Study of $^{11}\text{Be}$ on $^9\text{Be}$ one neutron transfer reactions at TRIUMF ISAC-II

RYAN BRAID, Colorado Sch of Mines, (PCB)$^2$ COLLABORATION, TIGRESS COLLABORATION — The structure of neutron-rich Beryllium isotopes displays interesting properties arising from the interplay of alpha clustering and valence neutrons, leading in some cases to halo nuclei. In this presentation, preliminary results of the $^{11}\text{Be}$ on $^9\text{Be}$ reaction at 55 MeV and 30.14 MeV leading to two interesting exit channels will be shown, the first one enabling the study of $^{12}\text{Be}$ and the second the study of $^{10}\text{Be}$. This reaction has advantages over the traditional (d,p) or (d,t) methods, since the reactants are equal in mass they both scatter in a detectable angular range. Additionally, TIGRESS allows precise $\gamma$-tagging for the excited states. Some challenges in analysis include the $^{10}\text{Be}$ degeneracy, a large $n$ breakup signature, and multiple particle excitation. The data and ongoing analysis will be presented. This work is partially supported by the US Department of Energy through Grant/Contract No. DE-FG03-93ER40789 (Colorado School of Mines).

Ryan Braid
Colorado Sch of Mines

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