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Production of 9Be targets for nuclear physics experiments

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Self-supporting beryllium (9Be) targets were produced by mechanical rolling method in which a double pack technique was implemented. Targets were used for the investigation of the low-lying excitation energy region in 9Be through the 9Be(3He,t)9B reaction at the K600 spectrometer, at iThemba LABS facility. Beryllium is a semimetal in nature and this makes it hard to deform by rolling or vacuum evaporate as a self-supporting target. Therefore heat treatment was needed to avoid brittleness and breakage of the material during rolling process. A description is given on how beryllium targets were manufactured.

Keywords: Rolling method, annealing, vacuum atmosphere, thickness, target

Primary author: Dr MARÍN-LÁMBARRI, Daniel José (iThemba LABS/ University of the Western Cape)

Co-author: Mrs KHESWA, ntombizonke (iThemba LABS)

Presenters: Dr MARÍN-LÁMBARRI, Daniel José (iThemba LABS/ University of the Western Cape); Mrs KHESWA, ntombizonke (iThemba LABS)

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