6th International Conference on Collective Motion in Nuclei under Extreme Conditions (COMEX6)



Contribution ID: 44

Type: Poster

## Fine structure of the Isoscalar Giant Monopole Resonance in 24 Mg, 58 Ni and 90 Zr using alpha inelastic scattering at zero degrees

The last few decades have proved to be quite exciting in the field of nuclear structure physics.High energyresolution proton inelastic-scattering experiments revealed that giant resonances carry fine structure as a signature of the damping mechanisms involved. For the first time itis now possible to achieve such high energyresolution measurements with intermediate energy (specifically 200 MeV) alpha-particle inelastic-scattering reactions at zero degrees. The choice of scattering angle as well as the projectile was motivated for as together they achieve the preferential excitation of the Isoscalar Giant Monopole Resonance (ISGMR). As part of the longstanding WITS/IKP Darmstadt/iThemba collaborative program on the investigation of properties of Nuclear Giant Resonances, these experiments have been performed using the Separated Sector Cyclotron (SSC) at the iThemba LABS and the K600 magnetic spectrometer for a range of nuclei including 24 Mg, 58 Ni and 90 Zr. Preliminary results will be presented.

Primary author: DONALDSON, Lindsay (University of the Witwatersrand)

**Co-authors:** Ms MOODLEY, Chané (University of the Witwatersrand); SIDERAS-HADDAD, E (University of the Witwatersrand); SMIT, F.D. ( iThemba LABS); Dr USMAN, Iyabo (Wits); CARTER, John (School of Physics, Wits University); LI, Kevin (Stellenbosch Postgraduate Student); PELLEGRI, L. (University of the Witwatersrand and iThemba LABS); PAPKA, Paul (Stellenbosch University); NEVELING, Retief (iThemba LABS)

Presenter: DONALDSON, Lindsay (University of the Witwatersrand)