

10 Years of SOHO: Some Lessons and Where to Go Next

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SOHO has brought us a wealth of new information about the Sun, the heliosphere, and space weather, and has provided an exemplary model for international cooperation. The scientific achievements of the SOHO mission are the results of a concerted, multi-disciplinary effort by a large international community of solar scientists, involving sound investment in space hardware coupled with a vigorous and well-coordinated scientific operation and interpretation effort. From the beginning, SOHO was conceived as an integrated package of complementary instruments and great emphasis has been placed on coordinated observations, both internally among different SOHO instruments as well as externally with other spacecraft and ground-based observatories. The next five years promise to be the golden era of solar and heliospheric physics, with STEREO, Solar-B and SDO (SOHO's lineal descendant) enhancing the current fleet of solar space missions and affording new opportunities for improved understanding of the Sun-heliosphere system. Looking beyond that, however, there is a significant gap until Solar Orbiter will be launched in 2015 (nearly 20 years after the launch of SOHO). I will review some of the key findings from SOHO, discuss how future missions will achieve new understanding built on the foundation laid by SOHO, and what in my view are the key challenges for future missions.