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GammaCore: The Compton Observatory Research Environment

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The Compton Observatory Science Support Center (COSSC) is developing a coherent analysis environment for the analysis of Compton and other gamma-ray astronomy data. This environment, *GammaCore*, allows the astronomer to access the data analysis systems developed at the Principal Investigator (PI) sites for the four Compton Observatory instruments. In addition users have access to standard astronomical tools such as IRAF, IDL and XANADU.

The user interface of *GammaCore* is the AGCL (AnswerGarden Command Language), developed at the AXAF Science Center. The parameter interface supported by the AGCL allows *GammaCore* to access all PI software systems in a uniform fashion. These systems are quite different, having been developed independently on heterogeneous systems without much concern for general portability. The data kitizer concept, where a window running in a specific PI environment is controlled by the AGCL has been used extensively. Users can choose to view what is going on in the native environment, to use the window to control PI software directly, or to ignore the PI systems entirely and to work only through the homogeneous AGCL interface.

Software developed at the COSSC is also integrated within *GammaCore*. Extensive facilities for conversions of PI data formats to and from FITS have been developed. Access to the Compton data archive and catalogs will also be completely integrated with the *GammaCore*. Users can retrieve any publicly available Compton data.

This paper examines the issues that have arisen in attempting to meld these widely diverse systems. The advantages and limitations of the parameter interface and the kitizer are discussed along with issues of data portability, documentation, and the feasibility of multi-instrument analysis.

Limited capabilities are now available within *GammaCore* with significant enhancements planned over the coming year. An implementation including all PI systems will be available within that time. Instructions on how to access *GammaCore* and how to get more information are given.