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## Status and recent progress of the AMS system at NIES-TERRA

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The NIES-TERRA AMS facility, the NEC 5 MV tandem Pelletron AMS, was installed in 1995 and started operation in 1997 for various environmental studies. In 2015 and 2016, we made substantial improvements to the system, such as the installation of a new type of ionizer (multi-cathode source of negative ions by cesium sputtering, MC-SNICS), reconstruction of the beamlines, and exchange of related electronic instruments, as well as special repairs, including adjustments to the beamlines and exchange of the terminal bellows. For the past several years, we have focused on the small mass  $^{14}\text{C}$  measurements using a new system as well as the development of a small amount of graphite preparation system (Uchida et al., 2023a). Associated with the application of small mass  $^{14}\text{C}$  analysis, we have focused on compound-specific radiocarbon analysis of PAHs, lipid biomarkers, and black carbon in sediment, soil, and carbonaceous aerosol (Uchida et al., 2023b, Kumata et al., in press, Pavuluri et al., in press). In addition, recently, we started development of the  $^{129}\text{I}$  and  $^{10}\text{Be}$  measurements in cooperation with the MALT AMS facility at the University of Tokyo. In this conference, we present the status report of routine  $^{14}\text{C}$  measurements and preliminary reports and the progress of  $^{129}\text{I}$  measurements in our system.

References: Uchida et al., 2023a, *NIMB*, 536, 144-153, Uchida et al., 2023b, *NIMB* 538, 64-74, Kumata et al., *Radiocarbon*, in press, Pavuluri et al., *Radiocarbon*, in press

### Student Submission

No

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