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6th Swiss SCOSTEP workshop

28 – 29
November
2024

Aula Magna
Liceo Cantonale di Locarno
Via Francesco Chiesa 17
CH – 6600 Locarno

<https://data.irsol.usi.ch/scostep24> sco-
step24/

Workshop Programme

Thursday 28 November – Aula Magna

| | |
|---|--|
| 11.00 – 11.10 | Welcome L. Kleint, R. Ramelli |
| Solar Flares and Instrumentation | |
| 11.10 – 11.22 | White-light and gamma-ray emission in solar flares A. Battaglia, IRSOL |
| 11.22 – 11.34 | The IRSOL flare program and the detection of linear polarization in the He I D3 multiplet F. Vitali, IRSOL* |
| 11.34.11.46 | Statistical Study of Near UV Continuum Enhancement in Solar Flares P. Sharma, UniBE* |
| 11.46 – 11.58 | A solar/stellar wide-spectral coverage polarimeter for investigating flare energetics M. Galloway, UniBE |
| 11.58 – 12.10 | Spectrograph design for wide visible spectral range solar and stellar spectroscopy D. Paillon, UniBE* |
| 12.10 – 12.25 | Discussion |
| 12.25 – 14.00 | Lunch break |
| Solar Orbiter | |
| 14.00 – 14.30 | The Sun and the solar wind: Linkage science with Solar Orbiter (invited) M. Janvier, ESA |
| 14.30 – 14.42 | Linking Solar Flare Observation to Energetic Particle Events: First results from case studies and an automatized approach based on Solar Orbiter data N. Janitzek, PMOD |
| 14.42 – 14.54 | Latest developments in flare observations from STIX and EUI onboard Solar Orbiter H. Collier, FHNW/ETH* |
| 14.54 – 15.06 | High-resolution observations of an active region pore throughout the solar atmosphere Y. Zhu, PMOD |
| 15.06 – 15.18 | The STIX Background Detector as an estimate for GOES flare classes M. Stiefel, FHNW/ETH* |
| 15.18 – 15.35 | Discussion |
| 15.35 – 16.15 | Conference photo + coffee break |
| Solar irradiance, solar constant | |
| 16.15 – 16.27 | A spectral solar irradiance monitor (SoSpIM) on the JAXA Solar-C (EUVST) space mission L. Harra, PMOD/ETH |
| 16.27 – 16.39 | Some thoughts on the variation of the solar constant O. Steiner, IRSOL |
| 16.39 – 16.51 | M-SoSpIM –the Sun observation from Mars orbit K. Barczynski, PMOD |
| 16.51 – 17.03 | Calibration of dual-polarization weather radars in Europe using solar flux reference values measured in two frequency bands and three continents M. Gabella, MeteoSwiss |
| 17.03 – 17.25 | Discussion |
| Inversions | |
| 17.25 – 17.37 | A 1D radiative transfer code to model strong resonance lines with applications to the Mg II h & k, H I Ly-α, and He II Ly-α lines F. Riva, IRSOL |
| 17.37 – 17.49 | A spectropolarimetric inversion code for strong resonance lines G. Janett, IRSOL |
| 17.49 – 18.05 | Discussion |
| 19.15 | Social dinner at Ristorante Vallemaggia, Via Varenna 1, 6600 Locarno |

Friday 29 November – Aula Magna

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|---|---|
| Machine Learning / Scattering polarization | |
| 9.00 – 9.12 | Solar Flare Forecasting using Deep Survival Analysis M. Meyer zu Westram, UniBE* |
| 9.12 – 9.24 | Forecasting Total Solar Irradiance Time Series using Machine Learning and Deep Learning A. De-Sassi, ETHZ* |
| 9.24 – 9.36 | A Machine Learning Approach to Investigate the Evolution of Sunspots J. Witmer, UniBE* |
| 9.36 – 9.48 | Prediction of flare location based on pre-flare spectra identified with machine learning J. Zbinden, UniBE* |
| 9.48 – 10.00 | Comparing Observed with Simulated Solar Disk Center Scattering Polarization in the Sr I 4607 Å line F. Zeuner, IRSOL |
| 10.00 – 10.12 | Solving the Radiative Transfer Problem with Reinforcement Learning B. Panos |
| 10.12 – 10.30 | Discussion |
| 10.30 – 11.00 | Coffee break |
| Space Weather | |
| 11.00 – 11.30 | ESA Space Safety Activities for Space Weather Services and Science Juha-Pekka Luntama, ESA |
| 11.30 – 11.42 | Global impacts of an extreme solar particle event under different geomagnetic field strengths T. Sukhodolov, PMOD |
| 11.42 – 11.54 | Satellite Orbital Decay and Solar Wind Interactions: A Data Driven Case Study of May 2024 Space Weather Events V. Mercea, UniBE* |
| 11.54 – 12.06 | Space Weather and Research at the University of Bern and Plans for an NCCR L. Kleint, UniBE |
| 12.06 – 12.20 | Discussion |
| Long-term studies | |
| 12.20 – 12.32 | Sunspot records in Locarno since 1957 R. Ramelli, IRSOL |
| 12.32 – 12.44 | New insights on the sun through the calibration of solar dynamo models on millennial records of magnetic activity S. Ulzega, ZHAW |
| 12.45 | Closing remarks |
| 12.50 – 14.15 | Lunch break |
| 14.15 – 16.00 | Tour of IRSOL observatory |

* eligible for PhD student prize

Contact

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Conference venue

Aula Magna Liceo di Locarno
Via Francesco Chiesa 17
CH - 6600 Locarno
(Switzerland)

Scientific Organizer

Swiss SCOSTEP Committee

Local Organizer

Istituto ricerche solari Aldo e Cele Daccò (IRSOL)

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