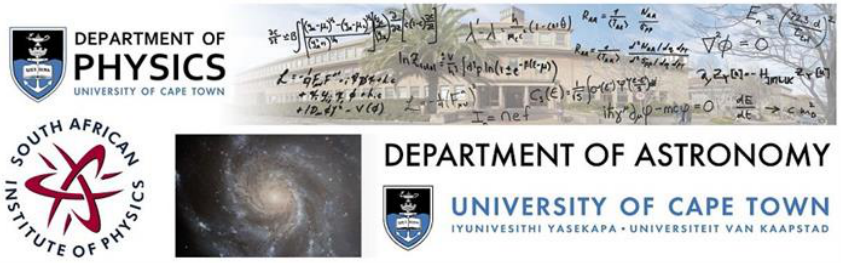

Contribution ID: **210** Type: **Oral Presentation**

Coupling of single neutron configurations to collective core excitations in ¹⁶²₇₀Yb , the nucleus ¹⁶³ ₇₀Yb.

Wednesday, 6 July 2016 10:20 (20 minutes)

Abstract content
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In odd-nuclei the single nucleon can couple to collective excitations of its even-even core nucleus. These collective excitations lie in within the pairing gap and are therefore the lowest energy excitations of the core. Our physics motivation is to search for structures where an odd neutron couples to collective excitations of the ¹⁶²Yb core. In addition we will search for high-K structures in this nucleus. The experiment ¹⁵²Sm(¹⁶O,5n)¹⁶³Yb at E_{lab} = 93 MeV was performed to study ¹⁶³Yb at iThemba LABS. The gamma-decays from the reaction products have been detected using the AFRODITE gamma-ray spectrometer equipped with eight escape-suppressed clover detectors. This presentation will discuss the preliminary results and analysis of data obtained in the experiment.

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