Contribution ID: **40** Type: **Poster**

Non-inductive Production of Extremely Overdense Spherical Tokamak Plasma by Electron Bernstein Wave Excited via O-X-B Method in LATE

Wednesday, 19 October 2016 14:00 (4h 45m)

Extremely overdense spherical tokamak plasmas are produced non-inductively with electron Bernstein waves mode-converted via O-X-B scheme. When the fundamental electron cyclotron resonance (ECR) layer is located at the plasma core and the 2nd harmonic ECR layer is near the outboard vessel wall and the upper hybrid resonance layer is located between them, significant density rise is obtained with a strong gas puffing preventing hot spots and without intermittent plasma ejection phenomenon.

Paper Number

EX/P4-45

Country or International Organization

Japan

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Session Classification: Poster 4

Track Classification: EXW - Magnetic Confinement Experiments: Wave–plasma interactions; current drive; heating; energetic particles