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**Recent Progress of the J-TEXT X-ray Imaging Crystal Spectrometer**[1] WEI JIN, ZHONGYONG CHEN, DUWEI HUANG, YONGHUA DING, ZHIJIANG WANG, GE ZHUANG, State Key Laboratory of Advanced Electromagnetic Engineering and Technology, SANG GON LEE, YUEJIANG SHI, National Fusion Research Institute, Daejeon 305-333, South Korea — An X-ray imaging crystal spectrometer (XICS) equipped with a multi-wire proportional counter has been developed aiming to measure the electron temperature, ion temperature and toroidal rotation velocity in the J-TEXT Ohmic discharges with a count rate of 350 kHz and a temporal resolution of 0.1 s. It records spectra of helium-like argon from a number of viewing chords with tangential radii from -10 cm to 10 cm vertically. Here the maximum count rate is mainly determined by the electron density and amount of argon particles injected by either PEV-1 valve or supersonic molecular beam injection. For a typical J-TEXT Ohmic plasma, the core electron temperature of about 700 eV can be deduced from the ratio of resonant line (W line) intensity and its satellites (n = 3) of the spectra, while the ion temperature of about 400 eV is obtained by evaluating the Doppler broaden of resonant line. In addition, the evolution of the relative toroidal rotation velocity can also be given. It is worth to note that in the low density discharges the intensity of satellites (q and r lines) increases to the same level of resonant line. More experimental results and explanations will be presented in the meeting.

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Bo Rao
Huazhong University of Science and Technology, Wuhan 430074, China

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