

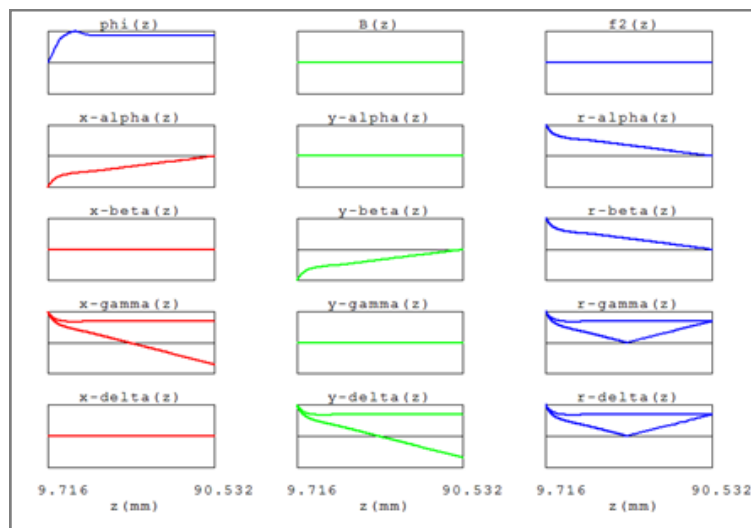
MIRROR

Electron mirrors



The stand alone MIRROR software package is used for simulating the optical properties of electron mirrors, including the generation of aberration coefficients up to 5th-order, using the differential algebra method. The software handles electron mirrors containing any combination of rotationally symmetric fields. The software can handle combinations of electron mirrors and electron lenses.

MIRROR requires the SOFEM Field package.



Plots showing fields and paraxial rays in a mirror system

MIRROR is based on the MEBS software package MIRROR-IMAGE. It uses a lot of the fundamental ideas as MIRROR-IMAGE, including representation of the fields by Hermite series and direct ray-tracing using a fifth-order Runge-Kutta method with adaptive step size, but also introduces some new principles to compute the aberration coefficients. The data format for MIRROR is very similar to that used in MIRROR-IMAGE, so the same data can be used to compute the aberration coefficients (using MIRROR) and the overall spot size, including aberrations and coulomb interactions (using MIRROR-IMAGE).

The MIRROR package includes a main program for computing optical properties in the mirror by differential algebra method, and a post-processing program for plotting spot diagrams of the aberrations at the mirror screen plane .