



An aerosol particle containing enriched uranium encountered during routine sampling

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The composition of single aerosol particles has been measured using a laser ionization mass spectrometer during the global Atmospheric Tomography mission. The measurements were targeting the background atmosphere, not radiochemical emissions. One sub-micron particle sampled at about 7 km altitude near the Aleutian Islands contained uranium with approximately 3% ^{235}U . It is the only particle with enriched uranium out of millions of particles sampled over several decades of measurements with this instrument. The particle also contained vanadium, alkali metals, and organic material similar to that present in emissions from combustion of heavy oil. No zirconium or other metals that might be characteristic of nuclear reactors were present, probably suggesting a source other than Fukushima or Chernobyl. Back trajectories suggest several areas in Asia that might be sources for the particle.