A NASA/IPAC Normal Stars and Brown Dwarf Archive

Abstract

We propose to establish a reference archive of the observed properties of "normal" (standard) stars and brown dwarfs. We will assemble and cross-correlate in one place all empirically determined fundamental properties (e.g. spectra, fluxes, radii, etc.) of normal stars and brown dwarfs, and provide a set of online services to facilitate fast and efficient retrieval for astronomical information gathering. This archive will, in addition, provide the value added service in the form of astrophysical "template objects", which will provide representative data for particular astrophysical object classes. The design of this database will be modeled after the successful NASA/IPAC Extra-galactic Database (NED) and will rely on existing database and tool development currently being carried out by the InfraRed Science Archive (IRSA). This archive is motivated by two main factors: (1) the emergence of new paradigms of interaction with astronomical data such as virtual observatories, level 5 knowledge based systems, etc., and (2) while the fundamental properties (standards) are crucial for properly interpreting astrophysical data, these data are currently a loosely distributed and non-homogenous collection of resources. There remains considerable overhead on the part of the researchers to: (i) locate this information, (ii) remain current not just in their respective fields but also in the pertinent fundamental information needed to interpret their data, (iii) properly sift through systematical differences which can affect subsequent interpretations (e.g. spectral types from different spectral classification systems), and, as needed, (iv) cross-correlate among different datasets to obtain relevant quantities, etc. We propose to establish a set of on-line services of the type mentioned in (1) to meet the challenges listed in (2).

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