Polar CEPPAD Resident Archive Status
as of August 31, 2007

[1] The resident archives are to be distributed at the PI institutions or their designated locations where the expertise in handling the specific data resides.
-> The main CEPPAD resident archive is located at Los Alamos National Laboratory (website and data archive): http://leadbelly.lanl.gov/ccr/. The archive will be served through the existing CCR website.

[2] The resident archives should provide the highest available resolution (spatial and temporal).
-> CEPPAD data is taken at varying spatial and temporal resolutions depending on the energy level or detector used. A 4-spin average was found to provide the best highest compromise data, and all archive cdf files have been processed with that time resolution (24 sec).
The spatial (sectoring) resolution of the data varies also depending on detector and energy. Here the archive data is provide in pitch angle space combined form all detectors&sectors, using 10 degree pitch angle resolution.

[3] The resident archives should be designed for minimal human support.
The CEPPAD archive is part of the LANL CCR-website which has been up and running automatically for over 10 years. Periodic site updates and product reruns to update summary plots are performed.
The site currently needs some updates.

[4] The data in the resident archive should be available to a requestor without human intervention.
Data will be available for download via the website. We have added a “Digital Archive” button to each currently available survey plot that points to the archive CDF file for that day.

[5] The archive should provide for virtual observatories dynamic access to the full data set.
Polar CEPPAD cdf files are already being supplied to a funded VxO (ViRBO). All cdf files available on the CCR website are also available through an ftp site:
ftp://nis-ftp.lanl.gov/pub/projects/papco/public_digital_data/polar/ceppad/cdf_archive

[6] Every site should allow plots of the data, either previously made or made on demand.
A range of summary plots on a daily basis are available on the CCR website. Additional plots can be added on demand. Future updates to the CCR site to allow dynamic plotting of data are planned, contingent on future funding through the current ROSES announcement [Appendix B.9 entitled "Virtual Observatories for Heliophysics Data", (3) Data Services Maintenance (Resident Archive) that provide ongoing, post-mission, VO-coordinated access]
A set of pitch-angle resolved plots based on the cdf_archive files will still be added to the ccr site.

[7] Every archive should allow ASCII downloads of low and high resolution data for re-

plotting by the requestor.
The full CEPPAD archive data is available in CDF format. Standard CDF library utilities can be used to extract the data (such as the CDAlib idl library) in an ASCII or any other format.
Additional ASCII-only format output for the new pitch-angle summary plot data to be available on the CCR site is planned.

[8] Positional and attitude information for the Polar spacecraft should be provided at one or more sites.
The CEPPAD CDF archive files have been designed according to the standard file format guidelines laid out by the COSPAR Panel for Radiation Belt Monitoring (http://wwwe.onecert.fr/craterre/prbem/Reference_documents.html). Satellite positional data together with magnetic field coordinates from the Olson Pfitzer 1977 model are included in these cdf files already.

[9] Every site should provide direct links with brief descriptions of every other Polar site.
The CCR website has been doing this since inception.

[10] Documented procedures for producing scientifically useful data from the Polar instruments will be made available and will be a fundamental element of the resident archives.
All of the Polar CEPPAD processing from raw level zero files onward is included as part of the PaPCo data processing package based on IDL code and can be obtained freely with PaPCo from the PaPCo sourceforge site at https://sourceforge.net/projects/papco/ https://sourceforge.net/projects/papco/.
There is not specific documentation on the CEPPAD processing codes provided at this time as all processing is executed “behind the scenes” through the Polar CEPPAD module in PaPCo.