Elemental Composition and Isotope Ratio Measurements on Individual Airborne Particles

Chemical Sciences Division

ornl Aerosol Mass Spec Group

Bust The Dust

- Purpose:
  - **We are developing techniques for measuring the elemental composition and isotope ratios of species in individual airborne particles.**
  - **Tandem mass spectrometry techniques are being developed to remove polyatomic interferences so that isotope ratio measurements can be made on individual particles. This technique has been used to measure lead isotope ratios in environmental particles.**
  - **High intensity lasers have been used to atomize and cationize all of the species in individual airborne nanoparticles. We will extend the technique for particles in the micron size range to characterize the elemental compositions and obtain isotope ratios.**
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