SAIP2017



Contribution ID: 315

Type: Poster Presentation

(p,t) reactions on Barium isotopes and neutrinoless double beta decay.

Wednesday, 5 July 2017 17:10 (1h 50m)

The massive nature of neutrinos opens the possibility that they could be Majorana fermions (the neutrino being the same as its antiparticle). The observation of a neutrinoless double beta (0&nußß) decay will validate this possibility and its measured decay rate will determine the absolute neutrino mass scale. However, if the latter were observed, there still exists a large uncertainty on the calculated transition matrix elements for double beta decay candidates that will affect the determination of the neutrino mass. Having a better understanding of the structure of these nuclei greatly help constrain these calculations. In this poster we describe the study of (p,t) reactions on ¹³⁶Ba and ¹³⁸Ba initiated at the University of the Western Cape in order to obtain useful nuclear structure information for the double beta decay matrix element calculations of ¹³⁶Ba.

Apply to be
 considered for a student
 award (Yes / No)?

Yes

Level for award
 (Hons, MSc,
 PhD, N/A)?

MSc

Main supervisor (name and email)
and his / her institution

Smarajit Triambak, smarajit@gmail.com,University of the Western Cape, South Africa

Would you like to
> submit a short paper
> for the Conference
> Proceedings (Yes / No)?

No

Primary author: NZOBADILA ONDZE, Jespere Calderone (University of the Western Cape)

Co-authors: DIAZ VARELA, Alejandra (University of Guelph); JIGMEDDORJ, Badamsambuu ((University of Guelph)); REBEIRO, Bernadette (University of the Western Cape); BURBADGE, Christina (University of Guelph); BALL, Gordon (TRIUMF); WIRTH, Hans (Ludwig-Maximilians-Universitat Munchen); LEACH, Kyle ((Colorado School of Mines)); GARRETT, Paul (University of Guelph); HERTENBERGER, Ralph (Ludwig-Maximilians-Universitat Munchen); TRIAMBAK, Smarajit (University of the Western Cape); FAESTERMANN, Thomas (Technische Universitat Munchen); BILDSTEIN, Vinzenz (University of Guelph); MABIKA, Zandile (University of the Western Cape)

Presenter: NZOBADILA ONDZE, Jespere Calderone (University of the Western Cape)

Session Classification: Poster Session 2

Track Classification: Track B - Nuclear, Particle and Radiation Physics