Characterization and monitoring of nanoparticles: from analytical needs to environmental issues

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The development of nanotechnologies has inevitably induces the need for analytical methods capable to have characterize nanomaterials and more specifically nano-objects such as nanoparticles and nanotubes. The challenge remains important due to the diversity in size, shape, chemical composition of natural and engineered nano-objects combined to the complexity of the media where these nano-objects have to be monitored. Some years ago, Field-Flow Fractionation (FFF) coupled to UV, multi-angle light scattering (MALSS) and atomic mass spectrometry (ICPMS) has been proposed as a powerful analytical strategy for such challenge [1-6]. In this presentation FFF will be presented from its principle to its analytical performances. Different examples of applications in environmental media will be presented in order to illustrate the capabilities of FFF-multidetection.

References