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First direct measurement of ^{23}Mg$(p,\gamma)^{24}$Al with DRAGON L. ERIKSON, Colorado School of Mines, DRAGON COLLABORATION — During explosive nucleosynthesis, the ^{23}Mg(p,γ)^{24}Al capture reaction may function as a breakout from the NeNa to the MgAl cycles. Depending on the resonance strength and energy, such a breakout could substantially affect the production of ^{26}Al and ^{22}Na which have been detected by orbital satellite. This important reaction was directly studied at astrophysically relevant energies ($E_{lab} \simeq$ 490 keV/u) by the DRAGON collaboration during the summer and fall of 2008. However, due to limitations of the ISAC facility, the experiment was complicated by a ^{23}Na contamination ranging from 2 to 5000 times more intense than the ^{23}Mg component. To compensate, a new local time-of-flight system and a multi-segmented ion chamber were used for particle identification. This talk will present and discuss some details of the experiment and the results to date.

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