

Abstract Submitted
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Radioactive Ion Beam Purification by Selective Adsorption¹ C. JOST, H.K. CARTER, B.O. GRIFFITH, C.A. REED, Oak Ridge Associated Universities, K.-L. KRATZ, Max Planck Institute for Chemistry, Mainz, T. STORA, ISOLDE-CERN, D.W. STRACENER, Oak Ridge National Laboratory — Isobaric contaminations in ISOL beams are a recurrent problem in nuclear physics experiments. Surface effects in the transfer line between target and ion source can be employed to achieve additional selectivity. Since interactions of the atoms' outer electrons with the surface determine adsorption behavior it can change drastically within an isobaric chain, introducing a chemical selectivity. Quartz transfer lines are currently applied at ISOLDE to reduce alkali contaminations [1]. We will conduct an on-line study of the adsorption behavior of fission products on a range of materials stable at high temperatures. Therefore a special target-ion source unit with a variable-temperature transfer line and interchangeable liner has been constructed in collaboration with the ISOLDE technical group. Results of first tests using new adsorption materials at the on-line separator test facility at Holifield Radioactive Ion Beam Facility, ORNL, will be presented. [1] Bouquerel et al., *Europ. Phys. J. – Spec. Top.* 150, 277 (2006)

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