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Turbulence studies using a Doppler Backscattering (DBS) system during ELM mitigation and suppression on EAST[1] CHU ZHOU, ADI LIU, MINGYUAN WANG, JIANQIANG HU, JIN ZHANG, HONG LI, XIAOHUI ZHANG, TAO LAN, JINLIN XIE, WANDONG LIU, CHANGXUAN YU, University of Science and Technology of China, EDWARD DOYLE, University of California, Los Angeles, UNIVERSITY OF SCIENCE AND TECHNOLOGY OF CHINA TEAM, UNIVERSITY OF CALIFORNIA, LOS ANGELES COLLABORATION — ELM mitigation and suppression using Resonant Magnetic Perturbations (RMP), Supersonic Molecular Beam Injection (SMBI), and lithium pellet injection has been demonstrated on EAST. A new eight-channel DBS system has been installed for turbulence measurements in such plasmas. The frequency range is 55 to 75 GHz, covering the entire H-mode pedestal, with a turbulence wavenumber range of 4-12 /cm. The turbulence evolution has been measured during ELM mitigation and suppression by the different ELM control methods (RMP, SMBI, lithium pellet, etc.), so as to study the relationship between the pedestal turbulence and the ELM mitigation and suppression, and to determine whether a single trend of pedestal turbulence exists with ELM control.

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