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## **【812】 Impact of edge density fluctuations on Electron-Cyclotron beam propagation and absorption in tokamaks**

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Electron-Cyclotron waves are an important tool in tokamak devices for core heating, current drive and MHD mode stabilization. Density fluctuations at the edge can cause a broadening of the EC beam before absorption, potentially leading to inaccurate or less efficient power deposition, especially in large tokamak devices. This can be modeled with the quasilinear Fokker-Planck code LUKE, using a dedicated fluctuation module. Experimental constraints are added to the model by measuring Hard X-Ray Bremsstrahlung emission from the plasma using a spectroscopic 4-camera HXR system. Modeling can be augmented using a COMSOL RF solver, coupled with the Global Braginskii Solver that estimates density fluctuations in the Scrape-Off Layer.

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