Solar Polarization Workshop 8

Firenze, 12 – 16 September, 2016

Program
MONDAY, September 12

8:00 – 9:00 Registration
9:00 – 9:15 Welcome

SESSION 1
PHYSICS OF POLARIZATION
Chair: R. Manso Sainz

9:15 – 9:50 R. Casini (Review)
Egidio Landi: a life in the science and teaching of polarimetry

9:50 – 10:15 V. Bommier
Non-perturbative theory of radiative scattering in the weak radiation field limit

10:15 – 10:40 J.O. Stenflo
The Kramers-Heisenberg coherency matrix

10:40 – 11:10 COFFEE BREAK

11:10 – 11:35 E. Landi Degl’Innocenti
Relaxation phenomena due to collisions with neutral perturbers in hyperfine structure multiplets

11:35 – 12:00 S. Sahal-Bréchot
Collisional broadening and collisional depolarization of spectral lines: similarities and differences

12:00 – 12:25 H. Frisch
Some analytic results on Rayleigh scattering and resonance polarization

12:25 – 12:50 K. Sowmya
Partial frequency redistribution theory with Paschen-Back effect – application to Li I 6708 Å lines

12:50 – 14:20 LUNCH

14:20 – 14:45 D. Supriya
Effects of lower-level polarization and partial frequency redistribution on Stokes profiles

14:45 – 15:10 J. Mao
Relativistic electrons radiation/polarization in random and small-scale magnetic fields

SESSION 2
MODELING OF POLARIZATION IN THE ATMOSPHERES
OF THE SUN AND OTHER STARS
Chair: Stepan, J.

15:10 – 15:45 J. Trujillo Bueno (Review)
The last twenty years: a review on optically polarized atoms in the solar atmosphere

15:45 – 16:45 POSTER SESSION + COFFEE BREAK

16:45 – 17:10 L. Belluzzi
Modeling the enigmatic scattering polarization signal of the NaI D1 line

17:10 – 17:35 T. del Pino Aleman
A theoretical investigation of the scattering polarization in far ultraviolet lines with different sensitivities to the Hanle effect

17:35 – 18:00 E. Carlin Ramirez
Modelling of chromospheric Hanle and Zeeman polarization in time and space

19:00 WELCOME COCKTAIL
TUESDAY, September 13

9:00 – 9:35  K. Nagendra (Review)
Polarized Line Formation: Methods and Solutions

9:35 – 10:00  G. Janett
Numerical methods for the formal solution of the radiative transfer equation for polarized light

10:00 – 10:25  M. Sampoorna
Comoving Frame Methods for Polarized PRD Line Transfer with Velocity Fields

10:25 – 10:50  E. Alsina Ballester
The transfer of resonance line polarization with PRD in the general Hanle-Zeeman regime

10:50 – 11:20 COFFEE BREAK

11:20 – 11:45  R. Manso Sainz
Magnetic Field Diagnostics with Strong Chromospheric Lines

11:45 – 12:10  N. Kostogryz
Center-to-limb continuum polarization in solar and stellar atmosphere

12:10 – 12:35  F. Calvo
Linear polarization of the solar continuum spectrum

SESSION 3
POLARIMETRY AS A DIAGNOSTIC TOOL FOR STELLAR ATMOSPHERES
Chair: Anusha, L.

12:35 – 13:00  A. Asensio Ramos
Modern inversion codes for Stokes parameters

13:00 – 14:30 LUNCH

14:30 – 14:55  I. Milic
Response function for NLTE lines

14:55 – 15:20  N. Raouafi
Diagnostics of Coronal Magnetic Fields Through the Hanle Effect in UV and IR Lines

15:20 – 15:45  H. Li
Polarization of coronal forbidden line

15:45 – 16:45 POSTER SESSION + COFFEE BREAK

16:45 – 17:10  N. Smitha
Measurement of solar magnetic fields using multi-pair Stokes V line ratios

17:10 – 17:35  M.J. Martinez Gonzalez
Measuring the global field of the Sun and other stars with the Hanle effect

17:35 – 18:00  C. Scalia
Measuring the effective magnetic field of cold active star Eps Eri using the slope method
SESSION 4-I
GROUND-BASED POLARIZATION MEASUREMENTS:
OBSERVATIONS, ANALYSIS AND INTERPRETATION
Chair: Asensio Ramos, A.

9:00 – 9:25  J. Haisheng
   The results from NST's observation — Magnetic activities

9:25 – 9:50  M. Bianda
   Second Solar Spectrum observations with ZIMPOL

9:50 – 10:15  J. Jurcak
   The intensity and polarization of the Ca II 8542 line in the quiet Sun: spectro-polarimetric
   observations vs. 3D radiative transfer modelling

10:15 – 10:40  H. Balthasar
   Spectropolarimetric Observations of an Arch Filament System with GREGOR

10:40 – 11:40 POSTER SESSION + COFFEE BREAK

11:40 – 12:05  C.J. Diaz Baso
   Inference of magnetic fields in an active region filament

12:05 – 12:30  Y. Xiaoli
   The change of photospheric magnetic fields before filament formation and eruptions

SESSION 3
POLARIMETRY AS A DIAGNOSTIC TOOL FOR STELLAR ATMOSPHERES
Chair: Anusha, L.

12:30 – 13:05  S. Berdyugina (Review)
   Polarized Scattering due to Molecules, Particles and Biopigments in Stellar and
   Planetary Atmosphere

FREE LUNCH
15:30 VISIT OF THE “OPERA DEL DUOMO” MUSEUM
THURSDAY, September 15

9:00 – 9:25  R. Schlichenmaier  
The fine-structure of a faint sunspot light bridge
9:25 – 9:50  M. Murabito  
Formation of the penumbra and start of the Evershed flow
9:50 – 10:15  L. Deng  
New Vacuum Solar Telescope Observations of Solar Fine-scale Structures in the Lower Atmosphere
10:15 – 10:40  A. Pastor Yabar  
Magnetic topology of the North solar pole

10:40 – 11:10 COFFEE BREAK

11:10 – 11:35  L. Rachmeler  
Coronal polarization of pseudostreamers and the solar polar field reversal
11:35 – 12:00  B. Tessore  
Spectropolarimetric study of red supergiant stars

SESSION 4-II
SPACE-BORNE POLARIZATION MEASUREMENTS: OBSERVATIONS, ANALYSIS AND INTERPRETATION  
Chair: McKenzie, D.

12:00 – 12:35  S. Fineschi (Review)  
Coronal Polarimetry: Future prospects for space- and ground-based observations
12:35 – 13:00  R. Kano  
Lyman-alpha scattering polarization observed with the Chromospheric Lyman-Alpha Spectro-Polarimeter

13:00 – 14:30 LUNCH

14:30 – 14:55  J. Stepan  
CLASP: Lyman-alpha spectropolarimetric observations versus radiative transfer modeling
14:55 – 15:20  R. Ishikawa  
Comparison of the Scattering Polarization Observed by CLASP; Possible indication of the Hanle Effect
15:20 – 15:45  C. Fischer  
Temporal evolution of an exploding granule and its surrounding magnetic elements

15:45 – 16:15 COFFEE BREAK

16:15 – 16:40  S. Solanki  
First results from the second science flight of Sunrise
16:40 – 17:05  J.C. del Toro Iniesta  
On the role of convectively driven sinks on magnetic field evolution in the quiet Sun
17:05 – 17:30  L. Anusha  
Evolution of quiet-Sun small scale magnetic features using Sunrise observations
17:30 – 17:55  Gorobets  
Markov fluctuations of the magnetic concentrations in the quiet Sun

20:00 SOCIAL DINNER
FRIDAY, September 16

9:00 – 9:25  F. Kahil  
Brightness of solar magnetic elements as a function of magnetic flux at high spatial resolution

9:25 – 9:50  A. Kaithakkal  
Moving Magnetic Features around a Pore

9:50 – 10:15  S. Guglielmino  
On the magnetic nature of solar exploding granules

SESSION 5
INSTRUMENTATION FOR POLARIZATION STUDIES
Chair: Narukage, N.

10:15 – 10:50  W. Cao (Review)  
The 1.6 Meter New Solar Telescope at Big Bear Solar Observatory

10:50 – 11:20 COFFEE BREAK

11:20 – 11:45  K. Ahn  
Calibration of the Instrumental Crosstalk for the Near-IR Imaging Spectropolarimeter at the NST

11:45 – 12:10  D. Harrington  
DKIST Polarization Modeling and Performance Predictions

12:10 – 12:35  S. Sueoka  
Progress in modeling polarization optical components for the Daniel K. Inouye Solar Telescope

12:35 – 13:00  T. Baur  
New Optical tools for polarimetry and polarization control

13:00 – 14:30 LUNCH

14:30 – 14:55  S. Yuan  
Polarization modeling for the main optics of Chinese Giant Solar Telescope

14:55 – 15:20  Z. Qu  
Progresses in Shaping Fiber Arrayed Solar Optic Telescope (FASOT)

15:20 – 15:45  J. Hou  
Spectral-modulation-based polarization calibration method for AIMS telescope

15:45 – 16:15 COFFEE BREAK

16:15 – 16:40  F. Berrilli  
The calibration pipeline for the MOTH II - Magneto Optical filters at Two Heights

16:40 – 17:05  F. Landini  
PENCIL: a wire grid polarimeter at 121.6 nm

17:05 – 17:30  M. Demidov  
On the cross-calibration of the HSOS SMAT full disk longitudinal magnetograms with data sets from some other instruments

SUMMARY AND CONCLUSIONS

17:30 – 17:55  J. Stenflo  
Summary talk

17:55 – 18:00  Conference close
POSTERS

SESSION 2
MODELING OF POLARIZATION IN THE ATMSPHERES OF THE SUN AND OTHER STARS
1. L. Anusha
   Spatial structuring in the scattering polarization line profiles in the solar chromosphere
2. S. Gunár
   3D Whole-Prominence Fine Structure model as a test case for verification and development of magnetic field inversion techniques
3. J. Stepan
   Modeling the scattering polarization of the hydrogen Ly-alpha and Si III lines observed by CLASP in a filament channel
4. Z. Yang
   The Relation between the magnetic field and rotation of sunspots

SESSION 3
POLARIMETRY AS A DIAGNOSTIC TOOL FOR STELLAR ATMOSPHERES
5. G. Dima
   Hanle coronal magnetometry using permitted HeI 1083nm and forbidden SiX 1430.1nm IR emission lines
6. D. Fabbian
   Internetwork magnetic flux density in 3D magneto-hydrodynamic simulations and observations
7. D. Fabbian
   Physical and observable parameters derived from 3D magneto-convection simulations of the Sun’s photosphere
8. M. Gangi
   Detection of linear polarization in strong metal lines of 89 Herculis
9. M. Sampoorna
   Polarized scattering matrix for magnetic dipole transitions
10. T. Vieu
    How to infer the Sun’s global magnetic field using the Hanle effect

SESSION 4-I
GROUND-BASED POLARIZATION MEASUREMENTS: OBSERVATIONS, ANALYSIS AND INTERPRETATION
11. H. Balthasar
    Near-infrared spectropolarimetry of the trailing sunspots of NOAA 12396
12. N. Bello González
    New insights on penumbra formation - The origin of the counter-Evershed flow
13. M. Demidov
    On the Time Variations of Magnetic Strength Ratios in Different Combinations of Spectral Lines
14. Y. Hanaoka
    Statistical Study of the Magnetic Field in Solar Filaments
15. D. Hiriart
    Long Term Photopolarimetric Monitoring of Bright Blazars at San Pedro Mártir Observatory
16. R. Ramelli
    Atlas of the solar intensity spectrum and its center to limb variation
17. R. Ramelli
    Measurement of the evolution of the magnetic field of the quiet photosphere during a solar cycle
18. F. Zeuner
    Fast Solar Polarimeter (prototype): preliminary results of Stokes measurements in the Sr I (4607 Å) line at VTT/TESSO
SESSION 4-II
SPACE-BORNE POLARIZATION MEASUREMENTS: OBSERVATIONS, ANALYSIS AND INTERPRETATION
19. S. Di Serego Alighieri
   The conventions for the polarization angle
20. N. Narukage
   Temporal variation in the Ly-alpha linear polarization observed with the CLASP sounding rocket
21. H. Strecker
   Sunspot decay: Transition from moat flow to supergranular flow cell

SESSION 5
INSTRUMENTATION FOR POLARIZATION STUDIES
22. T. Anan
   Developments of a spectro-polarimeter observing multi-wavelength windows simultaneously at Hida observatory
23. A. de Wijn
   First results from the Chromosphere and Prominence Magnetometer ChroMag
24. K. Ichimoto
   Application of New Birefringent Tunable Filters at Hida Observatory
25. T. Kvernadze
   Polarization-holographic imaging Stokes polarimeter for observational study of the Sun
26. H. Lin
   Tomographic Mission from Space to Disentangle the 3D Magnetic and Thermodynamic Structures of the Solar Corona
27. D. McKenzie
   CLASP2: The Chromospheric Layer Spectro-Polarimeter
28. Y. Shen
29. D. Wang
   Lyot Filter Based on Liquid Crystal Variable Retarder
30. Y. Xin
   Polarimetric Measurement System of Lijiang 2.4 meter telescope