

New Observation of the Polar Wind in the Topside Ionosphere

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The theoretical prediction of the “classical” polar wind dates back to the works of Banks et al., Lemaire et al., Marubashi, Nishida, and other authors in the late sixties and early seventies. Since then, direct in-situ observations of the polar wind have been made on a number of satellites above the topside ionosphere, notably ISIS-2, Akebono, and DE-1, at altitudes of 1400–50,000 km. In this paper, we present the first in-situ observation of the polar wind inside the topside ionosphere on the Enhanced Polar Outflow Probe (e-POP) down to 600 km, and we compare our low-altitude observation with earlier observations at higher altitudes as well as theoretical predictions.