Abstract Submitted
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In-beam Gamma-ray spectroscopy of 43-46Cl[1] RAGNAR STROBERG, ALEXANDRA GADE, TRAVIS BAUGHER, Michigan State University / NSCL, DANIEL BAZIN, NSCL, B. ALEX BROWN, JONATHAN COOK, THOMAS GLASMACHER, Michigan State University / NSCL, GEOFF GRINYER, NSCL, SEAN MCDANIEL, ANDREW RATKIEWICZ, Michigan State University / NSCL, DIRK WEISSHAAR, NSCL — The low-energy nuclear structure of the neutron-rich $^{43-46}$Cl isotopes is studied via in-beam γ-ray spectroscopy following the fragmentation of ^{48}K projectiles on a ^{9}Be target at intermediate beam energies. $\gamma\gamma$ coincidence information was used to construct level schemes for these neutron-rich nuclei. For the $N = 28$ nucleus ^{45}Cl, the lifetime of the first excited state at 130 keV was extracted via γ-ray line shape analysis, yielding an $M1$ strength an order of magnitude greater than that predicted by theory. The experimental data is compared to the results of large-scale shell-model calculations with effective interactions in the *sd-pf* model space.

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