



Contribution ID: 325

Type: **Invited Presentation**

The Difference a Few Neutrons Makes in the Fusion of Light Nuclei: Structure and Dynamics

Wednesday, 31 May 2017 11:05 (25 minutes)

Fusion of neutron-rich light nuclei at near barrier energies involves the interplay of both structure and dynamics. Examination of fusion for an isotopic chain of nuclei provides a means to access the low density tail of the neutron density distribution and the polarizability of nuclear matter. Development of a new technique that allows measurement of the fusion cross-section at near barrier energies will be presented. The direct measurement of fusion residues with this technique is used to extract the fusion cross-section. The measured fusion excitation functions for $^{18,19}\text{O} + ^{12}\text{C}$ and $^{39,47}\text{K} + ^{28}\text{Si}$ will be shown and the observed fusion enhancement will be compared with theoretical model predictions.

Primary author: Prof. DESOUZA, Romualdo (Indiana university)

Presenter: Prof. DESOUZA, Romualdo (Indiana university)