

Abstract Submitted
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Upgrade to the NSTX Thomson Scattering Diagnostic¹ BENOIT LEBLANC, DAVID JOHNSON, PPPL — The Multi-Pulse Thomson Scattering (MPTS) diagnostic has undergone a hardware upgrade providing 10 new spatial channels, which brings the total number of radial locations to 30. Mirror collection optics focuses the gathered light unto 36 existing fiber bundles and, until recently, only 20 of these were instrumented. In the selection of which unused bundles to add, priority was given to increasing the spatial resolution at the outer edge. Seven bundles viewing the outer edge and two viewing the high field side were selected. We took advantage of a feature of the optical/mechanical design permitting to rearrange the bundle output end into sub-bundles. One outer-edge viewing bundle was split in two to further increase the spatial resolution in the “pedestal” region, resulting in an adjacent channel spacing of 0.9 cm. Spatial resolution ranges from 0.9 cm to 3 cm in the region of interest. In contrast with the original 6-filter design, which includes one channel dedicated to Rayleigh scattering calibration, the new polychromators have four spectral channels and do not include a Rayleigh filter. Raman scattering will be used to calibrate the new spatial channels.

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