Abstract Submitted
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A Gas Jet Target for Radioactive Ion Beam Experiments[1] K.A. CHIPPS, Colorado School of Mines, JENSA COLLABORATION — With the development of new radioactive ion beam (RIB) facilities such as FRIB, which will push further away from stability, the need for improved RIB targets is more crucial than ever. Important scattering, transfer and capture reaction measurements of rare, exotic, and unstable nuclei on hydrogen and helium require targets that are dense ($\sim 1 \times 10^{19} nuclei/cm^2$), highly localized, and pure. Conventional targets suffer too many drawbacks to allow for such measurements. Targets must also accommodate the use of novel detector arrays. To this end, a collaboration led by the Colorado School of Mines (CSM) is designing, building and testing a supersonic gas jet target for use at existing and future RIB facilities. The gas jet target allows for a high density and purity of target nuclei (such as ^{3}He) within a highly confined region, without the use of windows or backing materials, and will also enable the use of state-of-the-art detection systems. Motivation, specifications and status of the CSM gas jet target system will be discussed.

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