



Contribution ID: 37

Type: **Poster**

Characterisation of the first $1/2^+$ excited state in ${}^9\text{B}$ through R-matrix analysis

Although the ${}^9\text{Be} \mid {}^9\text{B}$ isospin doublet has been studied along many years, the observation and prediction of the first $1/2^+$ state in ${}^9\text{B}$ remains inconclusive. Different reactions have been used, where the experimental values oscillate between 0.80 to 1.90 MeV.

An experiment was proposed to measure the charge exchange reaction of ${}^9\text{Be}({}^3\text{He}, t){}^9\text{B}$ at the K600 spectrometer, iThemba LABS. This experiment combines the high-resolution spectrometer (K600) at 0° and a high efficiency detector array CAKE. Data analysis is performed by reconstruction of the low-lying excitation region in ${}^9\text{B}$ through the momentum-analysis of the tritons, detected at the FOCAL PLANE in coincidence with the detection of the protons by CAKE.

Future work includes R-matrix analysis, required to unambiguously identify the first $1/2^+$ state in ${}^9\text{B}$.

Notes

Primary authors: LÓPEZ-LÓPEZ, Óscar Eduardo (Institute of Physics, National Autonomous University of Mexico); Dr MARÍN-LÁMBARRI, Daniel José (Institute of Physics, National Autonomous University of Mexico); Dr MAS-RUIZ, Javier (Institute of Nuclear Sciences, National Autonomous University of Mexico)

Presenter: LÓPEZ-LÓPEZ, Óscar Eduardo (Institute of Physics, National Autonomous University of Mexico)