Interaction of Resonant Magnetic Perturbations with Energetic Particle Modes

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Over several campaigns, we have explored drive of Alfvén eigenmode activity in KSTAR. The broad purpose of these experiments has been to develop scenarios to study energetic particle driven modes, as well as enable experimental studies of wave-particle-plasma interaction and particle loss at higher beam power. To date, we have reported the drive of beta-induced Alfven eigenmodes [M. J. Hole et al 2013 Plasma Phys. Control. Fusion 55 045004], and bursty chirping modes observed during early NBI heating M J Hole et al 2019 Plasma Phys. Control. Fusion 61 025016]. In this contribution we report on KSTAR discharge campaigns in 2020 and 2021 which involve scans over NBI power, pulse width modulation, and perveance to excite and select the Alfvenic mode of interest, followed by application of 3D Resonant Magnetic Perturbation coils with different phasing and current waveforms.