Intersectional Symposium Attosecond Physics: Atoms, Molecules and Condensed Matter (SYAP)

lead by the Surface Science Division (O)

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Within the last decade, attosecond physics has established itself as a new field of research. Attoseconds are the time scale of fundamental electronic effects in atoms, molecules as well as in solids. In recent years, new spectroscopic techniques were evolving in a series of proof-of-principle experiments probing attosecond electron dynamics in the time domain. These new experimental findings challenge theoretical approaches by invalidating common approximations. For instance, it is an open question to which extent the concept of quasi-particles or a band structure can be applied on the intrinsic time scales of electron-electron correlations. This symposium aims to provide interdisciplinary perspectives on attosecond phenomena and to stimulate discussions on relevant theoretical concepts in atomic, molecular and condensed matter physics.

Overview of Invited Talks and Sessions

(lecture room HSZ 01)

Invited Talks

SYAP 1.1	Mon	10:30–11:00	HSZ 01	**Observing Intra-atomic Electron Correlation by Tunnelling and Recollision** — •Paul Corkum
SYAP 1.2	Mon	11:00–11:30	HSZ 01	**Attosecond time-resolved molecular electron dynamics** — •Marc Vrakking
SYAP 1.3	Mon	11:30–12:00	HSZ 01	**Opportunities in Attosecond Science using Core Level Spectroscopy** — •Anders Nilsson
SYAP 1.4	Mon	12:00–12:30	HSZ 01	**Attosecond spectroscopy on solid surfaces** — •Reinhard Kienberger
SYAP 1.5	Mon	12:30–13:00	HSZ 01	**Condensed matter effects in attosecond physics** — •Pedro M. Echenique

Sessions

SYAP 1.1–1.5	Mon	10:30–13:00	HSZ 01	**Attosecond Physics: Atoms, Molecules, Condensed Matter**