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The NASA Physics of the Cosmos Program

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The NASA Physics of the Cosmos program is a portfolio of space-based investigations for studying fundamental processes in the universe. Areas of focus include: probing the physical process of inflation associated with the birth of the universe, studying the nature of the dark energy that dominates the mass-energy of the modern universe, advancing new ways to observe the universe through gravitational-wave astronomy, studying the universe in X-rays and gamma rays to probe energetic astrophysical processes and to study the formation and behavior of black holes in strong gravity, and determining the energetic origins and history of cosmic rays. The program is supported by an analysis group called the PhysPAG that serves as a forum for community input and analysis. Space offers unique advantages for these exciting investigations, and the program seeks to guide the development of future space missions through observations from current facilities, and by formulating new technologies and capabilities.