



Contribution ID: 201

Type: Oral Presentation

## Fine structure of E2 strength in one-proton-different nuclei from $(p,p')$ experiments

Thursday, 12 July 2012 08:20 (20 minutes)

### Abstract content <br> &nbsp; (Max 300 words)

High energy-resolution studies of the Isoscalar Giant Quadrupole Resonance (ISGQR) from experiments exciting mainly E2 strengths have been carried out with the  $(p,p')$  reactions using the K600 magnetic spectrometer at iThemba LABS. A set of one-proton-different nuclei;  $^{28}\text{Si}$ ,  $^{27}\text{Al}$  and  $^{90}\text{Zr}$ ,  $^{89}\text{Y}$  have been investigated in order to understand the role of removing one proton in the corresponding  $1p-1h$  excitation of the ISGQR due to the restricted configuration available in the extreme single-particle shell model. Comparison of the characteristic energy scales utilizing novel applications of wavelet techniques of semblance analysis will be discussed.

### Apply to be<br> consider for a student <br> &nbsp; award (Yes / No)?

No

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

No

**Primary author:** Dr USMAN, IYABO (iTHEMBA LABS)

**Co-authors:** Prof. RICHTER, Achim (ECT\*, Villa Tambosi, I-38123 Villazzano (Trento), Italy); Prof. SIDERAS-HADDAD, Elias (School of Physics, University of the Witwatersrand, Johannesburg. South Africa); Prof. COOPER, Gordon (School of Geosciences, University of the Witwatersrand, Johannesburg. South Africa); Dr FUJITA, Hirohiko (Research Center for Nuclear Physics, Osaka, Japan); Mr MIRA, Joele (iThemba LABS, Cape Town, South Africa); Prof. CARTER, John (School of Physics, University of the Witwatersrand, Johannesburg. South Africa); Prof. VON NEUMANN-COSEL, Peter (Technische Universität Darmstadt, Darmstadt, Germany); Dr NEVELING, Retief (iThemba LABS, Cape Town, South Africa); Dr SMIT, Ricky (iThemba LABS, Cape Town, South Africa); Dr FEARICK, Roger (University of Cape Town, South Africa); Dr FÖRTSCH, Siegie (iThemba LABS, Cape Town, South Africa); FUJITA, Yoshi (Osaka University, Toyonaka, Osaka, Japan); Dr BUTHELEZI, Zinhle (iThemba LABS, Cape Town, South Africa)

**Presenter:** Dr USMAN, IYABO (iTHEMBA LABS)

**Session Classification:** NPRP

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