Contribution ID: **47** Type: **Poster**

ROLE OF NUCLEAR INTERACTIONS ON THE GROUND-STATE STRUCTURE OF A THREE-BODY SYSTEM

In the study of three-body weakly-bound systems, a three-body interaction is always introduced to take care of the dynamics that cannot be accounted for by two-body interactions. In order to get some insight into these dynamics, in this presentation, we study the relevance of the three-body interaction as the number of neutrons in the three-body system increases, considering ^{6}He systems.
It is found that by removing this interaction from the structure of the system, the ground-state binding energy of the ^{6}He system drops by about 80%. This shows that the three-body interaction plays a significant role in the dynamics of a three-body weakly-bound neutron-rich system.

Notes

Key words: Three-body system, Three-body interaction, Binding Energy

Primary author: Mr MAHATIKELE, MAHABE BENEDICT (UNISA)

Co-authors: Prof. MUKERU, BAHATI (UNISA); Prof. RAMPHO, GAOTSIWE JOEL (UNISA)

Presenter: Mr MAHATIKELE, MAHABE BENEDICT (UNISA)