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

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- 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](image1)
![Generated triangular mesh](image2)
![Time evolution of electric field perturbation](image3)