Abstract Submitted
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Static quadrupole moments and B(E2)'s in N=Z nuclei ^{88}Ru, ^{92}Pd, and ^{96}Cd in shell model calculations LARRY ZAMICK, Rutgers, SHADOW ROBINSON, Millsaps, T. HOANG, Mllsaps, YITZHAK SHARON, ALBERTO ESCUDEROS, Rutgers — We calculate B(E2)'s and quadrupole moments Q(J) in the even-even N=Z nuclei (^{88}Ru,^{92}Pd and ^{96}Cd) in the model space $p_{3/2}$, $f_{5/2}$, $p_{1/2}$, and $g_{9/2}$. We use 2 interactions(jj44b, jun45). For the J=0^+ ground states the occupations of the lowest configuration i.e. the one with least $g_{9/2}$ occupancy are quite different for the 2 interactions-((1.6,7.4), (9.7,28.8) and (49.6,58.8)). To the extent that one can make a collective associatkon with the shell model it appears that in this model space ^{88}Ru is strongly oblate, ^{92}Pd is vibrational and ^{96}Cd is prolate. The values of B(E2, J$\rightarrow$ J-2) (e^2 fm^4) and Q(J) (e fm^2) using jj44b for J=2,4,6,8,10 are ^{88}Ru B(E2) (578,843,972,1056, 1107) and for Q(J) (28.0,37.1,45.5,49.5,51.1). The positive Q (2^+) is indicative of oblateness. ^{92}Pd B(E2) (366, 498, 465, 283, 344) and for Q(J) (4.8,11.1,24.0,33.8,40.0) . In the harmonic vibrational limit Q(2^+) is zero. Here it is small. ^{96}Cd B(E2) (155, 206, 187, 71, 81 and for Q(J) (-16.4,-15.2,-2.4, +37.6, +24.0) . Note the change in sign from J=6 to J=8 and 10.

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