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External Control of Energetic-Ion-Driven MHD Instabilities by ECH/ECCD in Heliotron J Plasmas

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Energetic-ion-driven MHD instabilities such as Alfven eigenmodes (AEs) and energetic particle modes (EPMs) have been studied in NBI-heated Heliotron J plasmas. We clarified the characteristics of the observed EPMs such as mode structure and observation region. We demonstrated that EPMs could be controlled by means of both positive and negative magnetic shear induced by electron cyclotron (EC) driven plasma current in Heliotron J plasmas.

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