



Contribution ID: 34

Type: poster with financial aid

Nuclear structural evolution and average proton-neutron interactions on Xe and Rn from precision mass measurements

The evolution of nuclear structure will be discussed with a direct approach based on plots of 2-dimensional contours of various observables. This approach offers a new way visualizing and extrapolating the systematics of nuclei, especially far from stability. In addition, different regions will be examined, including those addressed from recent mass measurements of Xe [1] and Rn [2] with the double Penning trap mass spectrometer ISOLTRAP at CERN-ISOLDE. The average proton-neutron interaction, dV_{pn} , extracted from double differences of masses, is studied using these new mass results for the Ra and Ba nuclei. A new pattern was observed for both $N \sim 90$ and $N \sim 134$ regions. Finally, these experimental dV_{pn} results will be compared with recent microscopic density functional theory results.

[1] D. Neidherr, R. B. Cakirli, G. Audi, D. Beck, K. Blaum, et al., Phys. Rev. C 80, 044323 (2009).

[2] D. Neidherr, G. Audi, D. Beck, K. Blaum, Ch. Böhm, et al., Phys. Rev. Lett. 102, 112501 (2009).

Is this an invited talk? (please answer yes or no)

no

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no

Would you prefer your contribution to be an oral presentation? (please answer yes or no)

yes

Are you a student, postdoc or an attendee from an “emerging” country and would like to apply for financial support?

I am a postdoc and i do not apply for financial support

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Track Classification: Shell structure far from stability