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EX/6-3Rb: ELM Mitigation with SMBI & CJI Fuelling in HL-2A H-mode Plasmas

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For a tokamak fusion reactor, the mitigation of Edge Localized Mode (ELM) is likely a mandatory requirement to avoid excessive erosion of the divertor targets and yet exploit the benefits of high confinement mode operation [1]. It is reported that pellets could trigger ELM when injected in type-I ELMy H-mode and ELM pacing has been accomplished with small multi-pellets injection [2]. Resonant Magnetic Perturbation (RMP) is another effective method to ELM mitigation that full ELM suppression has been achieved on DIII-D and AUG [3, 4]. Recently, ELM amplitude decrease and frequency increase for a finite duration are observed after the Supersonic Molecular Beam Injection (SMBI) fuelling into H-mode plasmas on HL-2A. The same phenomenon is observed even more significantly after the Cluster Jet Injection (CJI) fuelling.

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