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Nuclear structure far-off stability: Recent advances, surprises and future challenges in the region around doubly-magic 132Sn.

Thursday, 6 September 2018 11:00 (30 minutes)

In this talk the progress achieved in recent years in the understanding of the structure of nuclei in the vicinity of 132Sn, the heaviest doubly-magic nucleus far-off stability accessible for experimental studies, will be reviewed. It will be discussed how the results obtained using a variety of complementary experimental techniques employed in several leading laboratories in the field of nucler physics, in combination with state-of-the-art theoretical investigations, not only allowed to considerably advance our understanding of these exotic nuclei but also had a significant impact on nuclear astrophysics, in particular r-process calculations. Then we will report in more detail on the most surprising results of our studies which nicely illustrate the attraction of pushing the limits of knowledge to the extremes. The talk will close with a glance at the exciting future perspectives offered by the next-generation radioactive ion beam facilities which become operational during the next decade on one hand side and the new instrumentation which is currently under construction on the other.

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