Abstract Submitted for the DNP10 Meeting of The American Physical Society

Isotope Shifts LARRY ZAMICK, Rutgers University — A three parameter formula (3P) for isotope shifts $r^2(n) = n C + n)n-1)/2A+[n/2]B$ is related to he staggering parameter $G=2 [r^2(n+1)-r^2(n)]/[r^{(n+2)}-r^2(n)]$ If A+B=0 then G=1 (no staggering). If A=0 there is no n dependence to the staggering. One can get G to almost be plus or minus infinity for certain n,but this does not necessarily mean that there are major changes in the nuclear structure. We consider Potassium and Argon isotopes. We also consider quadrupole and monopole core polarization with a delta interaction. We vary the oscillator length parameter of the valence particle but keep the core values fixed. We find for both modes the amount of core polarization decreases as we increase the radius of the valence particle relative to that of the core (for small deviations from the case where the core and valence length parameters are the same).

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Date submitted: 28 Jun 2010

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