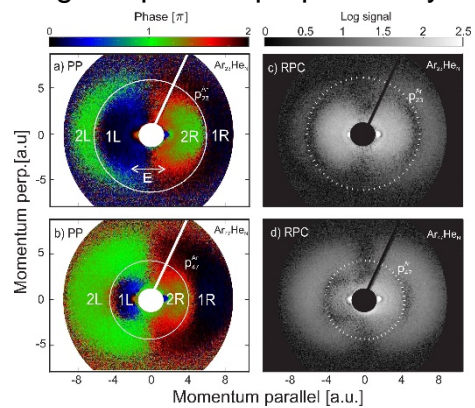


2nd December 2021, 3:00 pm
Michael Zabel
Cluster and Nanostructures

Electron acceleration mechanisms in helium nanodroplets resolved by phase-of-the-phase electron momentum spectroscopy

The response of helium droplets to intense two-color laser pulses is investigated by angular-resolved electron spectroscopy and subsequent phase-of-the-phase (PoP) analysis. When tuning the plasma properties by adjusting the onset of avalanche charging distinct kinks in the corresponding PoP spectra show up. The findings suggest a substantial change in the dominating acceleration mode, i.e., the phase shifts point towards a so far unidentified electron energy-dependent change between plasmon-assisted forward scattering and backscattering at the nanoplasma boundary as function of plasma electron temperature. Laser intensity and impurity cluster doping studies confirm that the phenomenon is fairly robust to changes in the plasma conditions.



PoP-spectra of doped helium droplets

Talk: English

Slides: English

Location: Great Lecture Hall, HS1, Institute for Physics, Albert-Einstein Str. 24

Hybrid-Meeting: <https://uni-rostock-de.zoom.us/j/67191822515?pwd=UTVJSXVPaDVLV0ZSZW9LR3NRVWF2UT09>