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## **Tomographic observations of the plasmasphere using FedSat**

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The constellation of GPS satellites provide a convenient means of continually monitoring the Total Electron Content (TEC) of the ionosphere and plasmasphere using ground-based receivers. Networks of receivers can then be used to map the electron density structure by means of tomography. However, because the ionosphere near the F2 peak provides the dominant contribution to the TEC, relatively little can be determined about the plasma in the plasmasphere. FedSat orbits at 800 km altitude, well above the bulk of the ionospheric plasma, so tomography applied to FedSat GPS observations reveals plasmaspheric structure. This paper will present the first results from FedSat which show more variability and structure in the plasmasphere than expected.