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Spectroscopic Factors of low-lying levels in ^{18}Ne PATRICK O'MALLEY, JACOB ALLEN, DAN BARDAYAN, University of Notre Dame, FRED BECCHETTI, University of Michigan, JOLIE CIZEWSKI, Rutgers University, MICHAEL FEBBRARO, University of Michigan, MATTHEW HALL, University of Notre Dame, KATE JONES, ROBERT GRZYWACZ, STAN PAULAUASKAS, KARL SMITH, CORY THORNSBERRY, University of Tennessee Knoxville — Much effort has been made to understand the origins of 18F in novae. Due to its relatively long half-life, ^{18}F can survive until nova envelope is transparent, and therefore can provide a sensitive diagnostic of nova nucleosynthesis. It is likely produced through the beta decay of ^{18}Ne, which is itself primarily produced through the ^{17}F(p,gamma) reaction. Understanding the direct capture to the ^{17}F(p,gamma) reaction is important to accurately model it. As such, the spectroscopic strengths of low-lying levels 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 by the TwinSol low energy radioactive ion beam facility. The neutrons were neutrons were detected using a combination of Versatile Array of Neutron Detectors (VANDLE) and UoM Deuterated Scintillator Array (UMDSA). Data will be shown and results discussed. Research supported by U.S. DOE and NSF.

Patrick OMalley
University of Notre Dame

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