

Search for Nuclear Excitation by Electron Capture (NEEC) at CRYRING

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1st June 2022

Physics case

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experiment: C. J. Chiara *et al.*, *Nature* 554, 216-218 (2018).



9 orders of magnitude difference

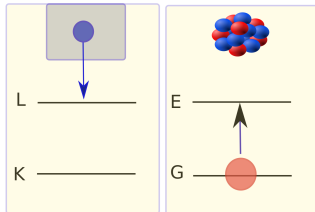
theory: A. Palfy *et al.*, *Phys. Lett. B* 661, 330-334 (2008).

Review

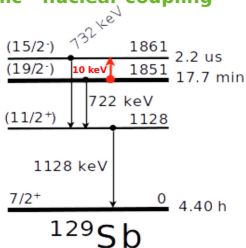
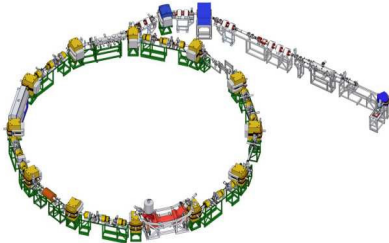
One of the **HOT TOPICS** in physics community

Physics book: CRYRING@ESR

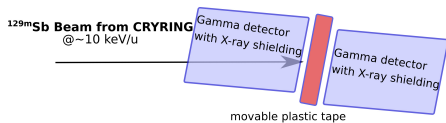
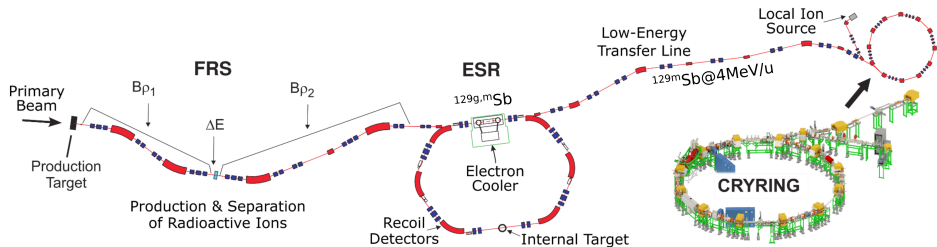
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 Community



atomic - nuclear coupling



Beam time request



Beam time request
Setting up FRS-ESR, CRYRING@ESR = **9** shifts
Experimental measurement = **20** shifts

- 😊 **Relevant for the future program of SPARC collaboration**
- 😊 **In house detectors available**
- 😊 **Physics case: excellent, Experiment: unique, and ready**
- 😊 **The experiment is simple and feasible**