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Status of motional Stark effect and Zeeman effect diagnostics for KSTAR[1] JINSEOK KO, JINIL CHUNG, Natl Fusion Res Inst, MAARTEN DE BOCK, ITER Organization, THE KSTAR TEAM — The motional Stark effect (MSE) diagnostic system is under development aiming at commissioning in 2015. The design and fabrication of the polarization preserving front optics has been complete, including the multi-layer dielectric coated mirror and beam splitter, the latter being required to split the incident light into that above 600 nm for MSE and that below 600 nm for the Charge Exchange Spectroscopy (CES) that shares the front optics with MSE. The bandpass filters with a sharp transmission function and a minimum distortion against tilting have been procured. Both the analog lock-in and the post-processing numerical Fourier transform will be exploited. The Li-beam based Zeeman effect (ZE) diagnostic system is under conceptual design. Its details on the design are introduced in this work including the radial resolution and sensitivity to the change of the magnetic field pitch near the pedestal region.

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