Abstract Submitted
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Quantifying quadrupole collectivity of ^{29}Ne[1] ALDRIC REVEL, HIRONORI IWASAKI, JOHN ASH, ROBERT ELDER, MARA GRINDER, NSCL, Michigan State Univ., NOBUYUKI KOBAYASHI, RCNP, Osaka Univ., TEA MIJATOVIC, Ruder Boskovic Institute, ANDREW SANCHEZ, DANIEL BAZIN, JUN CHEN, BRANDON ELMAN, PETER FARRIS, ALEXANDRA GADE, MATTHEW HILL, JING LI, BRENDEN LONGFELLOW, JORGE PEREIRA, DANIEL RHODES, NSCL, Michigan State Univ., MARK-CHRISTOPH SPIEKER, Florida State Univ., DIRK WEISSHAAR, NSCL, Michigan State Univ., E19005 (NSCL/MSU) COLLABORATION, GRETINA COLLABORATION — The large proton-to-neutron asymmetry as well as low-separation energies found in nuclei located far from stability have been shown to be ingredients leading to unique properties. In particular, isotopes lying in the vicinity of the N=20 Island of Inversion offer an excellent testing ground to investigate the interplay between the shell evolution, deformation, and weakly bound effects. In this talk, a novel technique developed at the National Superconducting Cyclotron Laboratory (NSCL) using inelastic scattering on both light (Be) and heavy (Ta) targets simultaneously in order to extract relevant transition rates from measured cross-sections will be presented. Experimental results of the measurement of E2 transitions rates performed in ^{29}Ne and in ^{32}Mg, used as reference, will be discussed in terms of collectivity and deformation.

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