

# Wavelet signatures of K-splitting of the Isoscalar Giant Quadrupole Resonance in deformed nuclei from high energy-resolution (p,p') scattering off $^{146,148,150}\text{Nd}$

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The phenomenon of fine structure of the Isoscalar Giant Quadrupole Resonance (ISGQR) has been studied with high energy-resolution proton inelastic scattering at iThemba LABS, in the chain of stable even-mass Nd isotopes covering the transition from spherical to deformed ground states. A wavelet analysis of the background-subtracted spectra in the deformed  $^{146,148,150}\text{Nd}$  isotopes reveals characteristic scales in correspondence with scales obtained from a Skyrme RPA calculation using the SVmas10 parameterization. A semblance analysis shows that these scales arise from the energy shift between the main fragments of the  $K = 0$ ,  $K = 1$  and  $K = 2$  components.

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