Thu Jun 11 10:10:43 2015
Warp
Origin date: Fri, 19 Dec 2014 16:36:57 −0800
Local date: Fri, 19 Dec 2014 16:36:57 −0800
Commit hash: 1034220
/usr/lib64/python2.7/site−packages/warp/warp.pyc
/usr/lib64/python2.7/site−packages/warp/warpC.so
Thu Jun 11 10:10:43 2015

ESQ model

Arun Persaud (apersaud@lbl.gov), Thu Jun 11 10:10:43 2015 esq.005

Atomic number of ion = 1.3129e+02
Charge state of ion = 1.0000e+00
Initial X, Y emittances = 0.0000e+00, 0.0000e+00 m−rad
Initial X,Y envelope radii = 2.5000e−05, 2.5000e−05 m
Initial X,Y envelope angles = 0.0000e+00, 0.0000e+00 rad
Input beam current = −2.0000e−05 amps
Current density = 1.0186e+04 amps/m**2
Charge density = 5.9410e−02 Coul/m**3
Number density = 3.7081e+17
Plasma frequency = 7.0221e+07 1/s
times dt = 7.0221e−04
times quad period = 0.0000e+00
Plasma period = 8.9478e−08 s
X−, Y−Thermal Velocities = 0.0000e+00, 0.0000e+00 m/s
times dt = 0.0000e+00, 0.0000e+00 m
times dt/dx, dt/dy (X, Y) = 0.0000e+00, 0.0000e+00
X−, Y−Debye Wavelengths = 0.0000e+00, 0.0000e+00 m
over dx, dy (X and Y) = 0.0000e+00, 0.0000e+00
Longitudinal thermal velocity (rms) = 0.0000e+00 m/s
times dt = 0.0000e+00 m
times dt/dz = 0.0000e+00
Longitudinal Debye wavelength = 0.0000e+00 m
over dz = 0.0000e+00

Step 0, T = 0.0000e+0 s, Zbeam = 0.0000e+0 m

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Beam velocity = 1.7145e+05 m/s
over c = 5.7190e−04
Kinetic energy = 2.0000e+04 eV
Weight of simulation particles = 4.1610e+00
Number of simulation particles = 300
Number of real particles = 1.2483e+03
Total mass = 2.7215e−22 kg
Total charge = 2.0000e−16 Coul
Generalized perveance = 5.2421e−05
Characteristic current = 4.0794e+09 amps
Budker parameter = 8.5725e−12
Timestep size dt = 1.0000e−11 s
Tune length = 0.0000e+00
Undep. X−, Y−Betatron frequencies = 6.2832e+36, 6.2832e+36 1/s
Undep. X−, Y−Betatron periods = 0.0000e+00, 0.0000e+00 s
Undep. X−, Y−Betatron wavelengths = 0.0000e+00, 0.0000e+00 m
Dep. X−, Y−Betatron frequencies = 6.2832e+36, 6.2832e+36 1/s
Dep. X−, Y−Betatron periods = 0.0000e+00, 0.0000e+00 s
Dep. X−, Y−Betatron wavelengths = 0.0000e+00, 0.0000e+00 m
X−, Y−Tune Depressions (sigma/sigma0) = 0.0000e+00, 0.0000e+00
Space charge wave velocity = 2.6159e+03 m/s
Effective wall radius = 2.1213e−03 m
Geometric factor = 8.8818e+00
X−, Y−Emittance over Space charge forces = 0.0000e+00, 0.0000e+00

Step 0, T = 0.0000e+0 s, Zbeam = 0.0000e+0 m

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Particle distribution = none
Number of grid points in x = 100
Number of grid points in y = 100
Number of grid points in z = 100
Grid spacing in x = 3.0000e−05 m
Grid spacing in y = 1.5000e−05 m
Grid spacing in z = 1.0000e−04 m
Grid extends in x from −1.5000e−03 to 1.5000e−03 m
Grid extends in y from 0.0000e+00 to 1.5000e−03 m
Grid extends in z from 0.0000e+00 to 1.0000e−02 m
Two fold symmetry
Geometry is 3−D

Step 0, T = 0.0000e+0 s, Zbeam = 0.0000e+0 m

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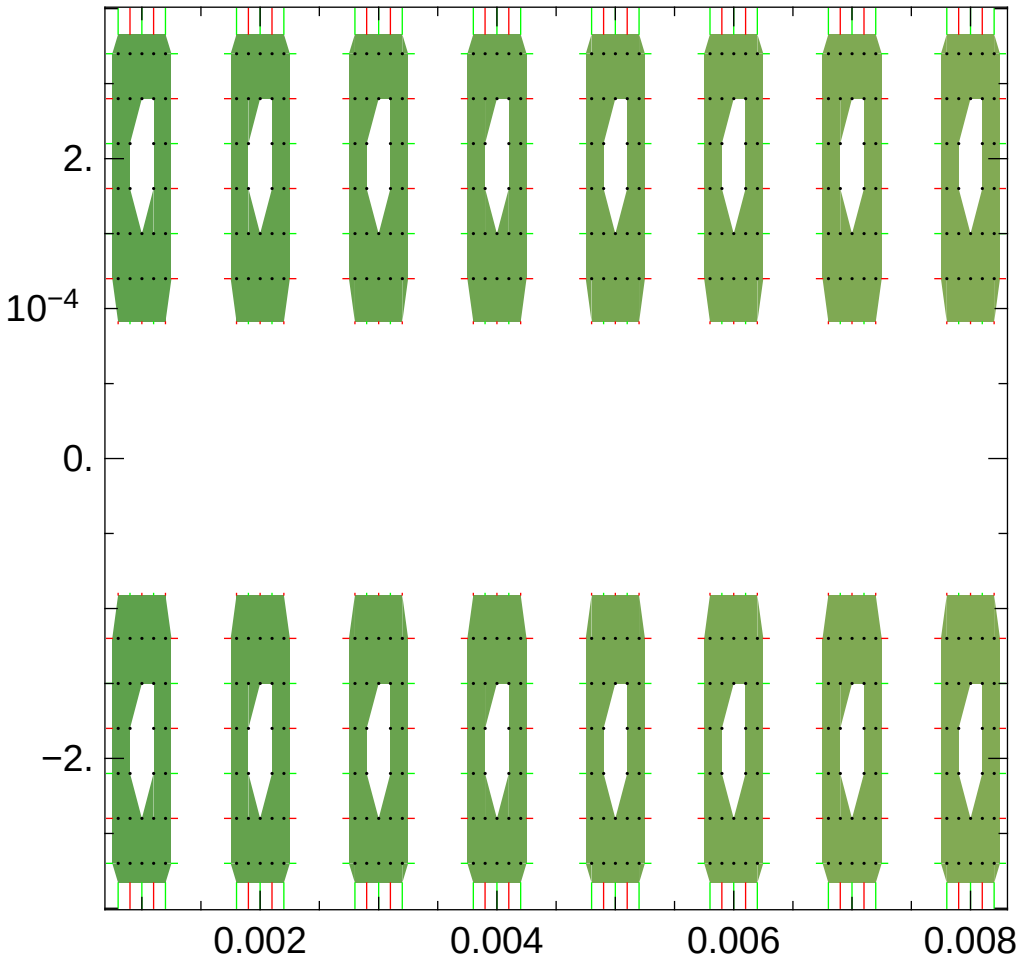

Step 0, T = 0.0000e+0 s, Zbeam = 0.0000e+0 m

ESQ model

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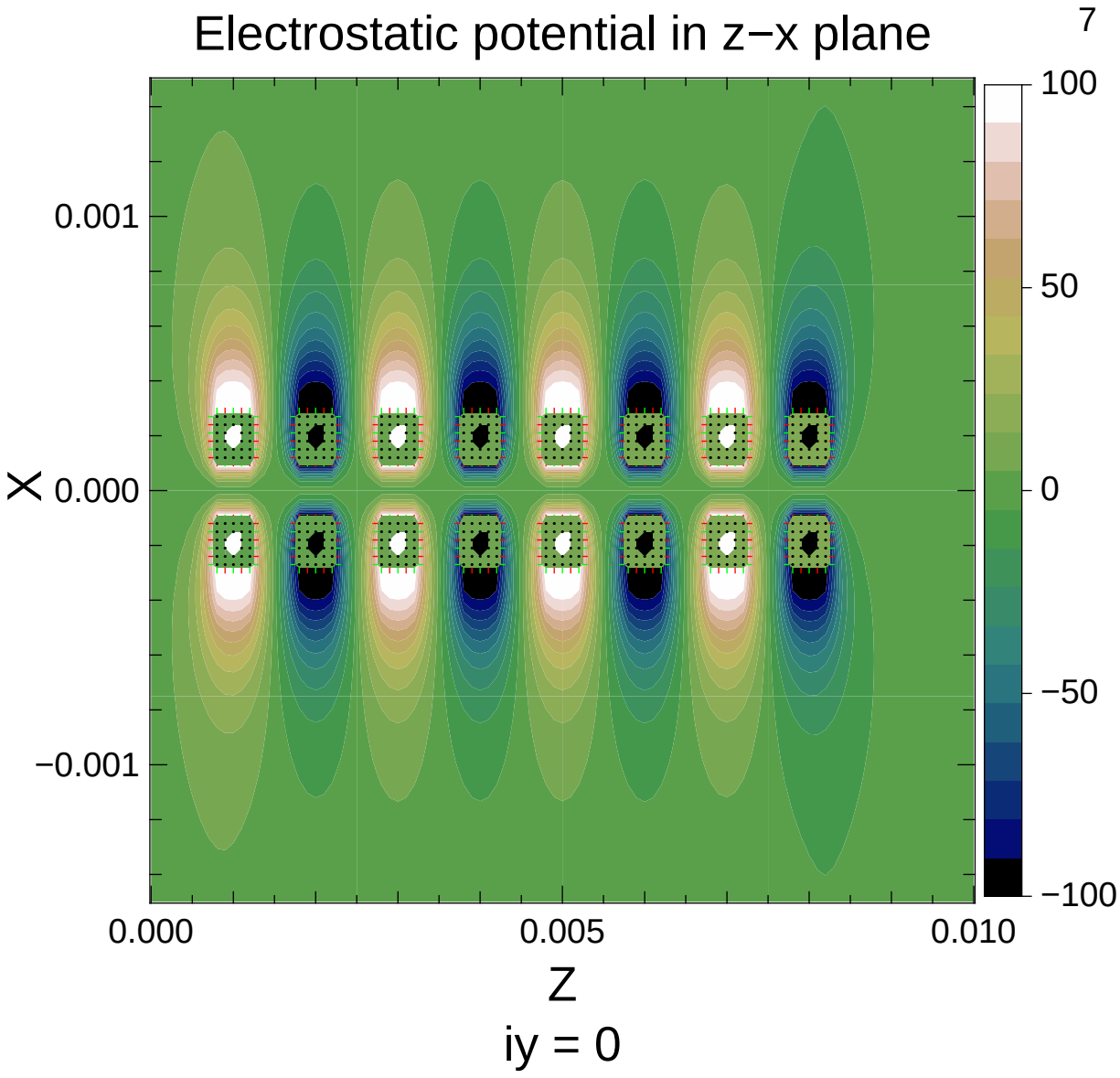

Step 0, T = 0.0000e+0 s, Zbeam = 0.0000e+0 m

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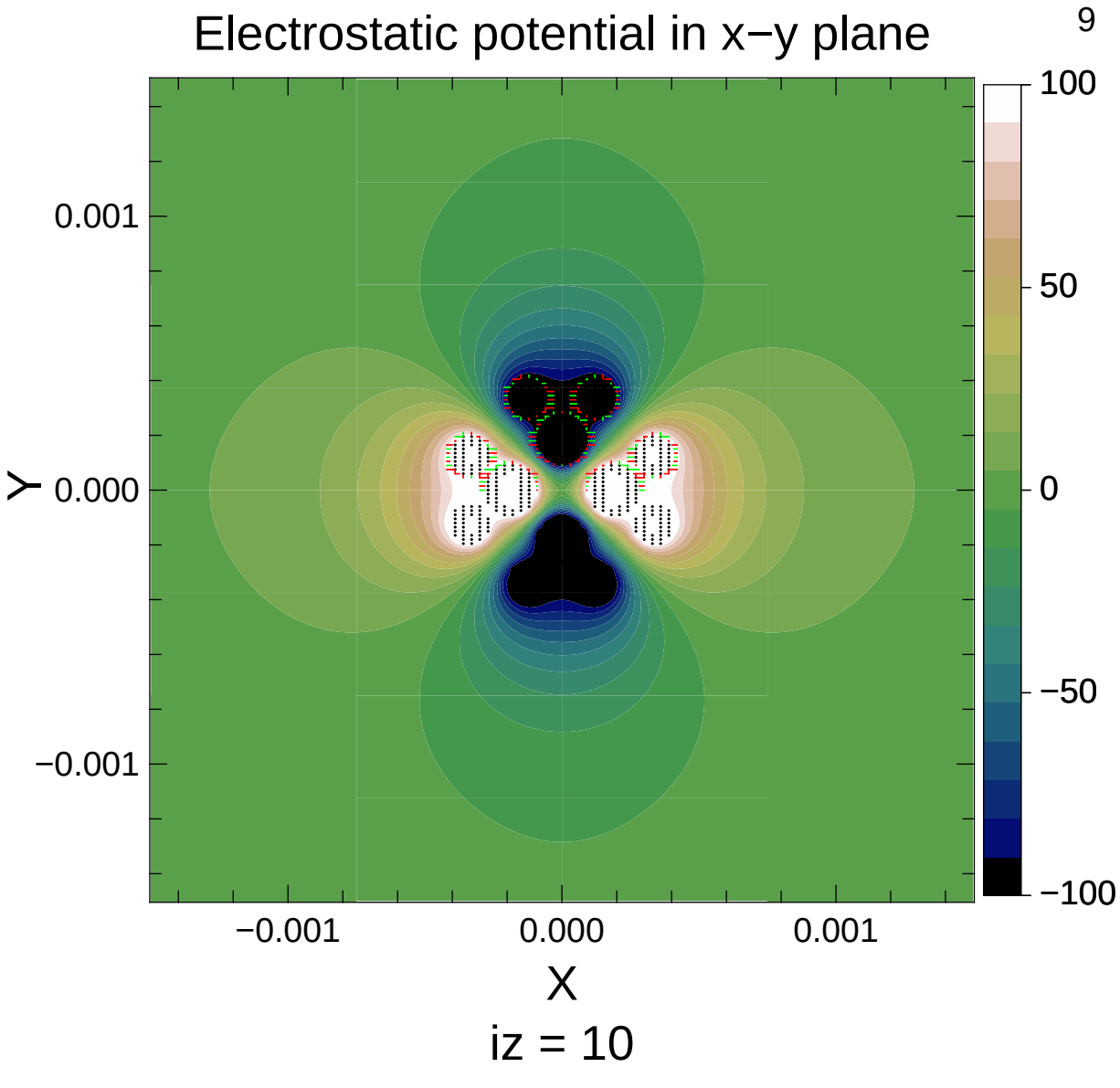

Step 1, T = 2.0500e−9 s, Zbeam = 0.0000e+0 m

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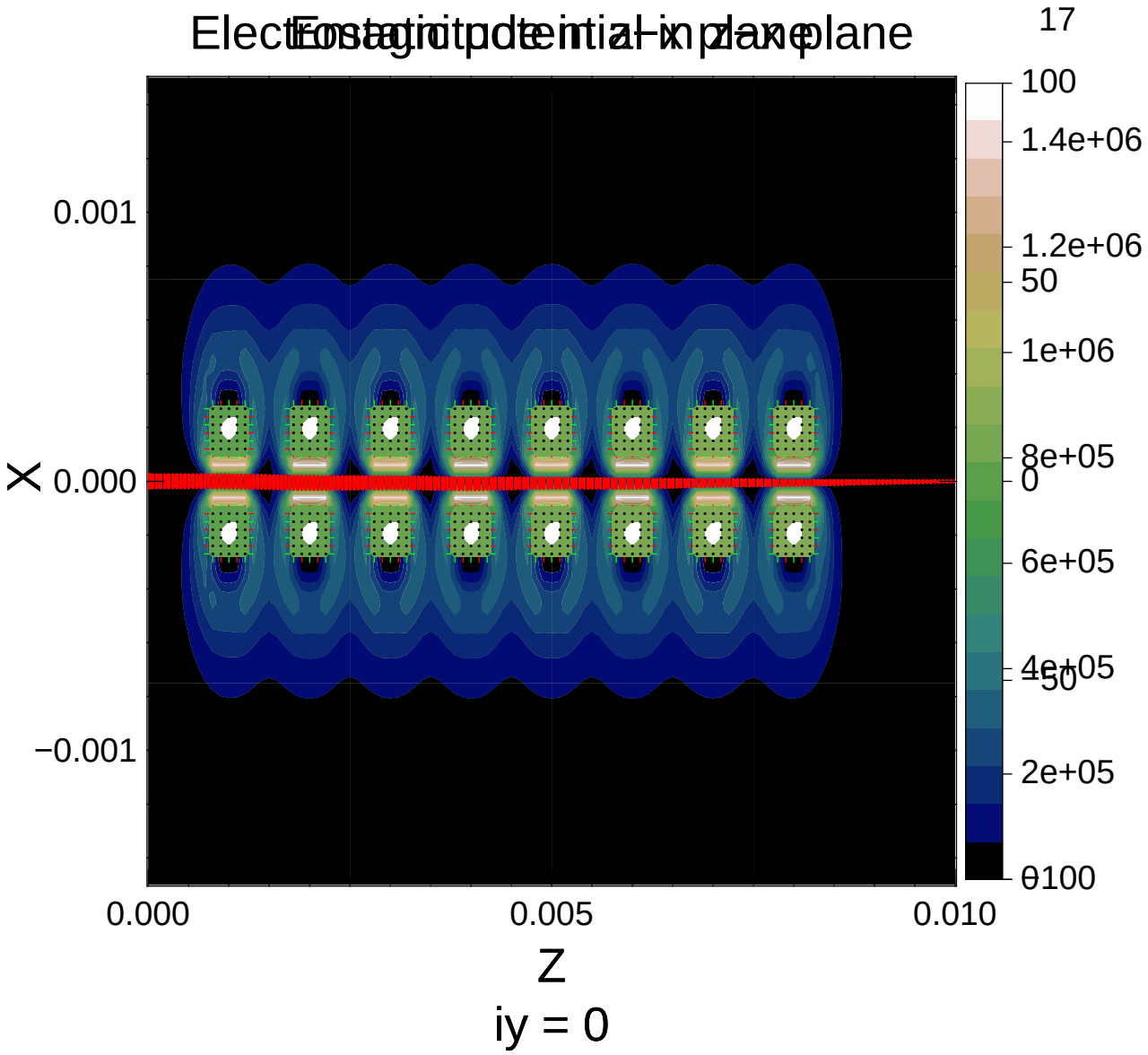

Step 9, T = 2.0500e−9 s, Zbeam = 0.0000e+0 m

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