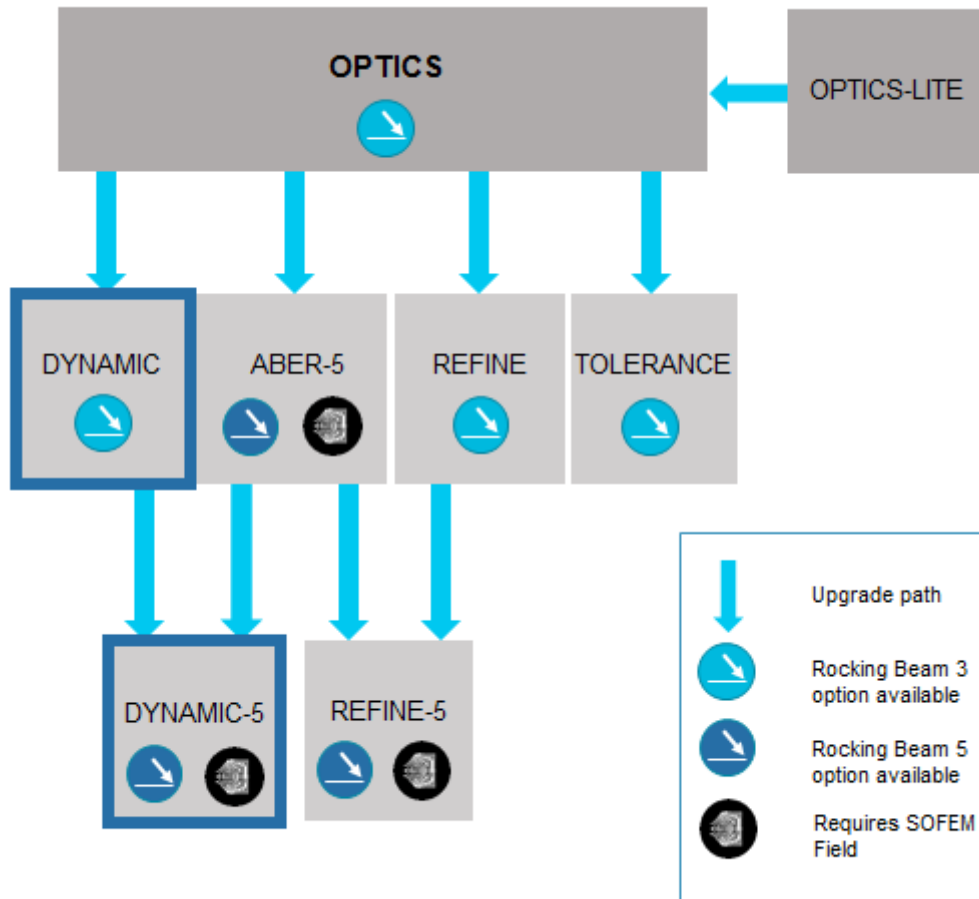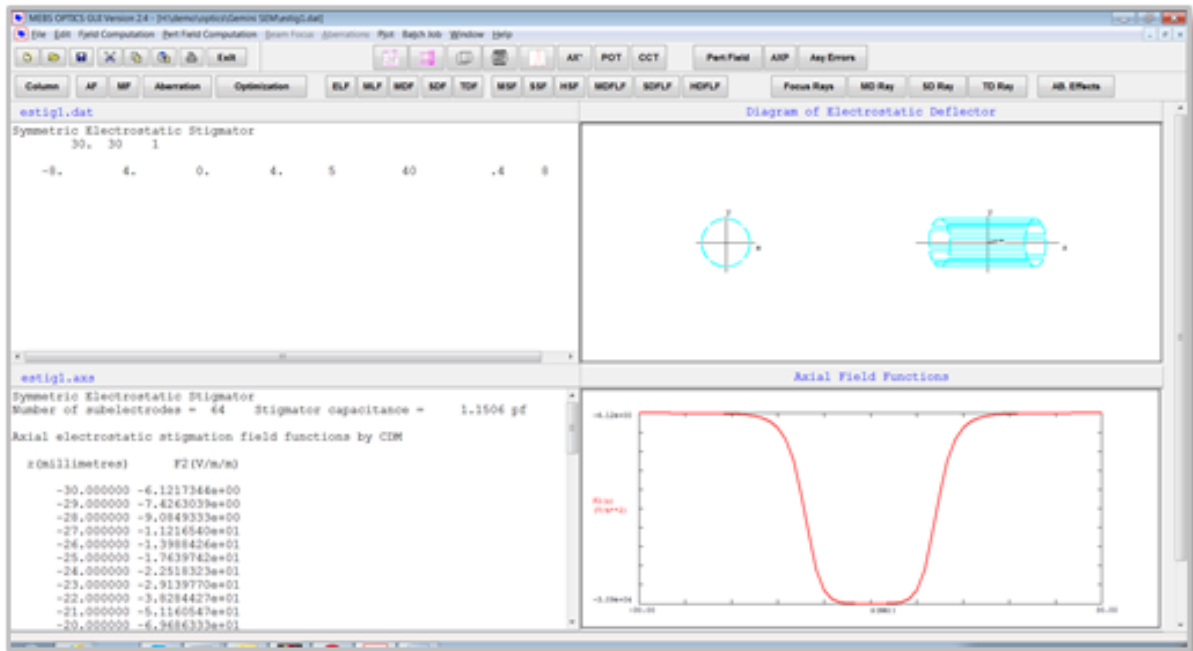# DYNAMIC & DYNAMIC-5
Dynamic correction elements design

Overview

The DYNAMIC and DYNAMIC-5 modules are optional upgrades to the OPTICS software package. They are used for the analysis of electrostatic and magnetic stigmators and dynamic focus lenses within the main OPTICS environment.

These modules compute the fields in the stigmators and dynamic focus lenses, and the optical properties computation takes into account the presence of these dynamic correction elements in the complete column. The field functions of the stigmators and dynamic focus lenses are used to compute the required strengths to correct the deflection astigmatism and field curvature, respectively. The DYNAMIC and DYNAMIC-5 modules then compute and output the dynamic correction coefficients for the stigmators and dynamic focus lenses in the systems. Once the dynamic corrections have been applied, the software computes the residual aberrations
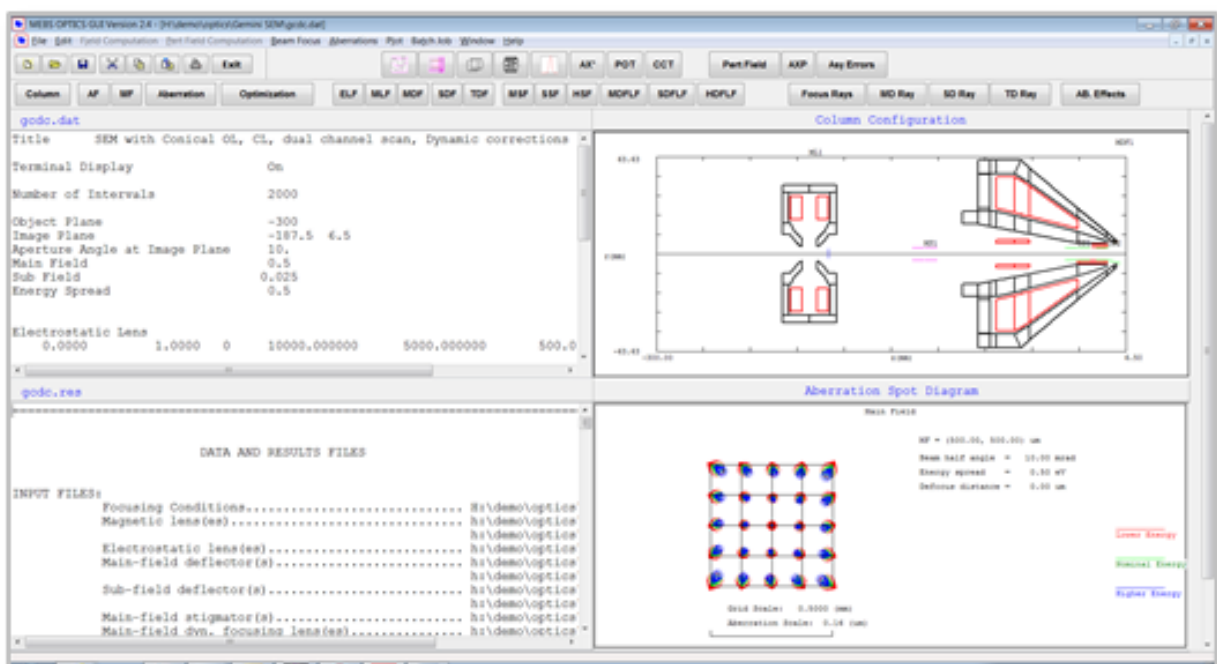
SEM analysis, including dynamic deflection correction element. Field analysis of an electrostatic stigmator

The DYNAMIC module uses the OPTICS package for the computation of the fields in the stigmators and dynamic focus lenses, however in order to obtain the required accuracy, the SOFEM package is required for the field computation for DYNAMIC-5.

DYNAMIC then computes the required strengths on the stigmators and dynamic focus lenses required to compensate for the 3rd order field curvature and astigmatism. In the case if DYNAMIC-5, the 5th order field curvature and astigmatism is used.

The residual aberrations after the dynamic corrections have been applied can then be calculated.

SEM analysis, including dynamic deflection correction element showing the overall system analysis