



Resurrection of a Unique Plasmapause Ion Composition Data Base

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Orbiting Geophysical Observatory 5 (OGO 5) magnetospheric ion-composition data (H+, He+ and O+) from an ion spectrometer [Sharp, IEE Trans. in Geosci. Elect. V, GE-7, 93, 1969] have been retrieved from old magnetic tapes archived at the National Space Science Data Center (NSSDC). The highly compressed binary format was converted into a user-friendly ASCII format and these data have now been made available from the NSSDC (<http://nssdcftp.gsfc.nasa.gov>). Using this data we have investigated the similarities and differences between the outer plasmasphere and plasmapause transition as seen in the H+, and He+ density gradients. The He+ plasmapause transition depicts a topology similar to recent IMAGE EUV observations whereas the H+ plasmapause characteristics are more in line with ground-based whistler observations. OGO 5 had a 31 degree inclination eccentric orbit of $\tilde{2}70$ km x 148,000 km with ion spectrometer measurements available from the period March 2, 1968 to November 11, 1969. We will present the results of a comparison of the locations of the OGO-5 H+ and He+ plasmapause crossings. In addition, we will relate the magnetic-field-aligned projections of the plasmapause crossings to mid-latitude topside ionospheric electron-density altitude profiles from the International Satellites for Ionospheric Studies (Alouette 1 & 2 and ISIS 1) topside sounders, when and if such simultaneous data are available from the NSSDC.