N93-25808

Development of an Expert Data Reduction Assistant

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Summary:

We propose the development of an expert system tool for the management and reduction of complex data sets. The proposed work is an extension of a successful prototype system for the calibration of CCD images developed by Dr. Johnston in 1987. (ref.: Proceedings of the Goddard Conference on Space Applications of Artificial Intelligence)

The reduction of complex multi-parameter data sets presents severe challenges to a scientist. Not only must a particular data analysis system be mastered, (e.g. IRAF/SDAS/MIDAS), large amounts of data can require many days of tedious work and supervision by the scientist for even the most straightforward reductions. The proposed Expert Data Reduction Assistant will help the scientist overcome these obstacles by developing a reduction plan based on the data at hand and producing a script for the reduction of the data in a target common language.

---BIBLIOGRAPHY---

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Miller, G. and F. Yen (1992). "The Data Reduction Expert Assistant" in the Proceedings of astronomy from large Databases II Hagenau, France, ESO.

This last reference is an invited talk.

Multi-Layer Holographic Bifurcative Neural Network System for Real-Time Adaptive EOS Data Analysis

Principal Investigator: Dr. Hua-Kuang Liu
Jet Propulsion Laboratory

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3. S. Zhou, P. A. Yeh, and H. K. Liu, "Dynamic self-amplified photorefractive optical beam-array generation", Presented at the SPIE Annual Meeting, San Diego, July 19,1992.

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