

Helicity Thinkshop on Solar Physics

October 27-31, 2013 Beijing, China

October 27, 2013, Sunday Registration 14:00 - 18:00, Room:A238
National Astronomical Observatories, Chinese Academy of Sciences
(NAOC)

Reception: 18:00, Glass coffee house, 5th floor, BuildingA, NAOC

Observational evidence and calculation of helicity in the Sun

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| Monday, October 28, 2013, Room: A601, NAOC | | |
| 9:00-10:10 | | Chair: Hongqi Zhang |
| 9:00-9:10 | Welcome address | |
| 9:10-9:40 | Self-consistent calculation of magnetic helicity in the solar magnetized atmosphere: outcome and perspective | Manolis K. Georgoulis, K. Tziotziou |
| 9:40-10:10 | Cyclones (tornadoes) in the quiet Sun | Jun Zhang |
| 10:10-10:40 | Tea break and photo | |

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| 10:40-11:40 | | Chair: T. Sakurai |
| 10:40-11:10 | Measurements of solar magnetic field in HSOS | Yuanyong Deng |
| 11:10-11:40 | Observation on current helicity and subsurface kinetic helicity in solar active regions | Yu Gao |

12:00 – 14:00 Lunch time

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| 14:00-16:00 | | Chair: Axel Brandenburg |
| 14:00-14:30 | Butterfly diagram of magnetic helicity in active regions | Masaoki Hagino and Takashi Sakurai |
| 14:30-15:00 | Helicity from observations | Hongqi Zhang |
| 15:00-15:30 | Solar tilt angle data in light of solar helicity data | A. Tlatov, E. Illarionov , D. Sokoloff, V. Pipin |
| 15:30-16:00 | Tea break | |

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| 16:00-17:30 | | Chair: Axel Brandenburg |
| 16:00-16:30 | Solar-cycle variation of kinematic helicity | Mei Zhang , Junwei Zhao, Mark Miesch |
| 16:30-17:00 | The reasons for the differences of calculated helicity parameters with SMFT and SFT data | H. Xu , H. Zhang, K. Kuzanyan, T. Sakurai, GuipingRuan |
| 17:00-17:30 | Observational evidence of anisotropy of current helicity components | H. Xu, R. Stepanov, K. Kuzanyan , D. Sokoloff, H. Zhang and Y. Gao |

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| Tuesday, October 29, 2013, Room: A601, NAOC | | |
| 9:00-10:00 | | Chair: Mei Zhang |
| 9:00-9:30 | Solar cycle variation of helicity characteristics | Juan Hao , Mei Zhang |
| 9:30-10:00 | Modeling the relative magnetic helicity and its applications to solar activity | Shangbin Yang |

Role of helicity in the dynamo theory and simulations

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| 10:30-11:30 | | Chair: Mei Zhang |
| 10:30-11:00 | Flow induction due to helicity effect | Nobumitsu Yokoi |
| 11:00-11:30 | Higher helicity invariants | P.M. Akhmetev, D.D. Sokoloff , E. Illarionov and |

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| | | A. Smirnov |
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12:00 – 13:30 Lunch time

13:30-16:30 Free discussions on helicity and visit to the Forbidden City

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| Wednesday, October 30, 2013, Room: A601, NAOC | | |
| 9:00-10:00 | | Chair: D.D. Sokoloff |
| 9:00-9:30 | Magnetic helicity conservation and its impact on the solar cycle | Valery Pipin |
| 9:30-10:00 | Self-assembly of shallow magnetic spots through strongly stratified turbulence | Axel Brandenburg, Nathan Kleeorin, Igor Rogachevskii |
| 10:00-10:30 | Tea break | |

Origin of helicity in the Sun and relationship with solar eruptions (flares and CMEs)

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| 10:30-12:00 | | Chair: D.D. Sokoloff |
| 10:30-11:00 | Helicity shedding in simulated CMEs | N. Seehafer, B. Kliem |
| 11:00-11:30 | New formulae for relative magnetic helicity | Jean-Jacques Aly |
| 11:30-12:00 | The effect of non-radial magnetic field on measuring helicity transfer rate | Yongliang Song, Mei Zhang |

12:00 – 14:00 Lunch time

14:00- 17:00 Free discussions on helicity and visit to the Summer Palace

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| Thursday, October 31, 2013, Room: A601, NAOC | | |
| 9:00-12:00 | | Chair: M. K. Georgoulis |

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| 9:00-9:30 | Scale-dependence of magnetic helicity in the solar wind | Axel Brandenburg , Kandaswamy Subramanian, Andr e Balogh, Melvyn L. Goldstein |
| 9:30-10:00 | On the helical negative turbulent viscosity of the solar plasma | Valery Krivodubskij |
| 10:00-10:30 | Tea break | |

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| 10:30-12:00 | | Chair: M.K. Georgoulis |
| 10:30-11:00 | Roles of helicity proxies in predicting solar flares | Xiao Yang , Hongqi Zhang, Ganghua Lin |
| 11:00-11:30 | The quantitative analysis of the spiral chirality of penumbral filament | Jihong Liu |
| 11:30-12:00 | A solar eruption driven by rapid sunspot rotation | G. Ruan , Y. Chen, S. Wang, H. Zhang, G. Li, Ju Jing, X. Li, H. Xu, Haimin Wang |

12:00 – 14:00 Lunch time

Future directions of helicity studies

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| | Room: A601, NAOC | |
| 14:00-15:30 | Free discussions on helicity topics | Chair: D. Sokoloff, Mei Zhang, A. Brandenburg |
| 15:30-16:00 | Tea break | |
| 16:00-17:00 | Free discussions on helicity topics | Chair: D. Sokoloff, Mei Zhang, A. Brandenburg |