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EX/P6-17: Electron Bernstein Wave Heating and Current Drive Effects in QUEST

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Electron Bernstein Wave Heating and Current Drive (EBWH/CD) effects have been first observed in over dense plasmas using the developed phased-array antenna system in QUEST. Good focusing and steering properties tested in the low power facilities were confirmed with a high power level in the QUEST device. The new operational window to sustain the plasma current was observed in the RF-sustained high-density plasmas at the higher incident RF power. Increment and decrement of the plasma current and the loop voltage were observed in the over dense ohmic plasma by the RF injection respectively, indicating the EBWH/CD effects.

Country or International Organization of Primary Author

Japan

Primary author: Mr IDEI, Hiroshi (Japan)

Co-authors: Ms KALINNIKOVA, Evgeniya (Kyushu University); Prof. ZUSHI, Hideki (Research Institute for Applied Mechanics, Kyushu University); Prof. HANADA, Kazuaki (Research Institute for Applied Mechanics, Kyushu University)

Presenter: Mr IDEI, Hiroshi (Japan)

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