



Uniform data discovery and access with the Virtual Heliospheric and Magnetospheric Observatories

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Finding and retrieving space physics data is a rather daunting task even when the data are publicly available on the Internet because there are thousands of relatively small and many large data sets stored in various formats and accompanied often only by terse documentation. Virtual Heliospheric and Magnetospheric Observatories (VHO and VMO) are being developed to help researchers by creating a single point of uniform discovery, access, and later also use of heliospheric (VHO) and magnetospheric (VMO) data. The uniformity is enabled by employing the Space Physics Archive and Extract (SPASE) data model for describing all resources within the VHO/VMO environment. The SPASE data model has been adopted and is co-developed by NASA Virtual Observatories as a standard for describing resources. At the VHO and VMO, SPASE descriptions, or metadata, are searched to find resources matching user queries which avoids the need for keeping the actual data and VHO/VMO middleware at the same locations. Our presentation will discuss how the VHO and VMO web interfaces provide access to relational data searching that allows construction of science-based queries ranging from trivial to very complex. In addition to structured queries, the VMO also provides a Google-like text search interface with a newly developed scoring method which considers both the presence of terms and proximity of these terms relative to the order of the terms in the query. We call this Term-Presence-Proximity (TPP) scoring and it compares favorably with other scoring approaches.