

## APPENDIX D. ASTROPHYSICS RESEARCH PROGRAM

### D.1 OVERVIEW

#### 1. Introduction

The objectives of research solicited in program elements described in Appendices D.2 through D.8 of this NRA are focused on achieving the goals of the Science Mission Directorate's Astrophysics Research Program as defined in the *NASA Science Plan* (<http://nasascience.nasa.gov/about-us/science-strategy> [hyperlink address updated on **May 5, 2008**]). Proposers to the elements described in Appendices D.2 through D.8 are encouraged to read this *NASA Science Plan* to gauge the relevance of their research to NASA.

The program elements are described below. Abstracts of previously selected investigations may be found online at <http://nspires.nasaprs.com/>.

#### 2. Astrophysics Data Analysis

The Astrophysics Data Analysis program (Appendix D.2) supports the broad range of data analysis efforts relating to past or current NASA astrophysics space missions regardless of the physical phenomena studied. Since there are changes to the type of research solicited under this program element of the NRA, interested proposers are urged to read Appendix D.2 carefully to ensure that the research that they are proposing is appropriate.

#### 3. Astronomy and Physics Research and Analysis

The Astronomy and Physics Research and Analysis program (Appendix D.3) supports investigations in the areas of suborbital flights, detector development, supporting technology development, laboratory astrophysics, and limited ground based observing. Basic research proposals are solicited for investigations that are relevant to NASA's programs in astronomy and astrophysics and include research over the entire range of photons and particles of astronomical origin.

#### 4. Astrophysics Theory and Fundamental Physics

The Astrophysics Theory and Fundamental Physics program (Appendix D.4) supports theoretical investigations or modeling of the astrophysical phenomena targeted by past, current, or future NASA astrophysics space missions, including those of the Beyond Einstein program. It also supports limited laboratory work related to NASA strategic goals in gravitation and fundamental physics. Theoretical work pertaining to atomic and molecular astrophysics and other topics directly related to Laboratory Astrophysics should be proposed to the Astronomy and Physics Research and Analysis program element (Appendix D.3).

## 5. Astrophysics Guest Investigators

Four program elements support science investigations that require and/or support new data obtained with currently operating NASA astrophysics space missions, or such missions that are to be launched within the next two years. Guest investigator programs are included for the Galaxy Evolution Explorer (*GALEX*) (Appendix D.5), the *Swift* gamma-ray burst explorer (Appendix D.6), the *Suzaku* mission (Appendix D.7), and the Gamma-ray Large Area Space Telescope (*GLAST*) (Appendix D.8).

## 6. Origins of Solar Systems

The portion of this program that relates to the detection and characterization of planetary systems that is directly tied to the NASA strategic goal to search for Earth-like planets is solicited in the program element described in the Origins of Solar Systems program (Appendix E.3).

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