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Thick target measurement of the 40Ca(a,g)44Ti reaction rate S.A. SHEETS, J.T. BURKE, D. BLUEUL, T.A. BROWN, P.G. GRANT, R.D. HOFFMAN, A.M. HURST, J.L. FISKER, Lawrence Livermore National Laboratory, E.B. NORMAN, University of California, Berkeley, L.W. PHAIR, Lawrence Berkeley National Laboratory, N.D. SCIELZO, S. TUMEY, Lawrence Livermore National Laboratory — The thick-target yield for the ^{40}Ca(α,γ)^{44}Ti reaction has been measured for $E_{\rm beam}$ = 4.13, 4.54, and 5.36 MeV using γ-ray spectroscopy. At the highest beam energy, an activation measurement was performed. The results of the two measurements agree. From the measured yield a reaction rate is deduced that is smaller than current statistical-model calculations. This implies a smaller ^{44}Ti production in supernova compared to recently measured ^{40}Ca(α,γ)^{44}Ti reaction rates.

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