

# **Photoemission from aerosol particles: from nanosolutions to electron mean free paths**

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Light interacts differently with small particles compared with bulk materials or gas phase molecules, producing spectral signatures that strongly depend on particle properties, such as size, shape, or architecture. Our studies focus on a specific class of particles, namely on neutral molecular aggregates that are held together by weak intermolecular forces. We use various spectroscopic methods for the characterization of these aggregates. In this talk, I concentrate on the interaction of ultraviolet light with clusters and nanosized aerosol particles. Two examples are discussed. In the first one, we use angle-resolved photoelectron spectroscopy to probe the structure of nanosolutions. In the second example, we suggest angle-resolved photoemission of aerosol particles as a new way to determine the mean free path of electrons in solids and liquids.