Abstract Submitted
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Development of fast-release solid catchers for rare isotopes[1]
JERRY NOLEN, JOHN GREENE, Physics Division, ANL, JEFFREY ELAM, ANIL MANE, Energy Systems Div, ANL, UMA SAMPATHKUMARAN, RAYMOND WINTER, DAVID HESS, MOHAMMAD MUSHFIQ, Innosense, LLC, Torrance, CA, DANIEL STRACENER, Physics Division, ORNL, INGO WIENDENHOEVER, Dept of Physics, Florida State University — Porous solid catchers of rare isotopes are being developed for use at high power heavy ion accelerator facilities such as RIKEN, FRIB, and RISP. Compact solid catchers are complementary to helium gas catchers for parasitic harvesting of rare isotopes in the in-flight separators. They are useful for short lived isotopes for basic nuclear physics research and longer-lived isotopes for off-line applications. Solid catchers can operate effectively with high intensity secondary beams, e.g. $\gg$ 1E10 atoms/s with release times as short as 10-100 milliseconds. A new method using a very sensitive and efficient RGA has been commissioned off-line at Argonne and is currently being shipped to Florida State University for in-beam measurements of the release curves using stable beams. The same porous solid catcher technology is also being evaluated for use in targets for the production of medical isotopes such as 211-At.

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