**Primary results of EAST edge TV Thomson scattering system**

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A new TV Thomson scattering (TVTS) system has been developed to provide high accuracy electron temperature (Te) and density (ne) profiles for the study of the Experimental Advanced Superconducting Tokamak (EAST) edge physics. A 532 nm high energy and high frequency laser was invented based on a new frequency doubling and amplification technology. A modified Littrow structure spectrometer working at 532 ± 50 nm with the stray light suppression ratio greater than 106 was involved to provide high S/N scattering spectrum. The custom lenses enable the spectrometer has the ability to analyze 15 measurement points simultaneously with the spectral resolution of 5 nm at the slit width of 1.5 mm and the transmission efficiency greater than 50%. A high sensitive detector coupled to the high effective scattering light collection, transmission and spectral analysis systems ensure that the TVTS has the measurability at electron temperature of 20–1000 eV in the edge plasma with spatial resolution as low as 3 mm. The details of the diagnostic system as well as the measurement results are presented in this talk. The preliminary results have confirmed the feasibility of the TVTS system based on 532 nm laser for the research of steady-state long-pulse operation.