

Ions at the Interface between Mass Spectrometry and Nanotechnology

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An important issue in the field of nanotechnology concerns determination of physical and chemical properties of matter as a function of nanometer particle size. Knowledge and understanding of these properties is a prerequisite for addressing and controlling the nanoobjects in the context of devices. Increasingly, it has developed that such property determination requires measurements under conditions of atomic (and conformational) monodispersion – with and without a surrounding/supporting matrix. These conditions can be met with modern mass spectrometric techniques.

This talk will describe various applications of mass spectrometric techniques in nanotechnology. In particular, two fields will be covered: (i) determination of metal cluster ion geometric structure by means of trapped ion electron diffraction and ion mobility measurements [1,2] and (ii) low energy ion beam deposition towards the fabrication of novel nanocarbon materials [3,4].

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