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Passive Spectroscopy Measurements of Deuterium Plasmas in the Lockheed Martin T4 Experiment DUSTIN MCCARREN, Lockheed Martin Aeronautics Company — The T4 experiment is a magnetically encapsulated linear ring cusp device being developed at Lockheed Martin for the purpose of plasma confinement. To study the deuterium plasmas in the T4 experiment a suite of diagnostics are being implemented. Passive spectroscopy is a powerful and well established plasma diagnostic technique. A passive spectroscopy diagnostic is non-invasive and experimentally easy to set-up: essentially requiring viewports with lines of sight to the region of interest in the plasma. Analysis of the radiative spectra can be challenging, but provides insight into plasma parameters such as plasma composition, density and temperature. In this work we discuss the visible spectrum spectroscopy diagnostics on the T4 experiment and present preliminary measurements.

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