Integration of core/edge plasmas in fullwave RF simulation
S. Shiraiwa\textsuperscript{1}, J. C. Wright\textsuperscript{1}, J. P. Lee\textsuperscript{1}, P. T. Bonoli\textsuperscript{1} and T Kolev\textsuperscript{2}, \textsuperscript{1}PSFC,MIT, \textsuperscript{2}LLNL

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

Work supported in part by US DoE contract DE-FC02-99ER54512 and DE FC02-01ER54648. The work at LLNL was performed under the auspices of DoE under Contract DE-AC52-07NA27344, LLNL-PROC-703397.