C.4. SCIENCE TEAM

There are two key aspects to the selection of a science team. First is to assure that the capabilities are present to complete the development of the flight program. No less important is the need to assure that those with the knowledge and capability to complete the science investigation are committed to the program. The HMI Science Team includes the Co-Investigators and other named individuals referred to as Associated Investigators (AI).

The Science Team as a whole is dedicated to ensuring that the best possible science investigation is accomplished within the SDO-HMI program. The HMI Science Team consists of leading experts in all of the science goals of the HMI investigation.

During Phase-A only the Stanford, LMSAL, HAO, MSSL, and RAL Co-Is have identified tasks. In Phase B-C the HAO definition role is complete. In Phase D a number of Co-Is will provide software for use in the level-1 through level-3 processing pipeline. This software will allow timely calibration of the data from the beginning of the flight phase and the production of higher level science data products required for later science analysis. These data products are those that require substantial volumes of data and processing that can not be expected to be available at Co-I and other science institutions. In the first two years of Phase-E (E-1) the Stanford, LMSAL, HAO, and international investigators will pursue their full science investigation as well as operations, data processing, calibration as appropriate. The US Co-Is who provided code in Phase-D will participate in the calibration to ensure the proper functioning of the code and algorithms and will pursue a reduced science investigation - sufficient to verify that the algorithms developed yield the science insights intended. In the final years, Phase E-2, the Stanford and LMSAL investigators will continue their operations and processing roles but will pursue only similarly limited science investigations. The support for the full exploitation of the HMI science opportunities by US investigators during this phase must come from sources other than the primary HMI program. This plan is consistent with the requirements specified in the AO Section 1.6 paragraph 2. The plan is outlined in Table C.4.1.

The Investigator team is listed in the table in Table C.4.2 on the next page. For each investigator the Phase A-D roles are identified.

Phase	A	B	C	D	E-1	E-2
Stanford	Full	Full	Full	Full	Ops, Data, Calib, Science	Ops, Data, Some Science
LMSAL	Full	Full	Full	Full	Ops, Calib, Science	Ops, Some Science
MSSL	Yes	Yes	Yes	Yes	Science	Science
RAL	Yes	Yes	Yes	Yes	Science	Science
HAO	Line Sel.	none	none	Code Develop	Calib, Science	none
Other US	none	none	none	Code Develop	Calib, Some Science	none
Other Intl					Science	Science

Table C.4.1 - Team Participation in Mission Phases

Name	Role	Institution	Phase B,C,D	Phase-E
Philip H. Scherrer	PI	Stanford University	HMI Investigation	Solar Science
John G. Beck	A-I	Stanford University	E/PO Science Liaison	Surface Flows
Richard S. Bogart	Co-I	Stanford University	Data Pipeline and Access	Near Surface Flows
Rock I. Bush	Co-I	Stanford University	Program Manager	Irradiance and Shape
Thomas L. Duvall, Jr.	Co-I	NASA Goddard Space Flight Center	Time-Distance Code	Helioseismology
Alexander G. Kosovichev	Co-I	Stanford University	Inversion Code	Helioseismology
Yang Liu	A-I	Stanford University	Vector Field Observable Code	Active Region Fields
Jesper Schou	Co-I	Stanford University	Instrument Scientist	Helioseismology
Xue Pu Zhao	Co-I	Stanford University	Coronal Code	Coronal Field Models
Alan M. Title	Co-I	LMSAL	HMI Instrument	Solar Science
Thomas Berger	A-I	LMSAL	* Vector Field Calibration	Active Region Science
Thomas R. Metcalf	Co-I	LMSAL	* Vector Field Calibration	Active Region Science
Carolus J. Schrijver	Co-I	LMSAL	AIA Liaison	Active Region Science
Theodore D. Tarbell	Co-I	LMSAL	HMI Calibration	Active Region Science
J. Leonard Culhane	Co-I	MSSL, University College London, UK	HMI CCD Cameras	Active Region Science
Richard A. Harrison	Co-I	Rutherford Appleton Laboratories, UK	HMI CCD Camera Electronics	Active Region Science
Bruce W. Lites	A-I	High Altitude Observatory	* Vector Field Inversions	Active Region Science
Steven Tomczyk	Co-I	High Altitude Observatory	* Vector Field Inversions	Active Region Science
Sarbani Basu	Co-I	Yale University	* Ring Analysis Code	Helioseismology
Douglas C. Braun	Co I	Colorado Research Associates	* Farside Imaging Code	Helioseismology
Philip R. Goode	Co-I	NJIT, Big Bear Solar Observatory	* Magnetic and Helioseismic Code	Fields and Helioseismology
Frank Hill	Co-I	National Solar Observatory	* Ring Analysis Code	Helioseismology
Rachel Howe	Co-I	National Solar Observatory	* Internal Rotation Inversion Code	Helioseismology
Jeffrey R. Kuhn	Co-I	University of Hawaii	* Limb and Irradiance Code	Irradiance and Shape
Charles A. Lindsey	Co-I	Solar Physics Research Corp.	* Farside Imaging Code	Helioseismology
Jon A. Linker	Co-I	Science Applications Intnl. Corp.	* Coronal MHD Model Code	Coronal Physics
N. Nicolas Mansour	Co-I	NASA Ames Research Center	* Convection Zone MHD Model Code	Convection Physics
Edward J. Rhodes, Jr.	Co-I	University of Southern California	* Helioseismic Analysis Code	Helioseismology
Juri Toomre	Co-I	JILA, Univ. of Colorado	* Sub-Surface-Weather Code	Helioseismology
Roger K. Ulrich	Co-I	University of California, Los Angeles	* Magnetic Field Calibration Code	Solar Cycle
Alan Wray	Co-I	NASA Ames Research Center	* Convection Zone MHD Model Code	Convection Physics
J. Christensen-Dalsgaard	Co-I	TAC, Aarhus University, DK	* Solar Model Code	Helioseismology
Bernhard Fleck	Co-I	European Space Agency	ILWS Coordination	Atmospheric Dynamics
Douglas O. Gough	Co-I	IoA, Cambridge University, UK	* Local HS Inversion Code	Helioseismology
Takashi Sekii	Co-I	National Astron. Obs. of Japan, JP		Helioseismology
Hiromoto Shibahashi	Co-I	University of Tokyo, JP		Helioseismology
Sami K. Solanki	Co-I	Max-Planck-Institut für Aeronomie, DE		AR Science
Michael J. Thompson	Co-I	Imperial College, UK		Helioseismology

Table C.4.2 - HMI Science Team

* Phase D only