Editors' note

Local helioseismology uses measurements of wave motions on the Sun's surface to make three-dimensional images of the solar interior. One basic approach is to measure the propagation time of solar waves between any two locations on the surface: wave travel times contain the seismic signature of buried inhomogeneities along the wave propagation paths. Internal flows also leave a signature in the frequencies of solar oscillations extracted from time-series of local areas on the Sun. Local helioseismology has been used to probe the subsurface structure of sunspots, internal flows and their temporal evolution, and even magnetic activity on the far side of the Sun. It is believed that local helioseismology will provide important clues in our quest to understand the mechanism of the eleven-year solar magnetic cycle.

The European Helio- and Asteroseismology Network (HELAS) is a coordinated action funded by the European Commission under the Sixth Framework Programme of the European Union for the period April 2006–April 2010. The main objective of HELAS is to bring together European researchers in helio- and asteroseismology. HELAS combines the core expertise of ten research institutes through six network activities, in order to ensure European competence and competitiveness in this research area by spreading expertise, enhancing the synergy between helio- and asteroseismology, and improving the public understanding and interest in solar and stellar physics. The HELAS web site is `http://www.helas-eu.org`.

The Local Helioseismology Network Activity aims at consolidating this field of research in Europe, organizing scientific meetings, and facilitating the distribution of solar oscillation data and the tools for their analysis. An important goal is to provide Europe with the means to analyze data from the Solar and Heliospheric Observatory (SOHO) and the Global Oscillation Network Group (GONG), as well as to prepare for upcoming space missions like the Solar Dynamics Observatory (SDO) and the Solar Orbiter. A preliminary web site for the Local Helioseismology Network Activity is `http://www.mps.mpg.de/projects/seismo/helasNA4.html`.

The first HELAS local helioseismology workshop 'Roadmap for European local helioseismology' was held on 2006 September 25–27 at Observatoire de la Côte d'Azur in Nice, France (`http://www.obs-nice.fr/HELAS/`). The local organizing committee included Thierry Corbard and Janine Provost, while we looked after the scientific organization. The presentations covered most aspects of modern local helioseismology and form the basis for this publication. All articles are original and peer reviewed.

It was agreed during the meeting that a lot of material will be shared and made available to scientists active in our field of research. Four working groups were created to exchange knowledge in the following areas: observational data (contact: Hannah Schunker, `schunker@mps.mpg.de`), data analysis tools (contact: Jason Jackiewicz, `jackiewicz@mps.mpg.de`), models and modelling tools (contact: Robert Cameron, `cameron@mps.mpg.de`) and activities related to the SDO (contact: Laurent Gizon, `gizon@mps.mpg.de`). Markus Roth (`roth@mps.mpg.de`) is the contact person for public outreach activities and issues related to future funding opportunities. The Max Planck Institute will serve as a hub in these efforts.

Thierry Corbard, Laurent Gizon and Markus Roth