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The André E. Lalonde AMS Laboratory –the new accelerator mass spectrometry facility at the University of Ottawa

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The University of Ottawa, Canada, has installed a multi-element, 3 MV tandem AMS system as the cornerstone of the André E. Lalonde Accelerator Mass Spectrometry Laboratory, located in their new Advanced Research Complex (ARC). Manufactured by High Voltage Engineering Europa BV, the Netherlands, it is equipped with a 200 sample ion source, a high resolution, 120° injection magnet (mass-energy product 12 MeV-AMU), a 90° high energy analysis magnet (mass-energy product 350 MeV-AMU), a 65°, 1.7m radius electric analyzer and a 2 channel gas ionization detector. It is designed to analyze isotopes ranging from tritium to the actinides and to include the use of fluoride target materials. A research injection line, consisting of selected components from the IsoTrace Laboratory, Toronto is being added and will contain an upgraded demonstration version of the Isobar Separator for Anions, manufactured in collaboration with Isobarex Corp., Bolton, Ontario, Canada. This instrument uses selective ion–gas reactions in a radio-frequency quadrupole cell to attenuate both atomic and molecular isobars.

Four new preparation laboratories are located in the ARC building for radiocarbon, radio-halide, tritium and actinide samples. Radiocarbon labs at Université Laval, Québec and Université de Québec à Montréal and a cosmogenic radioisotope lab at Dalhousie University, Halifax, Nova Scotia will also provide samples. This presentation will focus on the details of the new AMS equipment.

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