

## Probing the Quadrupole Collectivity of $^{128}\text{Cd}$ using Coulomb Excitation

*Wednesday, 7 December 2011 16:40 (20 minutes)*

$^{128}\text{Cd}$  is only two proton and two neutron holes away from the doubly magic nucleus  $^{132}\text{Sn}$ . The proximity to this r-process waiting-point nucleus underlines its importance for the understanding of nucleosynthesis. So far, contradicting theoretical predictions for the  $B(E2, 0^+ \rightarrow 2^+)$  value of  $^{128}\text{Cd}$  exist. While shell model calculations conclude an almost spherical shape of  $^{128}\text{Cd}$ , beyond mean field calculations predict an already considerable quadrupole collectivity. In this contribution the experimental details of the Coulomb excitation of  $^{128}\text{Cd}$  at REX-ISOLDE (experiment IS477) will be presented. Furthermore the current status of the analysis to determine the transition strength of the ground state into the first excited  $2^+$  state will be shown. This project is supported by BMBF (No. 06 DA 9036I) and EU through ENSAR (No. 262010).

**Primary author:** BÖNIG, Sabine (Technische Universität Darmstadt (DE))

**Co-authors:** SCHECK, Marcus (Technische Universität Darmstadt (DE)); THÜRAUF, Michael (Technische Universität Darmstadt (DE)); KRÖLL, Thorsten (Technische Universität Darmstadt (DE))

**Presenter:** BÖNIG, Sabine (Technische Universität Darmstadt (DE))

**Session Classification:** Medium Mass Nuclei II