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## Measurement techniques for 236U with a compact AMS system

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236U has an important role as an emerging tracer in geochemical and oceanographic studies. A new compact AMS device at the China Institute of Atomic Energy (CIAE) enables efficient transmission of actinides. In this study, we focus on its capabilities to analyze uranium isotopes, mainly for 236U measurements. Compared to the air-insulated AMS system, which is the previous generation of the device at CIAE, we have reduced the footprint of the whole system by half. The compact AMS system (0.25 MV) maintains extremely high measurement sensitivity, which has been tested with 129I and 239Pu, by using a new simple Bragg detector and installing a second magnet on the HE-side. Besides, the compact accelerator implements gap acceleration and gas distribution control techniques that greatly suppress charge exchange processes.

In order to establish the measurement techniques for 236U with the compact AMS system, the background and sensitivity for 236U/238U will be studied and analyzed in detail. Then, accurate measurements of 236U and other rare uranium isotopes such as 233U will be carried out.

## **Student Submission**

Yes

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