

eurorib'10

Contribution ID: 12

Type: poster with financial aid

Towards bunched-beam laser spectroscopy on Cadmium at ISOLDE/CERN

Collinear laser spectroscopy is a well established tool for measuring model-independent properties of nuclear ground and isomeric states. With this spins, electromagnetic moments and root mean square charge radii can be extracted. These quantities probe nuclear structure with a high sensitivity - and by this the nuclear wave function - as well as macroscopic properties such as size or shape. In particular, the experimental input is of crucial importance near closed shells to improve nuclear models. We plan to study the chain of cadmium between the $N=50$ and $N=82$ shell closures with high-resolution laser spectroscopy for the first time. These data will contribute to a better understanding of the nuclear structure in the vicinity of the doubly-magic ^{100}Sn and ^{132}Sn . On the neutron-rich side this is expected to shed light on a shell-quenching hypothesis and consequently on the duration of the r -process along the waiting-point nuclei below ^{130}Cd . The physics motivation will be presented in detail along with the experimental techniques needed to resolve the exotic species of cadmium.

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

no

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

yes

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

no

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

Student, yes

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Track Classification: Production and manipulation of RIB