

HTPD 2018



Contribution ID : 293

Type : not specified

14.33 Loss Electron Diagnostic Systems for Measurements of High Intermittent Heat Flux in GAMMA 10 Tandem Mirror

Thursday, 19 April 2018 10:31 (120)

Electron cyclotron heating (ECH) power modulation experiments in GAMMA 10 tandem mirror have been started in order to generate and control the high heat flux and to make the ELM (edge localized mode) like intermittent heat load pattern for divertor simulation studies. Temporally and spatially resolved soft X-ray and end-loss-electron analyses of electron cyclotron heated plasmas are carried out by using a semiconductor detector array and an electrostatic energy analyzer in the GAMMA 10 tandem mirror. The flux and the energy spectrum of end loss electrons are measured by a multi-grid energy analyzer (loss electron diagnostics, LED). End loss electrons enter the analyzer through a small hole on an electrically floating end plate that is located in front of the end wall. The collector current of the analyzer corresponds to the electron current flowing into the end plate. In this paper, experimental results in ECH power modulation for control of high intermittent heat flux in GAMMA 10 tandem mirror by the use of these detectors for electron properties are reported.

Primary author(s) : MINAMI, Ryutaro (Plasma Research Center, University of Tsukuba)

Co-author(s) : KARIYA, Tsuyoshi (Plasma Research Center, University of Tsukuba); IMAI, Tsuyoshi (Plasma Research Center, University of Tsukuba); NUMAKURA, Tomoharu (Plasma Research Center, University of Tsukuba); KAJINO, Satoshi (Plasma Research Center, University of Tsukuba); OKADA, Maki (Plasma Research Center, University of Tsukuba); HOJO, Toshitaka (Plasma Research Center, University of Tsukuba); MOTOYOSHI, Fumiya (Plasma Research Center, University of Tsukuba); ENDO, Yoichi (Plasma Research Center, University of Tsukuba); NAKASHIMA, Yousuke (Plasma Research Center, University of Tsukuba); OKADA, Maki (Plasma Research Center, University of Tsukuba)

Presenter(s) : MINAMI, Ryutaro (Plasma Research Center, University of Tsukuba); KARIYA, Tsuyoshi (Plasma Research Center, University of Tsukuba); IMAI, Tsuyoshi (Plasma Research Center, University of Tsukuba); NUMAKURA, Tomoharu (Plasma Research Center, University of Tsukuba); KAJINO, Satoshi (Plasma Research Center, University of Tsukuba); OKADA, Maki (Plasma Research Center, University of Tsukuba); HOJO, Toshitaka (Plasma Research Center, University of Tsukuba); MOTOYOSHI, Fumiya (Plasma Research Center, University of Tsukuba); ENDO, Yoichi (Plasma Research Center, University of Tsukuba); NAKASHIMA, Yousuke (Plasma Research Center, University of Tsukuba); OKADA, Maki (Plasma Research Center, University of Tsukuba)

Session Classification : Session #14. Thursday Morning Poster Session