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**Improvement of X-ray Imaging Crystal Spectrometers for KSTAR** SANG GON LEE, J.G. BAK, Korea Basic Science Institute, M. BITTER, Princeton Plasma Physics Laboratory, U.W. NAM, Korea Astronomy Observatory, M.K. MOON, J.K. CHEON, Korea Atomic Energy Research Institute — The X-ray imaging crystal spectrometers for the KSTAR tokamak will provide spatially and temporally resolved spectra of the resonance line of helium-like argon (or krypton) and the associated satellites from multiple lines of sight parallel and perpendicular to the horizontal mid-plane for measurements of the profiles of the ion and electron temperatures, plasma rotation velocity, and ionization equilibrium. The spectrometers are consisted of a spherically bent quartz crystal and a 10 cm x 30 cm large 2D position-sensitive multi-wire proportional counter. A 2D detector with delay-line readout and supporting electronics has been fabricated and tested on the NSTX tokamak at PPPL. Position resolution and count rate capability of the 2D detector are still need to be improved to meet the requirements. Hence, a segmented version of the 2D detector is under development to satisfy the requirements. The experimental results from the improved 2D detector will be presented.

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