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Resonance strengths of the ^{34}S + α reaction P.D. O'MALLEY, Colorado Sch of Mines/University of Notre Dame, DEVIN CONNOLLY, UWE GREIFE, ULRIKE HAGER, SERGEY ILYUSHKIN, Colorado School of Mines, LOTHAR BUCHMANN, GREG CHRISTIAN, JOHN D'AURIA, BARRY DAVIDS, JENNIFER FALLIS, DAVE HUTCHEON, LARS MARTIN, CHRIS RUIZ, TRIUMF, ALAN CHEN, KIANA SETOODEHNIA, McMaster University, CHARLES AKERS, BRIAN FULTON, ALISON LAIRD, University of York, LUKE ERIKSON, Pacific Northwest National Laboratory — Late in their evolution, particularly massive stars undergo a stage of explosive oxygen burning. The free α-particle density will rapidly increase and initiate a network of reactions among nuclides ranging from ^{28}Si to ^{40}Ca. Next there will be a abrupt rise in the abundances of ^{34}S and ^{38}Ar where the small excess of neutrons reside. The final abundances of nuclei in this mass region depend on the reaction cross sections involving these two nuclei. Currently there are large discrepancies in the strengths of the ^{34}S+α resonances in the energy range of interest for this astrophysical environment. A new measurement was performed at DRAGON to resolve these discrepancies. Preliminary data will be shown and tentative results discussed.

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