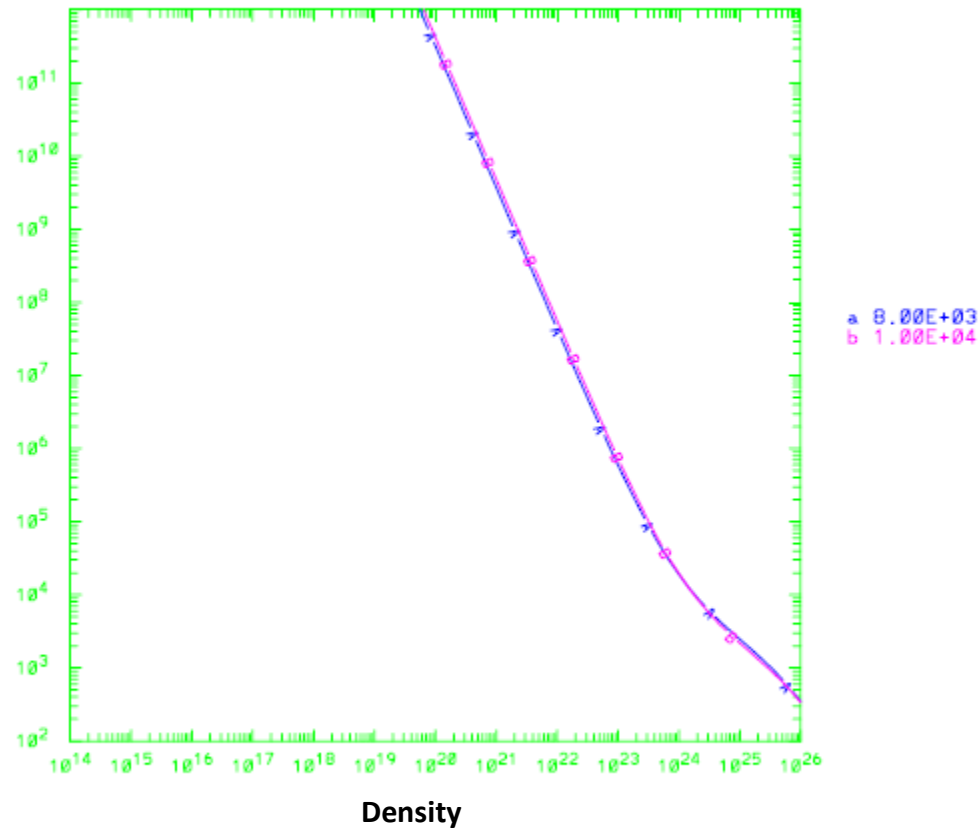


min. mass vs. density with temp. as a parameter
abar= 2.500E+00 zo= 1.000E+00 mag. fld.= 5.000E+06 matl= 1 4
tc params= 1.750E+00
diffusion coefficient=5

Cylindrical Geometry

Minimum Energy vs. Density with temperature as a parameter

ARPAE1 01/26/14
Cyl. Bz L/d=3 variants on Fig. 7, MTF Bohm minimum quantities, B

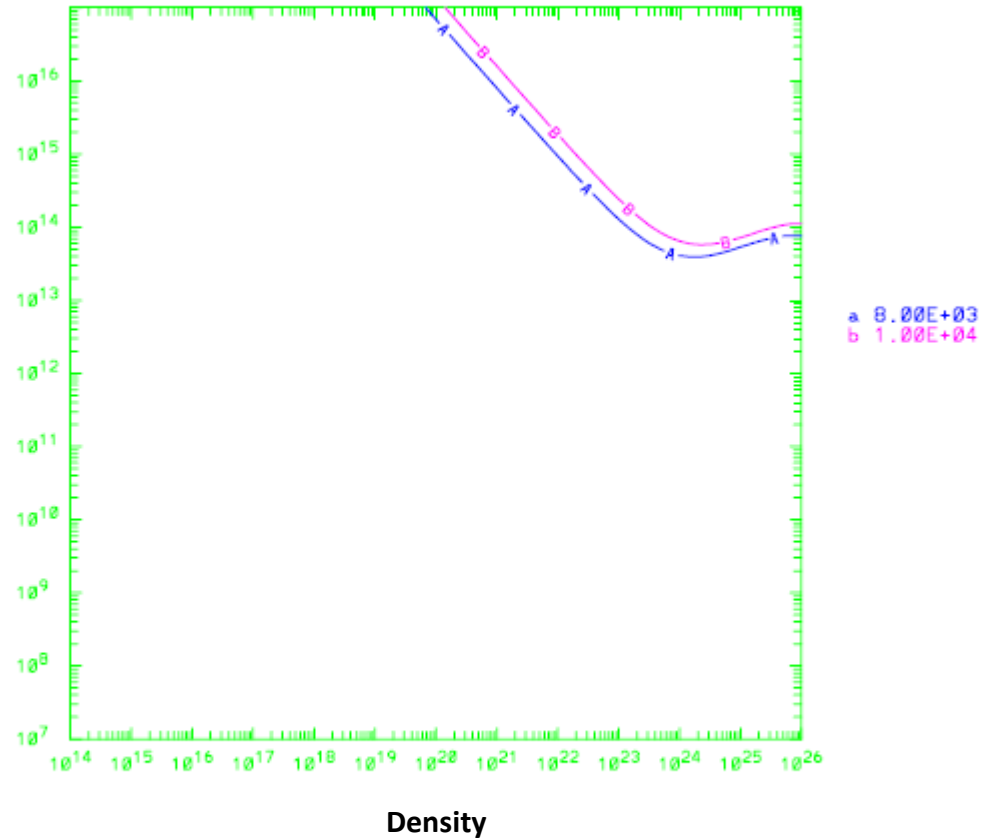


min. enrgy vs. density with temp. as a parameter
abar= 2.500E+00 zo= 1.000E+00 mag. fld.= 5.000E+06 matl= 1 4
tc params= 1.750E+00
diffusion coefficient=5

Cylindrical Geometry

Minimum Power vs. Density with temperature as a parameter

ARPAE1 01/26/14
Cyl. Bz L/d=3 variants on Fig. 7, MTF Bohm minimum quantities, B

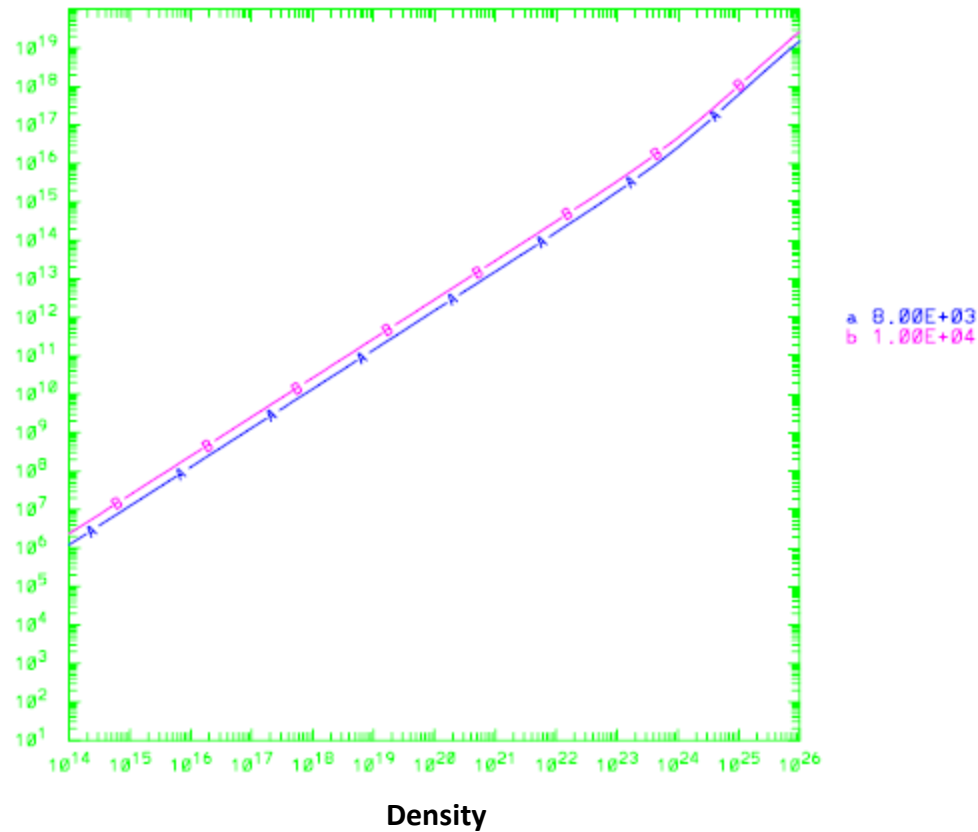


min. power vs. density with temp. as a parameter
abar= 2.500E+00 zo= 1.000E+00 mag. fld.= 5.000E+06 matl= 1 4
tc params= 1.750E+00
diffusion coefficient=5

Cylindrical Geometry

Minimum Intensity vs. Density with temperature as a parameter

ARPAE1 01/26/14
Cyl. Bz L/d=3 variants on Fig. 7. MTF Bohm minimum quantities. B

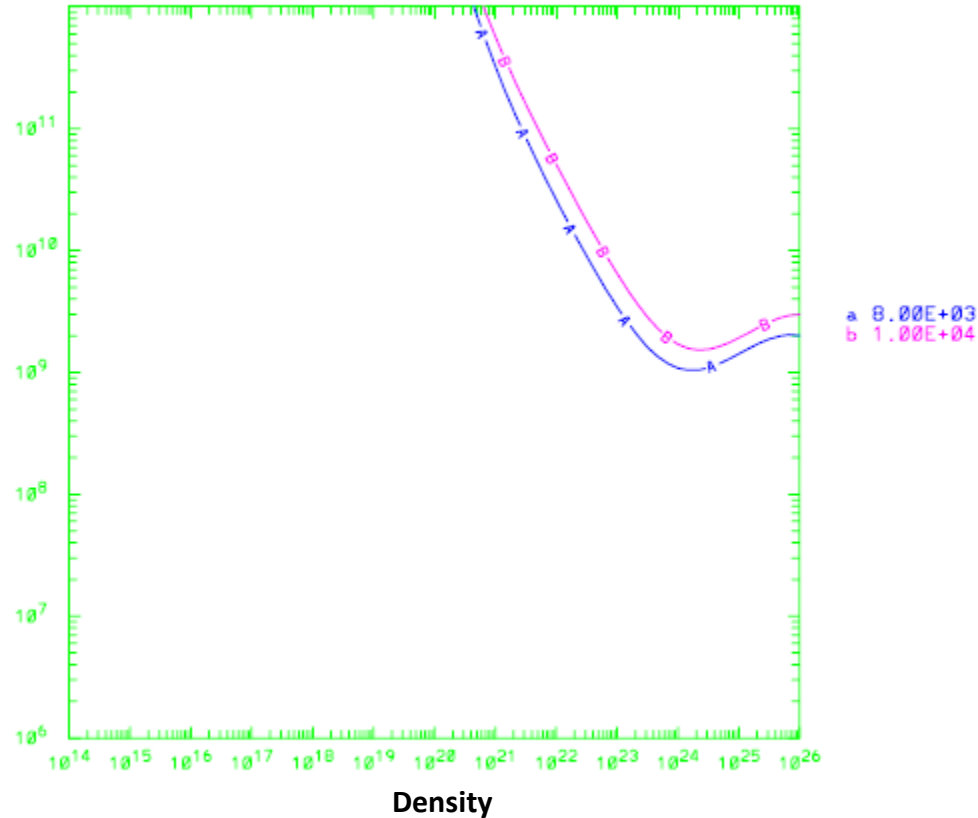


min. inten vs. density with temp. as a parameter
abarc= 2.500E+00 zo= 1.000E+00 mag. fld.= 5.000E+06 matl= 1 4
tc params= 1.750E+00
diffusion coefficient=5

Cylindrical Geometry

Minimum Cost vs. Density with temperature as a parameter

ARPAE1 01/26/14
Cyl. Bz L/d=3 variants on Fig. 7. MTF Bohm minimum quantities, B

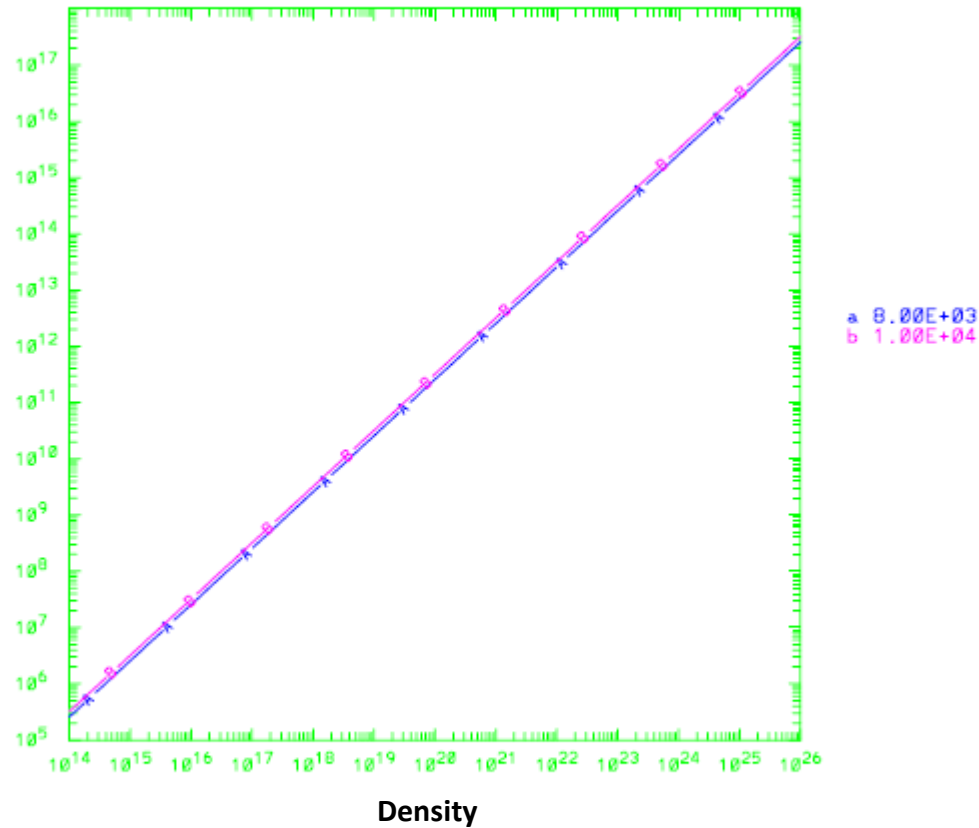


min. cost vs. density with temp. as a parameter
abar= 2.500E+00 zo= 1.000E+00 mag. fld.= 5.000E+06 matl= 1 4
tc params= 1.750E+00
diffusion coefficient=5

Cylindrical Geometry

Pressure vs. Density with temperature as a parameter

ARPAE1 01/26/14
Cyl. Bz L/d=25 variants on Fig. 7. MTF Bohm minimum quantities.

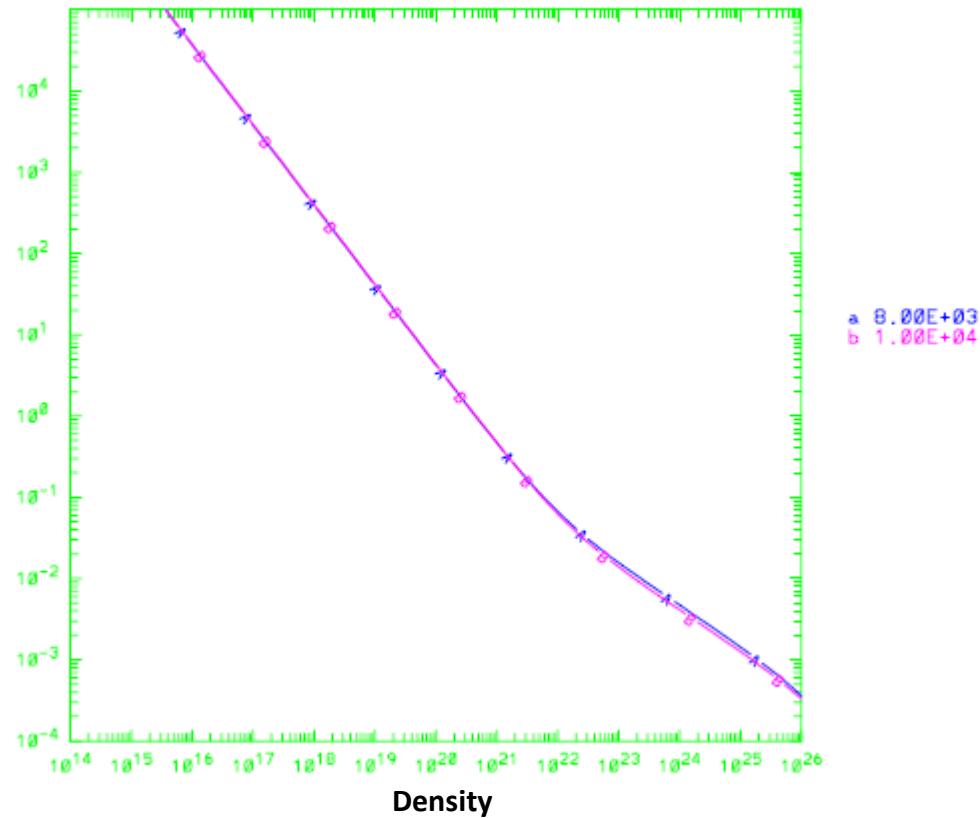


pressure vs. density with temp. as a parameter
abar= 2.500E+00 zo= 1.000E+00 mag. fld.= 5.000E+06 matl= 1 5
diffusion coefficient=5

Cylindrical Geometry

Minimum Dimension vs. Density with temperature as a parameter

ARPAE1 01/26/14
Cyl. Bz L/d=25 variants on Fig. 7. MTF Bohm minimum quantities.

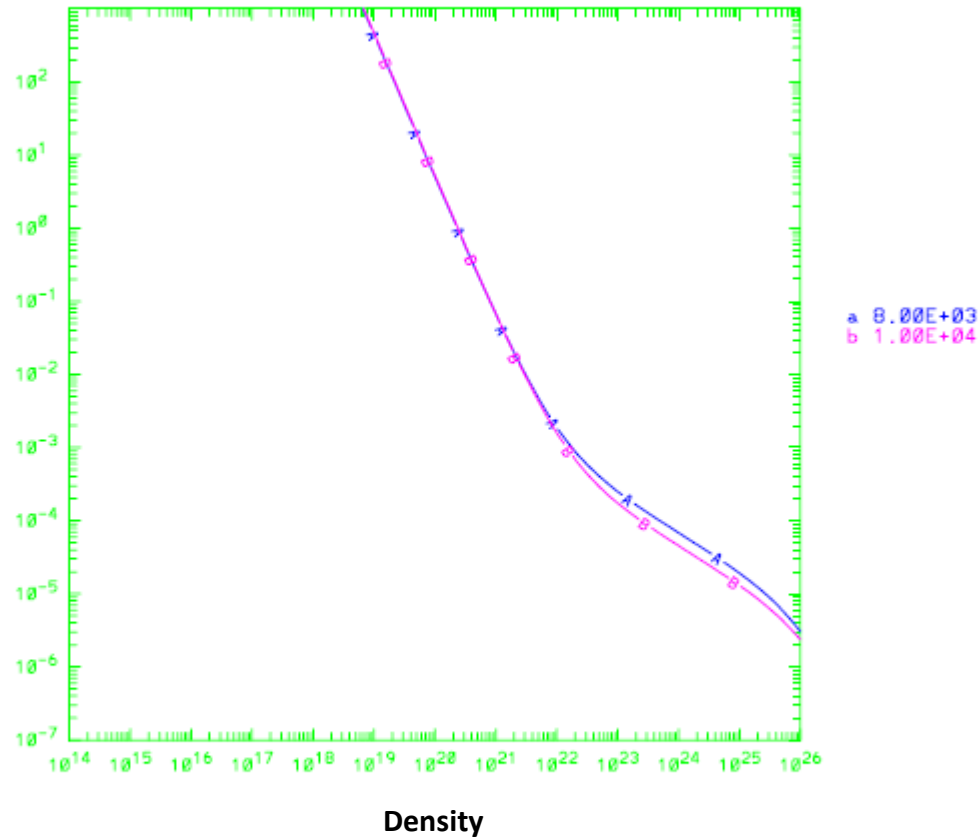


min. dim. vs. density with temp. as a parameter
abar= 2.500E+00 zo= 1.000E+00 mag. fld.= 5.000E+06 matl= 1 5
tc params= 1.750E+00
diffusion coefficient=5

Cylindrical Geometry

Minimum Mass vs. Density with temperature as a parameter

ARPAE1 01/26/14
Cyl. Bz L/d=25 variants on Fig. 7. MTF Bohm minimum quantities.

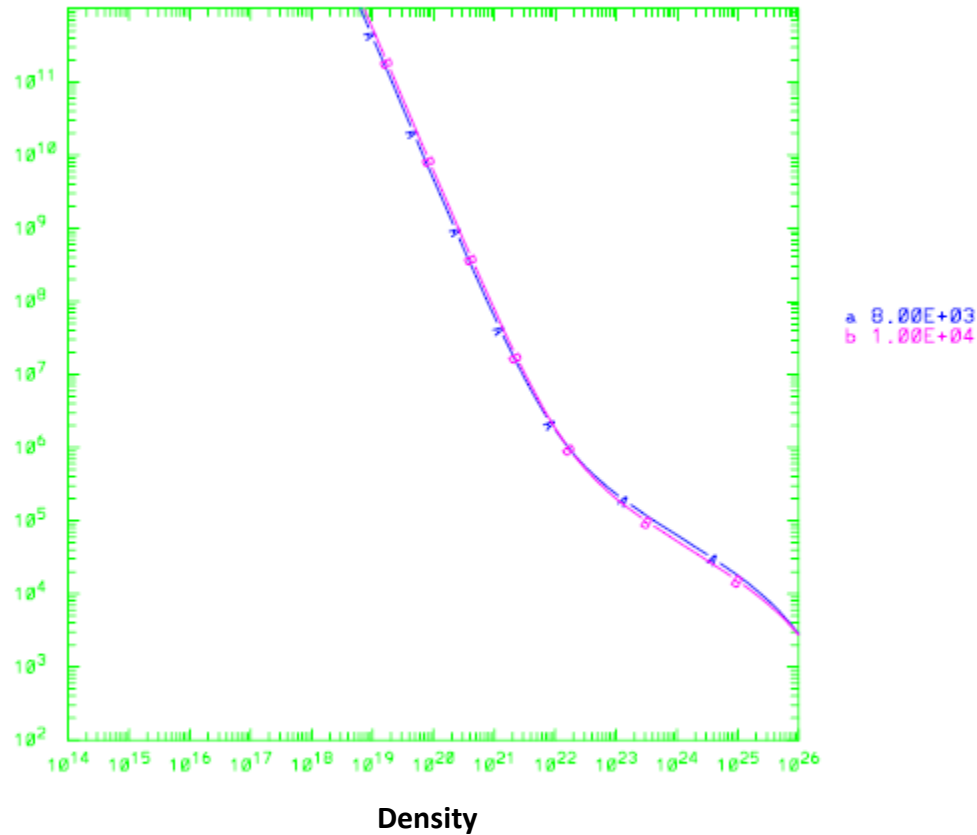


min. mass vs. density with temp. as a parameter
abar= 2.500E+00 zo= 1.000E+00 mag. fld.= 5.000E+06 matl= 1 5
tc params= 1.750E+00
diffusion coefficient=5

Cylindrical Geometry

Minimum Energy vs. Density with temperature as a parameter

ARPAE1 01/26/14
Cyl. Bz L/d=25 variants on Fig. 7, MTF Bohm minimum quantities.

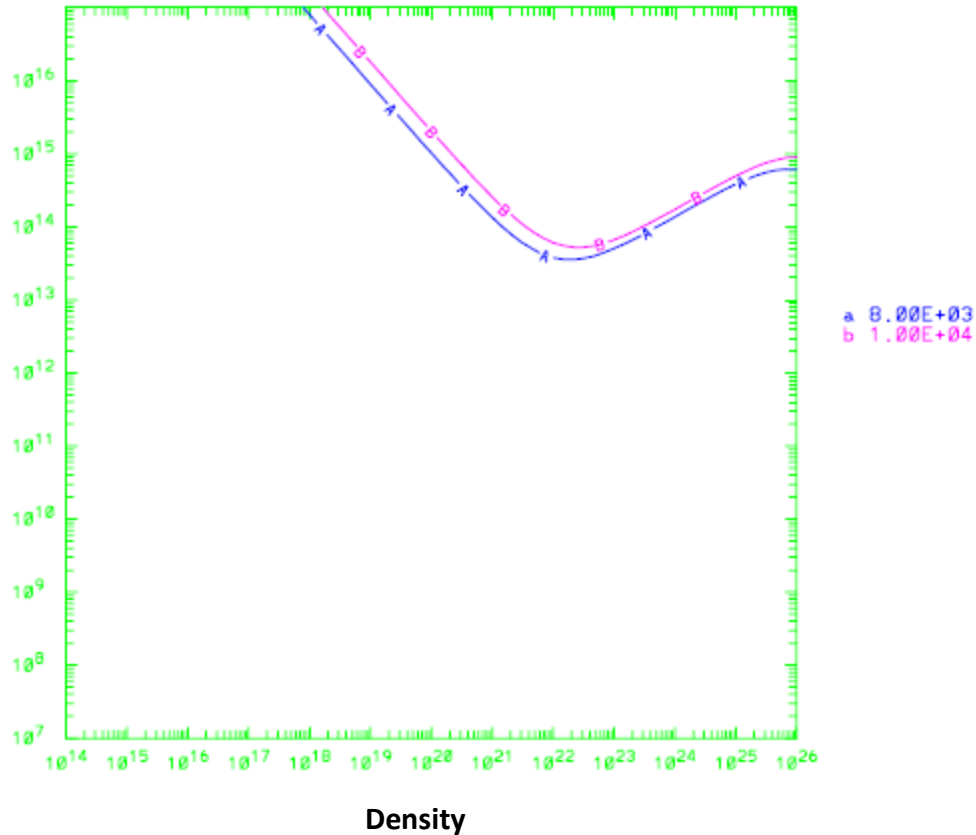


min. enrgy vs. density with temp. as a parameter
abar= 2.500E+00 zo= 1.000E+00 mag. fld.= 5.000E+06 matl= 1 5
tc params= 1.750E+00
diffusion coefficient=5

Cylindrical Geometry

Minimum Power vs. Density with temperature as a parameter

ARPAE1 01/26/14
Cyl. Bz L/d=25 variants on Fig. 7. MTF Bohm minimum quantities.

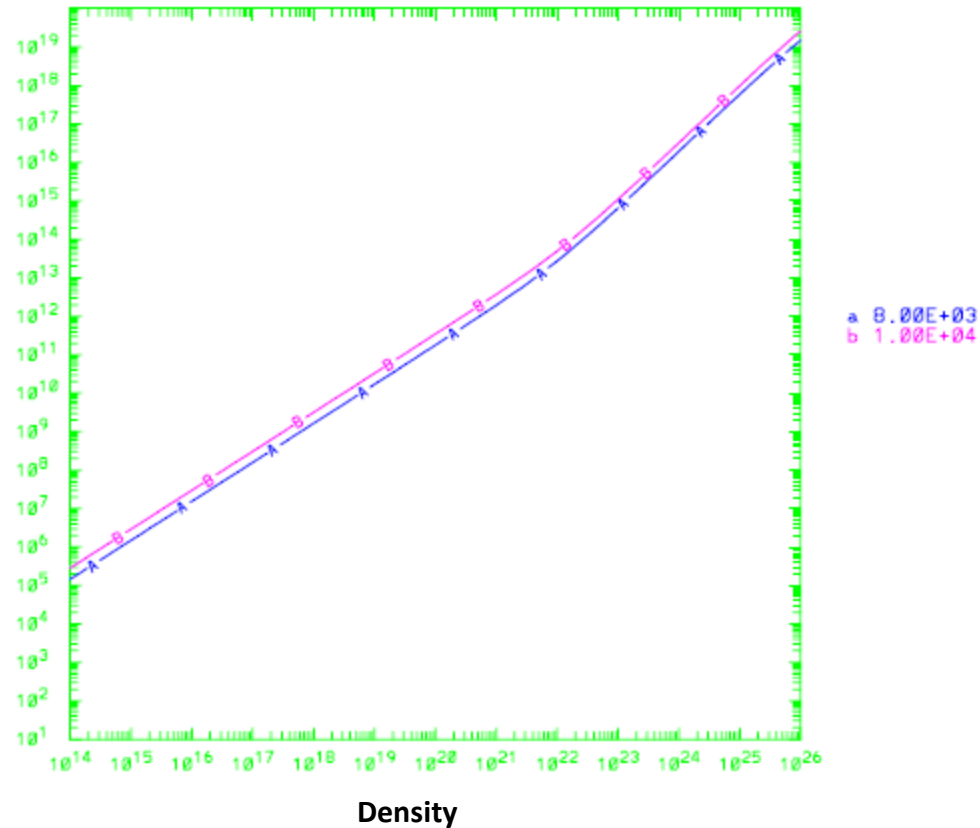


min. power vs. density with temp. as a parameter
abar= 2.500E+00 zo= 1.000E+00 mag. fld.= 5.000E+06 matl= 1 5
tc params= 1.750E+00
diffusion coefficient=5

Cylindrical Geometry

Minimum Intensity vs. Density with temperature as a parameter

ARPAE1 01/26/14
Cyl. Bz L/d=25 variants on Fig. 7. MTF Bohm minimum quantities.

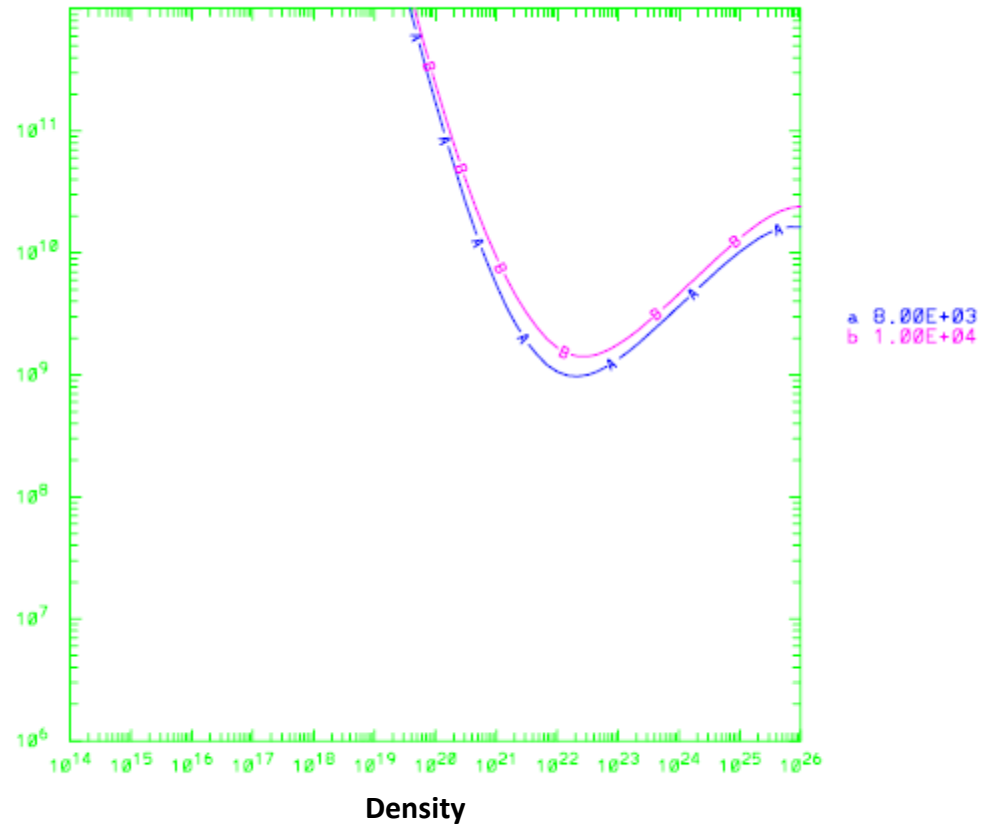


min. inten vs. density with temp. as a parameter
abar= 2.500E+00 zo= 1.000E+00 mag. fld.= 5.000E+06 matl= 1 5
tc params= 1.750E+00
diffusion coefficient=5

Cylindrical Geometry

Minimum Cost vs. Density with temperature as a parameter

ARPAE1 01/26/14
Cyl. Bz L/d=25 variants on Fig. 7. MTF Bohm minimum quantities.



min. cost vs. density with temp. as a parameter
abar= 2.500E+00 zo= 1.000E+00 mag. fld.= 5.000E+06 matl= 1 5
tc params= 1.750E+00
diffusion coefficient=5

Cylindrical Geometry

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3-
4-
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13-trplot=mnenergy,.1e2,1e12
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15-trplot=mnintens,.1e1,1e20
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63-trplot=mnpower,.1e7,1e17
64-trplot=mnintens,.1e1,1e20
65-trplot=mnmass,.1e-7,1e3
66-trplot=mdim,.1e-4,1e5
67-trplot=pr
68-
69-pmode=3
70-label=Cyl. Bz L/d=25 variants on Fig. 7, MTF Bohm minimum quantities, B=5 MG
71-neinput
72-p=8e3,10e3,1
73-x=1e14,1e26,6
74-tcparam=3e-4,4,0.25,25,5,1,0.2
75-fp=5e6
76-trplot=mncost,.1e6,1e12
77-trplot=mnenergy,.1e2,1e12
78-trplot=mnpower,.1e7,1e17
79-trplot=mnintens,.1e1,1e20
80-trplot=mnmass,.1e-7,1e3
81-trplot=mdim,.1e-4,1e5
82-trplot=pr
83-
```