Example: Mirror charge correction for a non-planar cathode

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In case of a non-planar cathode the mirror charge contribution needs to be corrected, see the manual chapter 4.4.5 and 6.6 for details.
An example application is published in:

> V. Vlokov, K. Floettmann, D. Janssen, 'Superconducting RF Gun Cavities for large Bunch Charges' PAC 2007.
> http://accelconf.web.cern.ch/AccelConf/p07/PAPERS/FRPMN063.PDF

The example contains a contour data file, use fieldplot to look at the cathode contour. Also the cavity field on the cathode surface can be displayed in fieldplot. Note that the field description needs special care when 3D maps are employed, since the grid does not follow the cathode contour and the interpolation will not produce the correct field on the cathode surface. The grid cells in Astra form a rectangular grid and will extend beyond the cathode. The field values have to be manipulated such, that the interpolation yields the correct values on the cathode surface.
Also the particle distribution needs to be adapted to the curved cathode contour. Generator provides the option "R_cathode" which is sufficient for a contour with constant radius of curvature (chapter 7.5.2).