Abstract Submitted
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The fusion of ^{11}Li with ^{208}Pb[1] WALTER LOVELAND, Oregon State University, Corvallis, OR 97331, USA, A.M. VINODKUMAR, Department of Physics, University of Calicut, Kerala, India-673635, R. YANEZ, M. LEONARD, L. YAO, Oregon State University, Corvallis, OR 97331, USA, P. BRICAULT, M. DOMBSKY, P. KUNZ, J. LASSEN, A.C. MORTON, D. OTTEWELL, D. PREDDY, M. TRINCZEK, TRIUMF, Vancouver, British Columbia, V6T 2A3, Canada — We studied the fusion of ^{11}Li with ^{208}Pb at TRIUMF. The intensity of the ^{11}Li beam (chopped) was 1000 p/s and the beam on-target time was 114 hours. The stacked foil technique was used to step the beam energies from 40 to 29 MeV ($E_{c.m.}$ = 27-38 MeV) throughout the array. The α-decay of the stopped EVRs was detected in a α-detector array at each beam energy in the beam-off period. The geometrical efficiency of detection of the decay α-particles has been calculated to be 0.4. To verify this, we measured the evaporation residue yield for the well-known ^{7}Li + ^{209}Bi reaction. We have previously measured the evaporation residue cross sections when ^{9}Li, the ^{11}Li core, fuses with ^{208}Pb. We also have done HIVAP calculations of what we might expect for evaporation residue cross sections if ^{11}Li were to fuse with ^{208}Pb rather than breakup. The At isotope patterns observed on-line are not those observed for the ^{9}Li + ^{208}Pb reaction but are consistent for expectations of complete fusion.

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