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NASA'S STRATEGIC ASTROPHYSICS TECHNOLOGY PROGRAM: ACCOMPLISHMENTS IN THE PAST DECADE AND FUTURE TECHNOLOGY NEEDS

Abstract

The NASA Strategic Astrophysics Technology (SAT) program was established in 2009 as a new technology maturation program to fill the gap in the Technology Readiness Level (TRL) range from 3 to 6. Since the inception of the program, over 50 SAT technology development projects have been awarded under the auspices of the NASA Cosmic Origins (COR) and Physics of the Cosmos (PCOS) programs in the areas of detectors, telescopes, optics, coatings, cooling subsystems, lasers, and micro-thrusters. We present the portfolio distribution in terms of specific technology areas addressed, and show an analysis of the rate and cost of TRL advancements for the portfolio. We present program accomplishments and infusion success stories into NASA astrophysics missions. Finally, we present future technology needs and priorities for investment by the SAT program.