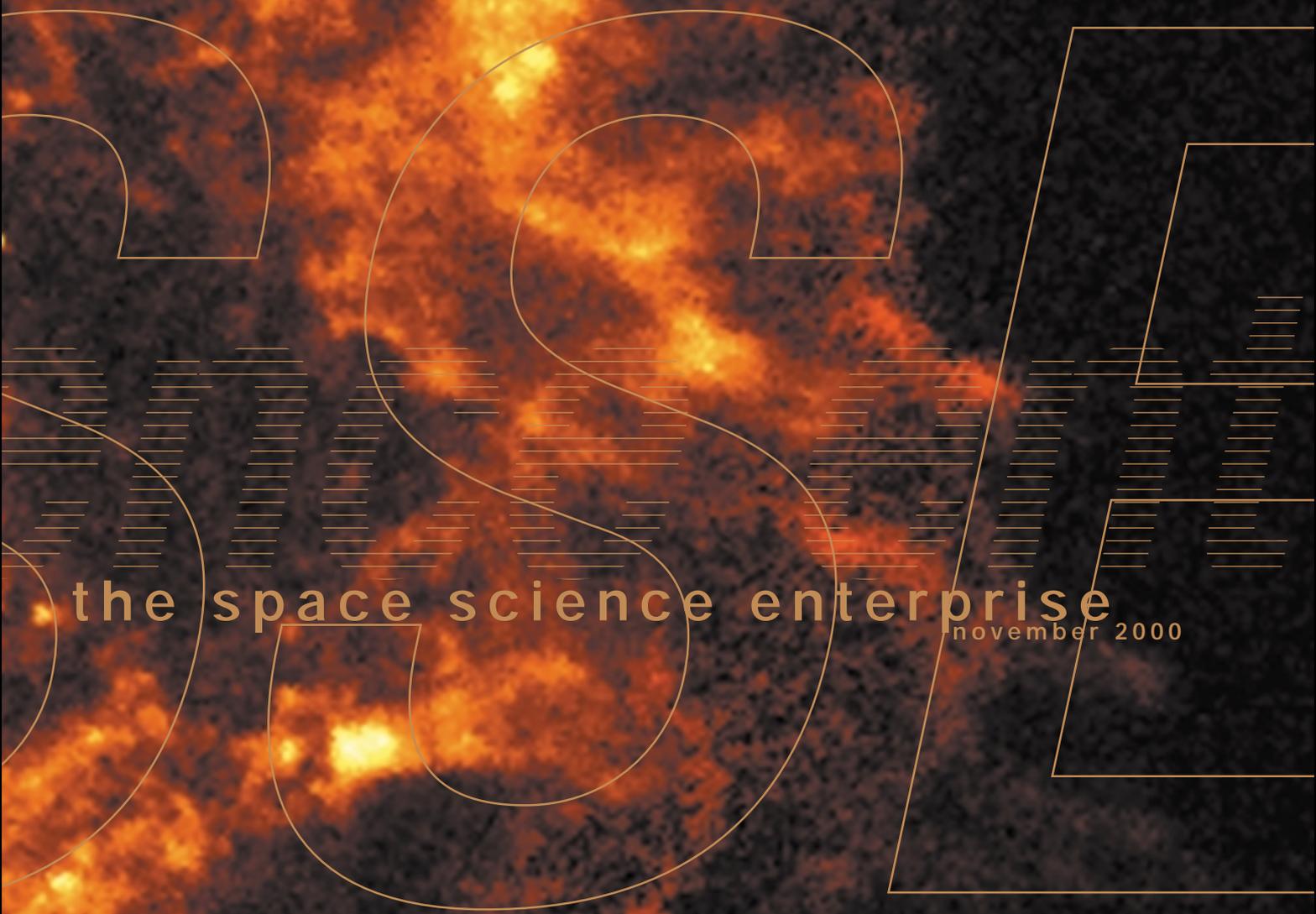




Space Science

Strategic Plan



the space science enterprise

november 2000

Dedicated to the memories of
Herbert Friedman and John A. Simpson
– Pioneers of Space Science –



Cassiopeia A: The 320-year-old remnant of a massive star that exploded. Located in the constellation Cassiopeia, it is 10 light years across and 10,000 light years from Earth. This X-ray image of Cassiopeia A is the official first light image of the Chandra X-ray Observatory. The 5,000-second image was made with the Advanced CCD Imaging Spectrometer (ACIS). Two shock waves are visible: a fast outer shock and a slower inner shock. The inner shock wave is believed to be due to the collision of the ejecta from the supernova explosion with a circumstellar shell of material, heating it to a temperature of ten million degrees. The outer shock wave is analogous to a tremendous sonic boom resulting from this collision. The bright object near the center may be the long sought neutron star or black hole that remained after the explosion that produced Cassiopeia A. (Credit: NASA/CXC/SAO)



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National Aeronautics and
Space Administration

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Dear Colleagues and Friends of Space Science,

It is a pleasure to present our new Space Science Strategic Plan. It represents contributions by hundreds of members of the space science community, including researchers, technologists, and educators, working with staff at NASA, over a period of nearly two years.

Our time is an exciting one for space science. Dramatic advances in cosmology, planetary research, and solar-terrestrial science form a backdrop for this ambitious plan. Our program boldly addresses the most fundamental questions that science can ask: how the universe began and is changing, what are the past and future of humanity, and whether we are alone. In taking up these questions, researchers and the general public—for we are all seekers in this quest—will draw upon all areas of science and the technical arts. Our Plan outlines how we will communicate our findings to interested young people and adults.

The program that you will read about in this Plan includes forefront research and technology development on the ground as well as development and operation of the most complex spacecraft conceived. The proposed flight program is a balanced portfolio of small missions and larger spacecraft. Our goal is to obtain the best science at the lowest cost, taking advantage of the most advanced technology that can meet our standards for expected mission success. In driving hard to achieve this goal, we experienced some very disappointing failures in 1999. But NASA, as an R&D agency, makes progress by learning also from mistakes, and we have learned from these.

Over the coming years, I invite you to watch as our plans come to fruition. This is your program, and we are managing it for you to answer the profoundest questions that we all share. I fully expect exciting surprises as our voyage of discovery continues to expand our knowledge about the history and future of our universe and of humankind within it.



Edward J. Weiler
Associate Administrator for Space Science

the space science enterprise seeks to



- how the universe began and evolved
- how we got here
- where we are going
- and whether we are alone



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