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Simulations of effusion rates from generic ISOL target geometries SHANKAR ARUL, NSCL, DR. PAUL MANTICA'S GROUP TEAM — The objective of this study was to simulate the effusion of isotopes from proposed isotope separation on-line (ISOL) target geometries using the computer program SIMION. ISOL is one of two rare isotope production methods that will be used at the Rare Isotope Accelerator (RIA). Many short-lived radioactive species are produced in the ISOL target, and must be extracted rapidly to produce a useful radioactive beam. With SIMION, various ISOL target geometries were modeled to determine effusion times. By analyzing variations of the proposed geometry, we have determined the most efficient geometry that would provide the lowest effusion times to optimize extraction of short-lived species. The configuration that was found to be the most efficient was the one with the effusion space placed on the outer edge inside the target.

Prefer Oral Session
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