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A PUBLIC DATABASE OF ANTARCTIC ATMOSPHERIC ELECTRICITY MEASUREMENTS: A DATA SYSTEM FOR THE INTERNATIONAL POLAR YEAR

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: For over a century, atmospheric electricity data has been collected from all over the world, as well as from space. For the last thirty years, Antarctica has been the observatory site of choice for atmospheric electricity studies. The primary difficulties researchers have faced when analyzing these data are both data collection, and acquiring data collected by others in formats easily used. Recently, a project was undertaken to consolidate all these data and make them easily available to the general public in a few "universal" formats via the Internet. A poll was taken to determine what format(s) would be the best ``universal'' formats to use. It was determined ASCII and NetCDF formats would best suit likely researchers. FLATDBMS, (an old but still used format appreciated by old-timers within the community), was also considered viable enough to preserve, with translation of the floating-point format from VAX D_Float to the IEEE 754 representation. Thoth, the server housing these data, is populated with 200Gbyte drives for a total storage capacity of 3.4 TB. It is currently configured to have a total working capacity of 2.5TB, with 1.25 TB reserved for atmospheric electricity data. The URL of this database is http://globalcircuit.phys.uh.edu/. This server has been used to archive data in the above-mentioned formats. The data archived as of summer 2006 are South Pole measurements taken from 1981-1985 and 1991-1993 and Vostok Station measurements taken 1998-2002. Given time and community cooperation, eventually all long term atmospheric electricity measurements that can be found and converted will be consolidated onto this website in these universal formats, ready for all researchers to utilize at a moments notice. The site is now ready to accept contributions and submissions of additional data.

This data system is intended to be the primary repository and the atmospheric electricity data obtained during the IPY.