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Compact Spectrometer Array Spectra Analysis and Data Storage for the National Spherical Torus Experiment ROSE SOSKIND, Rutgers University, ADAM MCLEAN, Oak Ridge National Laboratory — The Compact Spectrometer Array (CSA) is a set of several high-speed Ocean Optics HR2000+ spectrometers which has recently been installed in the National Spherical Torus Experiment (NSTX) at the Princeton Plasma Physics Laboratory (PPPL). Spectral data from each instrument spans the 380 – 590 nm region with 0.1 nm pixel resolution and 0.4 nm optical resolution. Three available chords exist in the machine view: a) an ATJ graphite tile in the inner divertor, b) a Molybdenum tile in the inner divertor, and c) the inside portion of a Liquid Lithium Divertor (LLD) plate in the outer divertor, each with a 2.5 cm diameter spot size. All views include absolute intensity calibration for measurement of spectral radiance. Data from the CSA were stored in the MDSplus database system via a C++-based interface. Spectra from the CSA have been captured so far through the 2011/2012 NSTX campaign to reveal trends in integrated emissions and emission ratios with increasing surface exposure in the divertor and incremental use of lithium for wall conditioning.

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