

Abstract Submitted  
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**The fusion of  $^9,^{11}\text{Li}$  with  $^{70}\text{Zn}$** <sup>1</sup> WALTER LOVELAND, RADHIKA NAIK, JAMES NEEWAY, PETER SPRUNGER, A.M. VINODKUMAR, Oregon State University, MICHAEL TRINCZEK, MARIK DOMBSKY, PETER MACHULE, D. OTTEWELL, TRIUMF, DAVID CROSS, K. GAGNON, W.J. MILLS, Simon Fraser University — The fusion of  $^9,^{11}\text{Li}$  with  $^{70}\text{Zn}$  was studied at the ISAC1 facility at TRIUMF. Beams of  $^9\text{Li}$  (11-14.5 MeV) struck  $\approx 1 \text{ mg/cm}^2$   $^{70}\text{Zn}$  targets in an evacuated scattering chamber. Beam intensities were monitored by measuring elastic scattering and by the use of a Faraday cup for  $^9\text{Li}$  while the  $^{11}\text{Li}$  beam was counted in a semiconductor detector placed behind the target. Typical  $^9\text{Li}$  beam intensities were  $5 \times 10^6$  particle/s while the  $^{11}\text{Li}$  intensities were 800 particles/s. As and Ge evaporation residues were assayed using gamma and beta spectroscopy following post-irradiation chemical separation from the irradiated targets. A seven point excitation function for the  $^9\text{Li} + ^{70}\text{Zn}$  reaction was measured and compared to coupled channels calculations. Due to the low  $^{11}\text{Li}$  beam intensity, only upper limits for fusion of  $\approx 2\text{b}$  could be established for  $^{11}\text{Li}$ .

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