Abstract Submitted
for the DNP19 Meeting of
The American Physical Society

Measuring Ne-19 alpha-Branching Ratios with the JENSA Gas-Jet Target[1] D.W. BARDAYAN, P.D. O'MALLEY, Notre Dame, K.A. CHIPPS, M. MATOS, S.D. PAIN, W.A. PETERS, S.T. PITTMAN, K. SCHMITT, M.S. SMITH, ORNL, S. AHN, K.L. JONES, A. SACHS, P. THOMPSON, Tennessee, A. KONTOS, H. SCHATZ, NSCL, R.L. KOZUB, Tenn. Tech., B. MANNING, S. OTA, Rutgers, U. GREIFE, CSM, J.C. BLACKMON, L. LINHARDT, LSU, JENSA COLLABORATION — The ^{15}O$(\alpha,\gamma)^{19}$Ne reaction is an important trigger reaction leading to the rapid proton (rp) capture process in X-ray bursts. The primary uncertainty in determining its astrophysical rate is the uncertain α branching ratios of levels near E_x = 4.1 MeV in ^{19}Ne. These states have been populated in a study of the ^{20}Ne$(p,d)^{19}$Ne reaction utilizing the JENSA gas-jet target at Oak Ridge National Laboratory. α branching ratios have been extracted for several ^{19}Ne levels. Preliminary results will be presented.

[1]This work is supported by the DOE Office of Nuclear Physics, the National Nuclear Security Administration, the National Science Foundation, and the Joint Institute for Nuclear Astrophysics.

Daniel Bardayan
University of Notre Dame

Date submitted: 01 Jul 2019 Electronic form version 1.4