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Cross Section Measurements for 34S(α,γ) PATRICK O'MALLEY, DEVIN CONNOLLY, ULRIKE HAGER, UWE GREIFE, SERGEY ILYUSHKIN, FRED SARAZIN, Colorado School of Mines, CHARLES AKERS, University of York, ALAN CHEN, McMaster University, GREG CHRISTIAN, JENNIFER FALLIS, TRIUMF, BRIAN FULTON, University of York, DAVE HUTCHEON, TRIUMF, ALISON LAIRD, University of York, CHRIS RUIZ, TRIUMF, KIANA SETOODEHNIA, McMaster University, BARRY DAVIDS, TRIUMF — Some massive stars will go through a stage of explosive oxygen burning which commences with conversion of ^{16}O and ^{24}Mg to ^{28}Si. When the ^{24}Mg becomes exhausted, a network of reactions ranging from ^{28}Si to ^{40}Ca is initiated. Final abundances of most of the neutron-rich nuclides in this mass region depend in varying amounts on the cross sections of reactions involving ^{34}S and ^{38}Ar, particularly those of α-capture. Astrophysical reaction rates are dominated by the isolated resonances within the Gamow windows. Often statistical modeling is used instead for reaction rate calculations though there is typically a large discrepancy between these calculations and experimental determinations. For α-capture onto ^{34}S there are discrepancies between experimental measurements that have never been resolved. Also, unstudied states exist around the Gamow window that could be resonances for alpha capture. A recent measurement was done using DRAGON at TRIUMF to resolve these discrepancies and to search for new resonances. Experimental data will be shown and preliminary results discussed.

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