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Measurement of the ^{18}Ne(α,p)^{21}Na reaction with ANASEN between 2 and 4 MeV in the center of mass[1] MARIA ANASTASIOU, INGO WIEDENHOEVER, LAGY T BABY, Florida State University, NABIN RIJAL, National Superconducting Cyclotron Laboratory, JOHN J PARKER IV, Florida State University, JEFFERY C BLACKMON, CATHERINE M DEIBEL, ASHLEY A HOOD, JON C LIGHTHALL, KEVIN T MACON, Louisiana State University, DANIEL SANTIAGO-GONZALEZ, Argonne National Laboratory, YEVGEN KOSHCHIY, GRIGORY V ROGACHEV, Texas AM University — The ^{18}Ne(α,p)^{21}Na reaction is one of the reactions providing a pathway for breakout from the hot CNO cycles to the rp-process in Type I X-ray bursts. The actual conditions under which the breakout occurs depend critically on the thermonuclear reaction rate. This rate has not yet been sufficiently determined under X-ray burst conditions. We study the direct ^{18}Ne(α,p)^{21}Na reaction with the Array for Nuclear Astrophysics and Structure with Exotic Nuclei (ANASEN), using a helium gas target and an ^{18}Ne radioactive beam from RESOLUT facility at the FSU accelerator lab. The results are consistent with the time-reverse measurements [1] and provide a total cross section between 2 and 4 MeV in the center of mass. [1] Salter et al., *Measurement of the $^{18}Ne(\alpha, p_0)^{21}Na$ Reaction Cross Section in the Burning Energy Region for X-Ray Bursts*, Phys.Rev.Lett. 108 (242701), 2012

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