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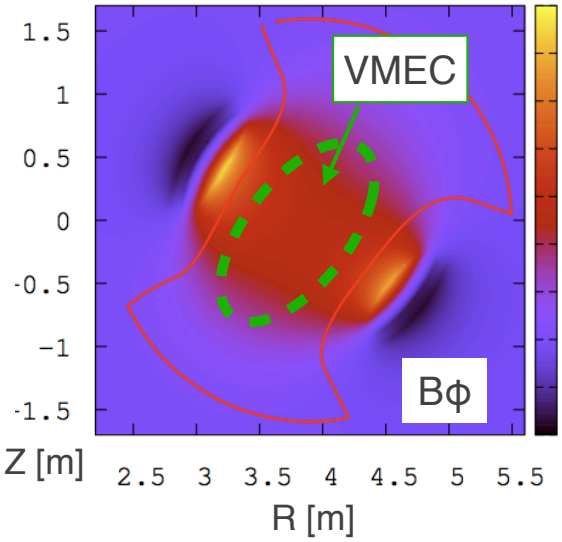
Gyrokinetic Modeling with an Extended Magnetic Equilibrium including the Edge Region of Large Helical Device

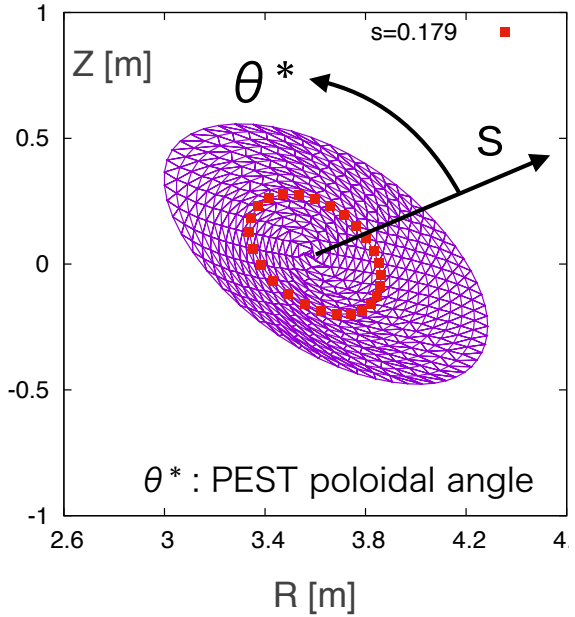
T. Moritaka (National Institute for Fusion Science)
R. Hager, M. Cole, S. Lazerson, S. Ku, C-S. Chang, S. Lazerson (PPPL)
S. Satake, S. Matsuoka, and S. Ishiguro (NIFS)

- X-point Gyrokinetic Code (XGC) has been extended to non-axisymmetric geometries for whole device modeling of Stellarator.
- We employ three dimensional equilibrium extended by a virtual casing method and field-aligned triangular mesh.
- The developed code has been validated by preliminary benchmark calculations about high-energy particle confinement, GAM oscillation and zonal flow damping in Large Helical Device.

Extended VMEC equilibrium



Generated triangular mesh



Time evolution of electric field perturbation (comparison with GT5D*)