

AO-02-01-OSS-003

Proposal Cover Page

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AO 02-OSS-01 - Solar Dynamics Observatory (SDO) and Related Missions of Opportunity

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PI Signature and Date:

Institution Authorization

Name of Authorizing Official:

Title:

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Signature and Date:

Full Title

Helioseismic and Magnetic Imager for the Solar Dynamics Observatory

Short Title: SDO/HMI

Budget Information

Total NASA OSS Cost (in RY \$):
\$ 69,247,483

Total NASA OSS Cost (in 2002 \$):
\$ 60,944,614

Total Investigation Cost (in RY \$, including contributions):
\$ 83,595,483

Total Investigation Cost (in 2002 \$, including contributions):
\$ 73,976,614

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NASA Grant or Contract Number of any current NASA award that the PI holds that is a logical predecessor of the newly proposed work

NAG5-10483

Type of Proposing Institution: Educational institution

Themes

Theme 1: Sun-Earth Connection

Theme 2:

Theme 3:

Theme 4:

Foreign Participation: Yes

The CCD Cameras will be supplied by Co-Is Culhane and Harrison of the U.K. There are also other non-U.S. science Co-Is.

Type of Hardware: Suite of Instruments

Type of Investigation: Instrument on SDO Spacecraft

Proposal Summary/Abstract

The Helioseismic and Magnetic Imager investigation for the Solar Dynamics Observatory consists of an instrument suite with

helioseismic and vector magnetic field imaging components, calibration and operation of the instrument, archiving, processing and distribution of the data products, a complete science investigation for key SDO science objectives, and an E/PO program. The investigation targets high priority goals of the SDO mission and the Living With a Star program. The science investigation studies the origin of solar variability by characterizing and developing an understanding of the Sun's interior and the various components of magnetic activity. The instrumentation is an evolution of the successful SOHO/MDI instrument with enhancements to carry out the more demanding goals of SDO. This instrument suite will observe line-of-sight velocity, line-of-sight magnetic flux, vector magnetic field and narrow-band continuum brightness. The instrument will be provided in a cooperative project between Stanford University and the Lockheed Martin Solar and Astrophysics Laboratory. The investigation team includes Stanford and Lockheed-Martin personnel as well as other U.S. and non-U.S. Co-Investigators and an extended team of potential Guest Investigators. The E/PO component will be a highly leveraged program in collaboration with the Stanford Haas Center for Public Service and will actively coordinate with the LWS E/PO program.

Certification of Compliance with Applicable Executive Orders and U.S. Code

By signing and submitting the proposal identified in this Cover Sheet/Proposal Summary, the Authorizing Official of the proposing institution, as identified above (or the individual proposer if there is no proposing institution):

- 1. certifies that the statements made in this proposal are true and complete to the best of his/her knowledge;**
- 2. agrees to accept the obligations to comply with NASA award terms and conditions if an award is made as a result of this proposal;**
- 3. provides certification to the following that are reproduced in their entirety in this NRA: (i) Certification Regarding Debarment, Suspension, and Other Responsibility Matters; (ii) Certification Regarding Lobbying, and (iii) Certification of Compliance with the NASA Regulations Pursuant to Nondiscrimination in Federally Assisted Programs.**

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