

Workshop on “Electron kinetic physics” 22-26 April 2024

Workshop web page with useful links, see

<https://workshops.issibern.ch/electron-kinetic-physics/>

Monday 22 April		
Time	Topic	Chair
08:30-09:00	Registration at ISSI, 1 st floor	
09:00-09:30	Welcome and Introduction to the Workshop (Johannes Geiss Auditorium, ISSI, 1 st floor)	T. Dudok de Wit & D. Verscharen
09:30-12:00	Stage setting talks for Theme 1 “ <i>Nature of waves and fluctuations</i> ” by Robert Wicks and Anton Artemyev	J. Stawarz & K. Klein
12:00-14:00	Lunch	
14:00-15:30	Stage setting talks for Theme 2 “ <i>How are electrons heated?</i> ” by Steven Schwartz & Gianfranco Brunetti	R. Nakamura & O. Pezzi
15:30-16:00	Coffee break	
16:00-17:30	Stage setting talks for Theme 3 “ <i>What determines heat transport?</i> ” by Mario Riquelme & Maria-Elena Innocenti	A. Simionescu & D. Verscharen
17:30	Welcome Reception - ISSI, 1 st floor	

Tuesday 23 April		
Time	Topic	Chair
08:30-09:00	Coffee chat	
09:00-11:00	Plenary session for theme 1 <ul style="list-style-type: none"> • Yuan Li: Turbulence in the intra-cluster medium • Oreste Pezzi: Insights on electron-scale turbulence by means of Eulerian Vlasov-Maxwell simulations • Julia Stawarz: Electron-Only Reconnection in Turbulent Plasma • Kristopher Klein: ALPS: The Arbitrary Linear Plasma Solver • Wence Jiang: Whistler waves and their resonant interactions with electrons in the solar wind and the Earth's magnetosheath: observations and quasi-linear theory • Francisco Ley: Secondary Whistler Instability driven by Mirror Modes in Galaxy Clusters • Giulia Cozzani: Electron firehose instability in space collisionless plasma • Ida Svenningsson: Electron velocity-space scattering from whistler waves in the Earth's magnetosheath 	J. Stawarz & K. Klein
11:00-11:30	Coffee break	
11:30-12:30	Plenary session for theme 2 <ul style="list-style-type: none"> • Fouad Sahraoui: On the different ion vs. electron heating in astropasmas • Steven Schwartz: Energy partition at collisionless shocks • Takanobu Amano (<i>online</i>): Stochastic shock drift acceleration as a mechanism of electron injection at collisionless shocks • Jacek Niemiec: Electron injection at cluster shocks 	R. Nakamura & O. Pezzi
12:30-13:30	Lunch	
13:45-18:30	Excursion to the Swiss Plasma Center (Lausanne). Coach departs at 13:45 from the Kunstmuseum (Hodlerstrasse 8, a 15' walk from ISSI)	

Wednesday 24 April		
Time	Topic	Chair
08:30-09:00	Coffee chat	
09:00-12:30	Plenary session for theme 2 <ul style="list-style-type: none"> • Anna Grassi: Exploring the physics of turbulent collisionless shocks in conditions of laboratory experiments • Mihailo Martinovic: High Cadence Electron Parameters Measured by Wind Spacecraft using Quasi-Thermal Noise Spectroscopy • Mario Riquelme: Electron Acceleration by Temperature Anisotropy Instabilities in Solar Flares • Sophie Musset: Particle acceleration during solar flares: observational diagnostics • Natasha Jeffrey (<i>online</i>): New methods for diagnosing the properties of flare-accelerated electrons at the Sun and in the heliosphere • Mitsuo Oka: Electron acceleration in solar flares and Earth's magnetotail • Seiji Zenitani: Some topics on a relativistic Kappa distribution • Alessandro Retino: Electron energization in the Earth's Magnetospheric System: the need for future multi-scale in situ observations • Yuri Khotyaintsev: Electron heating by parallel electric fields and electrostatic waves in reconnection and shocks • Giulia Cozzani: Electron physics of magnetic reconnection: the patchy Electron Diffusion Region (EDR) and the interaction with lower hybrid drift waves • Jason Shuster: Electrons Can Smile (even though they're negative!): MMS Observations and PIC Simulations of Electron Gradient Distributions in the EDR of Asymmetric Reconnection • Elena Grigorenko: Intense Electron-scale Current Structures and associated Energy Conversion Observed in the magnetospheric Plasma Sheet during Propagation of High-Velocity Bulk Flows 	R. Nakamura & O. Pezzi
12:30-14:00	Lunch	
14:00-15:30	Plenary session for theme 2 <ul style="list-style-type: none"> • Rumi Nakamura: Electron acceleration directly by the reconnection electric field and macroscopic acceleration in the Earth's magnetotail • Anton Artemyev: Relativistic electrons in Earth's magnetotail: compact & effective acceleration • Sae Aisawa: Electron acceleration in the magnetosphere of Mercury • Jonathan Nichols: Magnetosphere-ionosphere coupling at the outer planets, brown dwarfs and exoplanets 	R. Nakamura & O. Pezzi
15:30-16:00	Coffee break	
16:00-17:30	Plenary discussion: Articles and breakout sessions	T. Dudok de Wit & D. Perrone
19:00	Dinner at the Rosengarten (Alter Aargauerstalden 31b)	

Thursday 25 April		
Time	Topic	Chair
08:30-09:00	Coffee chat	
09:00-11:00	Plenary session for theme 3 <ul style="list-style-type: none"> • Alfredo Micera: Heat flux regulation by collisionless processes in the solar wind • Daniel Verscharen: Creation and regulation of heat flux in the solar-wind electron distribution • Stepan Stverak: Role of Coulomb collisions for heat transport in solar wind plasma • Christopher Owen: Observations of Strahl Beams and Deficits in the solar wind suprathermal electron populations with Solar Orbiter EAS • Jesse Coburn: Velocity space methods for kinetic plasma processes • Lynn Wilson: Electron velocity distribution functions in the solar wind • Matthew Kunz: Microscale-mediated transport in weakly collisional astrophysical plasmas • Aurora Simionscu: Remote sensing plasma physics diagnostics from high-resolution X-ray spectra 	O. Simionescu & D. Verscharen
11:00-11:30	Coffee break	
11:30-12:30	Breakout working session 1	Conveners
12:30-14:00	Lunch	
14:00-15:30	Breakout working session 2	Conveners
15:30-16:00	Coffee break	
16:00-17:30	Breakout working session 3	Conveners

Friday 26 April		
Time	Topic	Chair
08:30-09:00	Coffee chat	
09:00-12:00	Plenary session: Articles	T. Dudok de Wit & D. Perrone
12:00	Lunch	