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ITER Plasma at Electron Cyclotron Frequency Domain: Stimulated Raman Scattering off Gould-Trivelpiece Modes and Generation of Suprathermal Electrons and Energetic Ions

V. ALEXANDER STEFAN, Institute for Advanced Physics Studies, Stefan University — Stimulated Raman scattering in the electron cyclotron frequency range of the X-Mode and O-Mode driver with the ITER plasma leads to the “tail heating” via the generation of suprathermal electrons and energetic ions. The scattering off Trivelpiece-Gould (T-G) modes is studied for the gyrotron frequency of 170GHz; X-Mode and O-Mode power of 24 MW CW; on-axis B-field of 10T. The synergy between the two-plasmon decay and Raman scattering is analyzed in reference to the bulk plasma heating.

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