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Spectroscopic strengths of low-lying levels in ^{18}Ne

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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 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 $^{17}\text{F}(p,\gamma)$ reaction. Understanding the direct capture contribution to the $^{17}\text{F}(p,\gamma)$ 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 $^{17}\text{F}(d,n)$ reaction has been performed using a beam produced by the TwinSol Low energy radioactive beam facility. The neutrons were detected using a combination of Versatile Array of Neutron Detectors (VANDLE) and UoM Deuterated Scintillator Array (UMDSA). Data will be shown and preliminary results discussed.

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