115d Characterization of Nanoparticle Composition and Reactivity by Single Particle Mass Spectrometry

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We describe the implementation of a quantitative single particle mass spectrometer for characterization of the elemental composition and total mass of aerosol nanoparticles. We will describe some theoretic aspects of the laser ionization process and its relationship to quantification. Examples will be presented for the characterization of metal in soot, the coating of carbon of metal nanoparticles, and the reactivity of bare and coated aluminum nanoparticles.