

First results from the ICON Far-Ultra-Violet (FUV) Instrument

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The NASA Ionospheric Connection Explorer (ICON) was launched in October 2019 to study the connection between terrestrial weather and space weather. One of the four science instruments is the Far-Ultra-Violet (FUV) Instrument. This Spectrographic Imager collects (altitude) limb view vertical profiles of the 135.6 nm emission from atomic oxygen and part of the molecular nitrogen Lyman-Birge-Hopfield band emission around 157 nm. These measurements are used to constrain models of the atomic oxygen to molecular nitrogen altitude profiles, their mixing ratio and the ionospheric density at the dayside, along with the ionospheric density on the nightside. We will present first results of the investigation into the variability of dayside ionospheric composition and night side density that have been obtained during the first half year of the ICON science mission.

Keywords: NASA ICON mission, FUV instrument, ionospheric composition, ionospheric density, ionosphere variability