**Kinetic Full Wave Analysis of Cyclotron Waves in Tokamak Plasmas Using Integral Form of Dielectric Tensor** ATSUSHI FUKUYAMA, Kyoto University — In order to describe the wave structure and power deposition profile in ion and electron cyclotron wave heating in tokamak plasmas, a considerable progress has been made in developing full wave codes including kinetic effects. Recently kinetic full wave analysis using integral forms of dielectric tensor and the finite element method was extended to two-dimensional configuration, and mode conversion to Bernstein modes was analyzed. For ion cyclotron range of frequencies, comparison of wave structures in two-ion hybrid resonance heating is carried out with conventional differential operator approach of the finite Larmor radius effects. For electron cyclotron range of frequencies, the O-X-B mode conversion in a small-size spherical tokamak is studied. Density dependence of wave structure and power deposition profile will be reported.

Atsushi Fukuyama
Kyoto University

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