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EX/5-2: Studies of Energetic-ion-driven MHD Instabilities in Helical Plasmas with Low Magnetic Shear

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We discuss the features of energetic-ion-driven MHD instabilities such as Alfvén eigenmodes (AEs) in threedimensional magnetic configuration with low magnetic shear and low toroidal field period number (Np) that are characteristic of advanced helical plasmas. Comparison of experimental and numerical studies in Heliotron J with those in TJ-II indicates that the most unstable AE is global AE (GAE) in the low rotational transform (iota) configuration and helicity-induced AE (HAE) in the high iota configuration.

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