

Preface

A. BEMPORAD⁽¹⁾, S. CRISCUOLI⁽²⁾, D. DEL MORO⁽³⁾, S. L. GUGLIELMINO⁽⁴⁾,
S. LANDI⁽⁵⁾, M. LAURENZA⁽⁶⁾, F. REALE⁽⁷⁾, T. STRAUS⁽⁸⁾ and A. VECCHIO⁽⁹⁾

⁽¹⁾ *INAF, Osservatorio Astrofisico di Torino - Torino, Italy*

⁽²⁾ *NSO-National Solar Observatory - Boulder, CO, USA*

⁽³⁾ *Università di Roma “Tor Vergata”, Dipartimento di Fisica - Roma, Italy*

⁽⁴⁾ *Università degli Studi di Catania - Catania, Italy*

⁽⁵⁾ *Università di Firenze & INAF, Osservatorio Astrofisico di Arcetri - Firenze, Italy*

⁽⁶⁾ *INAF, Istituto di Astrofisica e Planetologia Spaziali - Roma, Italy*

⁽⁷⁾ *Università di Palermo & INAF, Osservatorio Astronomico di Palermo - Palermo, Italy*

⁽⁸⁾ *INAF, Osservatorio Astronomico di Capodimonte - Napoli, Italy*

⁽⁹⁾ *LESIA-Observatoire de Paris - Paris, France*

received 28 December 2018

Meeting description

The Italian Solar and Heliospheric Community (SoHe) periodically organizes national conferences: the last two conferences of the series were held in Catania in September 2013, and in Rome in May 2016 at the headquarter of the National Space Agency (ASI). The last meeting was hosted in Turin, on October 28-31, 2018, in the “Aula Magna” of the Turin University in the “Cavallerizza Reale” complex.

The purpose of this conference was to provide a forum at the national level for the discussion of the main topics of solar and heliospheric physics, and space weather. The conference strengthened existing collaborations and established new ones, both in the context of projects in which part of the community is involved in (such as the European Solar Telescope - EST, Solar Orbiter, Bepi Colombo, Proba-3, CSES-Limadou space missions, etc.), and beyond. The conference supported the participation of Ph.D. students and young researchers to facilitate their entry into the Italian community.

The meeting was organized around the following broad topics:

1. The cool Sun: solar cycle, solar wind, coronal heating
2. The impulsive Sun: solar eruptions, particle acceleration
3. Solar-planetary relations, space weather, and climate

Topical sessions were opened by invited talks, followed by contributed talks. The conference scientific sessions had a total duration of two days and a half, during which eleven oral talks were held upon invitation, and 30 contribution talks were given; moreover 20 posters have been presented during the coffee breaks.

The conference was attended by a total of 70 people (see the photo at the end of this preface), coming from 7 different INAF national Observatories, 9 national Universities, the National Space Agency (ASI), the Aerospace Logistics Technology Engineering Company (ALTEC), and CINECA. The participation was also open to the international community, and 14 participants had international affiliations (see table I); for this reason all presentations were given in English language.

The event was locally organized by the INAF-Turin Astrophysical Observatory, the Physics Department of the University of Turin, and the Consorzio Interuniversitario per la Fisica Spaziale (CIFS).

Prizes and related events

To commemorate the scientific career of Prof. Egidio Landi Degl’Innocenti and Prof. Alberto Egidi, the scientific organizing committee of the SoHe3 conference established two prizes named after them. In particular:

- the “E. Landi” Prize was established and financed by INAF - Astrophysical Observatory of Turin; the initiative is aimed at rewarding the best Master Thesis in the research field of Solar Physics and published in the last three years (from July 1st, 2015, onwards);
- the “A. Egidi” Prize was established by the Interuniversity Consortium of Space Physics (CIFS), in collaboration with the Physics Department of the University of Rome “Tor Vergata”; the initiative is aimed at rewarding the best PhD Thesis in the research field of Physics of the Interplanetary Medium, Eliophysics, or Space Weather, published in the last three years (Doctoral Cycles XXVIII, XXIX, XXX).

The winner of the “E. Landi” Prize was Dr. Giorgio Viavattene, who was selected for his Degree Thesis titled “Spectro-polarimetric Analysis of a short lived solar Active Region”. The winner of the “A. Egidi” Prize was Dr. Oreste Pezzi, who was selected for his Ph.D. Thesis titled “Waves and turbulence in plasmas: from MHD to Vlasov and beyond”. The winners of the two Prizes have been supported for their participation to the meeting, invited to give an oral presentation about their awarded works and to publish an article in these Proceedings.

Moreover, to commemorate the scientific career of Prof. Lucio Paternò, the same organizing committee decided to establish the “L. Paternò” Prize, funded by the INAF-Astrophysical Observatory of Catania, aimed to reward the best oral presentation held by a young student or a postdoc during the SoHe3 conference; the prize was awarded to Dr. Vanessa Polito.

The SoHe3 event also provided a good framework to organize an outreach conference open to the general public. In particular, a conference titled “Sole, tempeste spaziali e clima terrestre” was presented (in Italian language) on October 28th by Dott. Piero Bianucci, Prof. Mauro Messerotti and Prof. Carla Taricco, and attended by about 100 people.

The organization of the meeting was in extremely capable hands. The Local Organizing Committee was composed by Alessandro Bemporad, Lucia Abbo, Gabriella Ardizzoia, Carlo Benna, Tullia Carriero, Alberto Cora, Annalisa Deliperi, Silvano Fineschi, Federica Frassati, Silvio Giordano, Salvatore Mancuso, Silvano Massaglia, Stefania Rasetti, Roberto Susino, and Luca Zangrilli. They all participated in the efforts to prepare the venue, to manage the contacts, to populate and maintain the meeting website, and, in

general, to ensure a smooth and successful meeting. To all of them, goes our most sincere gratitude for the hours spent in the organization.

Conference proceedings

The proceedings of the SoHe3 meeting are presented in this Volume, and include contributions from invited and contributed speakers, as well as poster presentations. For each one of the three scientific sessions listed above we provide first the invited papers, then the contributed and poster papers.

TABLE I.: Final list of participants to the SoHe3 meeting.

	Name	Affiliation
1.	Lucia Abbo	INAF - Osservatorio Astrofisico di Torino
2.	Ester Antonucci	INAF - Osservatorio Astrofisico di Torino
3.	Cristian Baccani	INAF - Osservatorio Astrofisico di Arcetri
4.	Luca Belluzzi	Istituto Ricerche Solari Locarno, Switzerland
5.	Alessandro Bemporad	INAF - Osservatorio Astrofisico di Torino
6.	Simone Benella	Università di Urbino “Carlo Bo”
7.	Carlo Benna	INAF - Osservatorio Astrofisico di Torino
8.	Ruggero Biondo	Università di Torino
9.	Emilia Capozzi	Istituto Ricerche Solari Locarno, Switzerland
10.	Chiara Casini	Università di Firenze
11.	Marta Casti	ALTEC S.p.A., Torino
12.	Gianna Cauzzi	INAF - Osservatorio Astrofisico di Arcetri
13.	Theodosios Chatzistergos	INAF - Osservatorio Astronomico di Roma
14.	Alberto Cora	INAF - Osservatorio Astrofisico di Torino
15.	Rossana De Marco	INAF - Istituto di Astrofisica e Planetologia Spaziali, Roma
16.	Dario Del Moro	Università di Roma “Tor Vergata”
17.	Sajal Kumar Dhara	Istituto Ricerche Solari Locarno, Switzerland
18.	Simone Di Matteo	Università dell’Aquila - Dip. di Scienze fisiche e chimiche
19.	Ilaria Ermolli	INAF - Osservatorio Astronomico di Roma
20.	Mariachiara Falco	INAF - Osservatorio Astrofisico di Catania
21.	Silvano Fineschi	INAF - Osservatorio Astrofisico di Torino
22.	Federica Frassati	INAF - Osservatorio Astrofisico di Torino
23.	Silvio Giordano	INAF - Osservatorio Astrofisico di Torino
24.	Fabrizio Giorgi	INAF - Osservatorio Astronomico di Roma
25.	Luca Giovannelli	Università di Roma “Tor Vergata”
26.	Davide Grassi	INAF - Istituto di Astrofisica e Planetologia Spaziali, Roma
27.	Catia Grimani	Università di Urbino “Carlo Bo” and INFN
28.	Massimiliano Guarrasi	CINECA, Bologna
29.	Salvo Guglielmino	Università degli Studi di Catania
30.	Maria Noemi Iacolina	ASI - Agenzia Spaziale Italiana, Roma
31.	Enrico Landi	University of Michigan, USA
32.	Simone Landi	Università di Firenze
33.	Giovanni Lapenta	Center for Plasma Astrophysics, KULeuven, Belgium
34.	Monica Laurenza	INAF - Istituto di Astrofisica e Planetologia Spaziali, Roma
35.	Salvatore Mancuso	INAF - Osservatorio Astrofisico di Torino
36.	Valeria Mangano	INAF - Istituto di Astrofisica e Planetologia Spaziali, Roma

37.	Maria Federica Marcucci	INAF - Istituto di Astrofisica e Planetologia Spaziali, Roma
38.	Anna Maria Massone	Università di Genova - Dipartimento di Matematica
39.	Lorenzo Matteini	LESIA - Observatoire de Paris, France
40.	Mariarita Murabito	INAF - Osservatorio Astronomico di Roma
41.	Giuseppina Nigro	Università della Calabria
42.	Giuseppe Nisticò	Institut für Astrophysik - Universität Göttingen, Germany
43.	Vladimiro Noce	INAF - Osservatorio Astrofisico di Arcetri
44.	Paolo Pagano	University of St Andrews, UK
45.	Emanuele Papini	Università di Firenze - Dipartimento di Fisica e astronomia
46.	Susanna Parenti	Institut d'Astrophysique Spatiale, France
47.	Alberto Pellizzoni	INAF - Osservatorio Astronomico di Cagliari
48.	Giovanni Peres	Università di Palermo - Dipartimento di Fisica e chimica
49.	Antonino Petralia	INAF - Osservatorio Astronomico di Palermo
50.	Oreste Pezzi	Università della Calabria - Dipartimento di Fisica
51.	Michele Piana	Università di Genova - Dipartimento di Matematica
52.	Mirko Piersanti	INFN - Sezione di "Tor Vergata", Roma
53.	Christina Plainaki	ASI - Agenzia Spaziale Italiana, Roma
54.	Vanessa Polito	Harvard-Smithsonian Center for Astrophysics, USA
55.	Fabio Reale	Università di Palermo
56.	Paolo Romano	INAF - Osservatorio Astrofisico di Catania
57.	Marco Romoli	Università di Firenze
58.	Clementina Sasso	INAF - Osservatorio Astronomico di Capodimonte
59.	Marco Stangalini	INAF - Osservatorio Astronomico di Roma
60.	Thomas Straus	INAF - Osservatorio Astronomico di Capodimonte
61.	Roberto Susino	INAF - Osservatorio Astrofisico di Torino
62.	Paola Testa	Harvard-Smithsonian Center for Astrophysics, USA
63.	Rita Ventura	INAF - Osservatorio Astrofisico di Catania
64.	Andrea Verdini	Università di Firenze - Dipartimento di Fisica e astronomia
65.	Giorgio Viavattene	Università di Roma "Tor Vergata"
66.	Umberto Villante	Università dell'Aquila
67.	Jianchao Xue	Purple Mountain Observatory - Chinese Academy of Sciences
68.	Beili Ying	Purple Mountain Observatory - Chinese Academy of Sciences
69.	Luca Zangrilli	INAF - Osservatorio Astrofisico di Torino
70.	Pietro Zucca	ASTRON - Netherlands Institute for Radio Astronomy

* * *

The SoHe3 Meeting organizers acknowledge support from the Italian National Institute for Astrophysics (INAF) and the University of Turin - Physics Department. The awarded Prizes were supported by Osservatorio Astrofisico di Torino, Osservatorio Astrofisico di Catania and University of Rome "Tor Vergata".

GROUP PICTURE OF THE SOHE3 MEETING JUST IN FRONT OF THE VENUE (OCTOBER 30TH, 2018)

