

Poisson astral

This version: June 7, 2002 (incomplete and unfinished)

Solution de $\nabla^2\Phi = F(\Phi, h)$ par corrections $\Phi \rightarrow \Phi + \psi$, avec $\nabla^2\psi - A\psi = F - \nabla^2\Phi$, où $A = \partial F/\partial\Phi$. Ici, $A > 0$ (sauf peut-être dans la couche singulière).

Script V1.1 session started Fri Jun 07 11:35:17 2002

C:\dos\djgpp>poissona

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...
contents of poissona.d2          Phi1= 25.
      hb          Z  mass(p)  dens.(m -3) temp.(K)  c psi xi ze
1 1.4000E+06 ec  -1 5.4466E-04 2.6879E+10 3.5000E+03 1 1 1 0
2 1.4000E+06 O+  1 1.6000E+01 2.6000E+10 1.5000E+03 0 1 1 1
3 1.4000E+06 H+  1 1.0000E+00 8.8000E+08 3.0000E+03 1 1 1 0
4 1.4000E+06 ew  -1 5.4466E-04 6.0000E+06 1.0000E+06 1 0 0 1
5 1.4000E+06 p   1 1.0000E+00 4.8000E+06 7.0000E+06 1 0 0 1
test sum Zi ni = 0.
...
h critique= 23969600.2
fichier postscript? l=oui 0
calcul charge, read h, Phi stop si h<0 -1 1
calcul de Phi neutre en d'autres h: read h stop si<0 -1
Poisson: h0,hN,Npo? (stop si <=0)
2.3e7 2.4e7 50
h0= 23000000. hN= 24000000. Phi0= 21.661216PhiN= 10.9796532

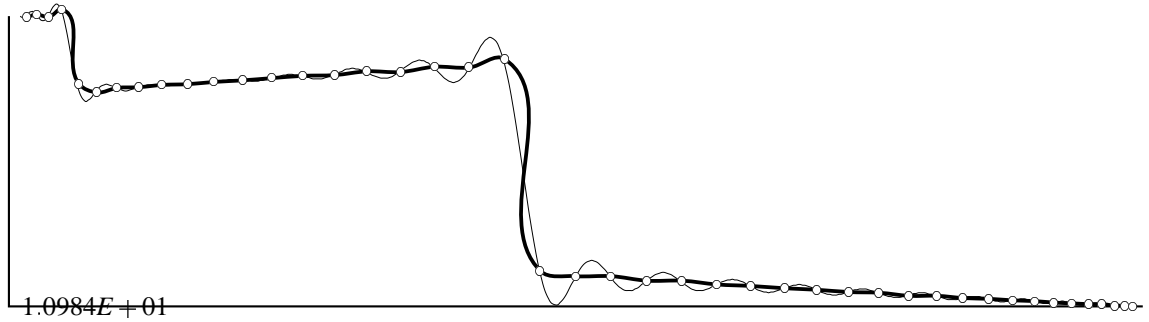
test Laplace: 2.99868673E-11
how many further iterations? 0=stop, relax<=1
50 0.1
1 Laplace: 0.00368087948 err: 0.00368087948
2 Laplace: 0.0164456423 err: 0.0164456423
3 Laplace: 0.0148873869 err: 0.0148873869
4 Laplace: 0.0134382397 err: 0.0134382397
5 Laplace: 0.0121229673 err: 0.0121229673
...
50 Laplace: 0.000109792032 err: 0.000109792032
how many further iterations? 0=stop, relax<=1 10 0.25
...
60 Laplace: 7.45361194E-06 err: 7.45361149E-06
how many further iterations? 0=stop, relax<=1 10 0.5
...
70 Laplace: 1.09952705E-08 err: 1.09952092E-08
how many further iterations? 0=stop, relax<=1 10 0.75
...
75 Laplace: 9.09956643E-09 err: 2.27658673E-11
76 Laplace: 9.10103015E-09 err: 3.52930857E-12
77 Laplace: 9.10065268E-09 err: 3.36433095E-12
78 Laplace: 9.10050257E-09 err: 2.67217823E-12
79 Laplace: 9.10178422E-09 err: 2.79434201E-12
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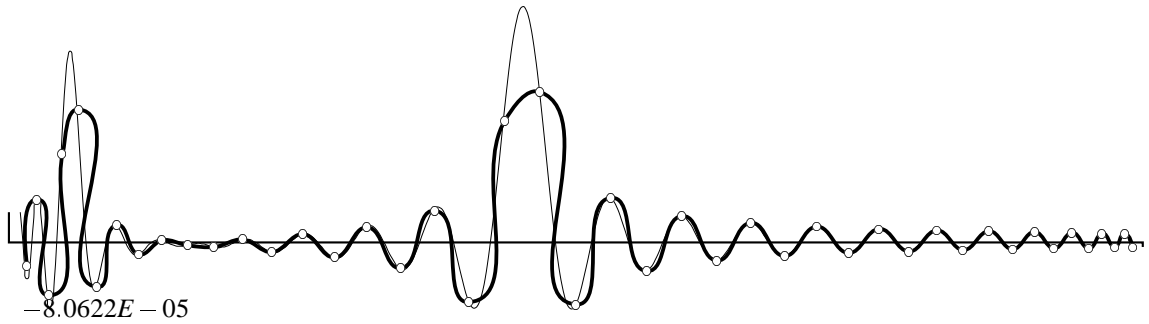
80 Laplace: 9.0994412E-09 err: 2.02220207E-12
how many further iterations? 0=stop, relax<=1 0 0
points du graphe? entre 10 et 500 500
min Phi = 10.9843693 max= 22.0548306
min -dPhi/dh = -8.06219832E-05 max= 0.000284904323
min Laplacien Phi = -2.82879675E-08 max= 2.16226681E-08

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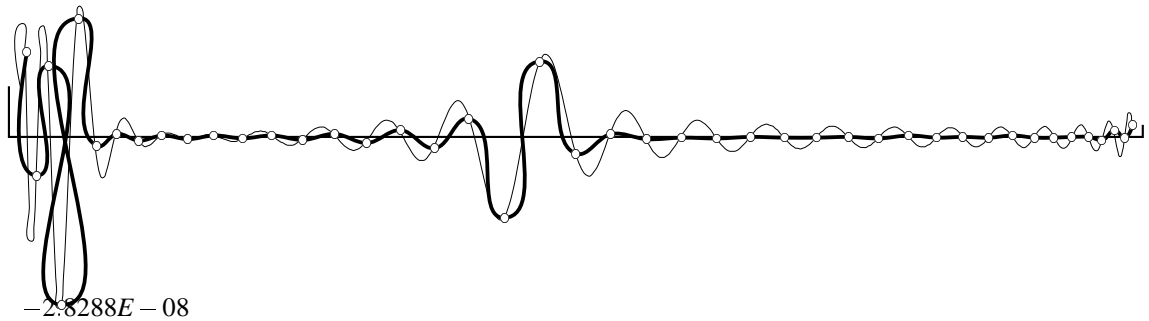
2.2055E + 01



2.8490E - 04



2.1623E - 08



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C:\dos\djgpp>exit
Script completed Fri Jun 07 11:36:45 2002

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