

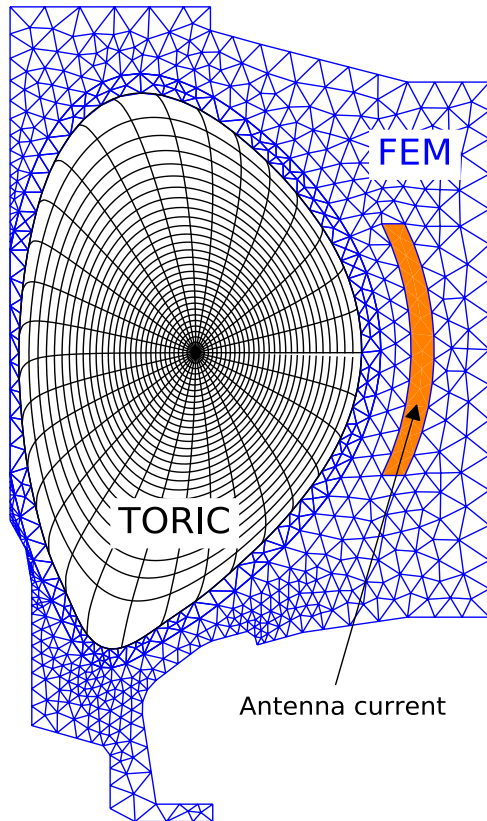
Integration of core/edge plasmas in fullwave RF simulation

S. Shiraiwa¹, J. C. Wright¹, J. P. Lee¹, P. T. Bonoli¹ and T Kolev², ¹PSFC,MIT, ²LLNL

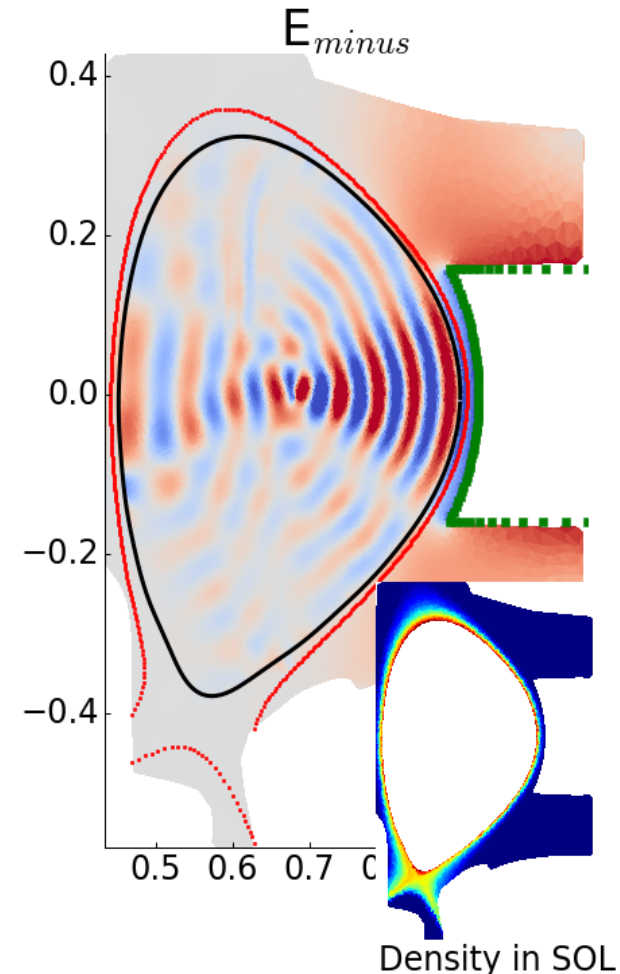
Core spectral solver is integrated with edge FEM code.

“the best of two worlds” approach

- Core
 - **Axisymmetric** flux surface regular grid
 - Hot plasma conductivity
 - Dense Matrix Solver
- Edge
 - Unstructured mesh with complicated geometry (either 2D or 3D)
 - Cold plasma with collision.
- Boundary **matching technique** to build integrated solution
- Demonstrated using TORIC ICRF solver + COMSOL FEM package



Computation Grids



Fast wave field in Alcator C-Mod diverted tokamak