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BRANCHING RATIO MEASUREMENTS OF CLUSTER STRUCTURES IN $^{180}\text{O}^*$

This talk will outline the current state of the analysis investigating proposed rotational bands in ^{180}O . These bands, some of which are expected to have $12\text{C} \otimes 2n \otimes \alpha$ or $14\text{C} \otimes \alpha$ structures, were proposed to exist by previous measurements at the Maier-Leibnitz Laboratory [1]. To determine the absolute α -particle decay widths of those states, we performed an experiment, also at the Maier-Leibnitz Laboratory. We used a similar set-up, but in addition included an array of silicon detectors. The latter allowed for high-resolution reconstruction of the momenta and energies of decay products, as well as particle identification.

[1] Molecular and cluster structures in ^{180}O - W. von Oertzen et al. Eur. Phys. J. A 43, 1733 (2010)

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