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Spectroscopic strengths of low-lying levels in ^{18}Ne PATRICK OMALLEY, J. M. ALLEN, D.W. BARDAYAN, University of Notre Dame, F.D. BECCHETTI, University of Michigan, J. A. CIZEWSKI, Rutgers University, M. FEBBRARO, University of Michigan/Oak Ridge National Laboratory, R. GRYZWACZ, University of Tennessee Knoxville, M. HALL, University of Notre Dame, K. L. JONES, University of Tennessee Knoxville, J.J. KOLATA, University of Notre Dame, S.V. PAULAUSKAS, K. SMITH, C. THORNSBERRY, University of Tennessee Knoxville — Much effort has been made to understand the origins of ^{18}F in novae. Due to its relatively long half-life (˜2 hours), ^{18}F can survive until the nova envelope is transparent, and therefore it can provide a sensitive diagnostic of nova nucleosynthesis. It is likely produced through the beta decay of ^{18}Ne, which is itself produced (primarily) through the ^{17}F(p,γ) reaction. Understanding the direct capture contribution to the ^{17}F(p,γ) reaction is important to accurately model it. As such, the spectroscopic strengths of low-lying states in ^{18}Ne are needed. At the University of Notre Dame a measurement of the ^{17}F(d,n) reaction has been performed using a beam produced with TwinSol Low energy radioactive beam facility. The neutrons were detected using a combination of VANDLE and UoM deuterated scintillator arrays. Data will be shown and preliminary results discussed. Research sponsored by the National Science Foundation, the US DOE Office of Nuclear Physics, and the National Nuclear Security Administration.

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