Data Processing Levels (for PDS4)

Background

PDS and its data providers have used both the CODMAC and NASA systems to describe data processing levels, sometimes in the same data set; this has led to confusion. In developing PDS4, the Data Design Working Group (DDWG) has determined that a simpler system, relying on only a few categories, is sufficient. The categories may be visualized as the most primitive bit stream from an instrument that can be stored in a PDS data archive format, that bit stream after some processing or manipulation, the bit stream converted to physical units, and 'derived' or 'higher order' products. The original bit stream encoded into telemetry packets is also defined.

Policy

PDS adopts the following terms for broadly classifying archival data according to processing level. When making such classification, data providers (in consultation with the cognizant PDS node) will select the most appropriate term, then give a detailed description of the processing in accompanying documentation.

Telemetry: An encoded byte stream used to transfer data from one or more instruments to temporary storage where the raw instrument data will be extracted.

Raw: Original data from an instrument. If compression, reformatting, packetization, or other translation has been applied to facilitate data transmission or storage, those processes will be reversed so that the archived data are in a PDS approved archive format.

Partially Processed: Data that have been processed beyond the raw stage but which have not yet reached calibrated status.

Calibrated: Data converted to physical units, which makes values independent of the instrument.

Derived: Results that have been distilled from one or more calibrated data products (for example, maps, gravity or magnetic fields, or ring particle size distributions). Supplementary data, such as calibration tables or tables of viewing geometry, used to interpret observational data should also be classified as 'derived' data if not easily matched to one of the other three categories.

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