



GLOBAL PIC SIMULATION OF RF WAVES IN TOROIDAL GEOMETRY

A. Kuley et al.

- Verified RF waves and its propagation in the core region.
- The poloidal spectrum upshift and broadening effects for explaining 'spectral gap' problem are observed and verified in global particle simulation for the first time.
- Parametric decay instability of lower hybrid (LH) and IBW waves are verified in the core region. These results provide important insights for experimental observations.
- Global geometry simulation coupling core and SOL region are developed for a realistic DIII-D geometry. Single particle dynamics and particle losses are carried out in the presence of radial electric field.

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