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Title: **Population of high spin states in fragmentation reactions**

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The use of projectile fragmentation reactions at intermediate and relativistic energies, combined with unambiguous channel selection afforded by state of the art magnetic separators, has proved to be a very sensitive technique in the study of exotic nuclei which are often inaccessible by other, more standard high-spin methods. As recently demonstrated by results from both GANIL and GSI, the application of this technique for the spectroscopy of μs isomer decays, allows the first identification of excited states in nuclei very far from stability, even with secondary beam production rates as low as a few ions per minute [1, 2]. However, rather surprisingly, one of the key variables in this method, namely the population of high-spin states in fragmentation reactions, has, until now, not been systematically studied. The current work reports on measurements of the population of more than twenty isomers produced by fragmentation of 1 GeV/nucleon ^{208}Pb at SIS/FRS facility at GSI Darmstadt. The isomers observed range from low spin example up to decays of $K = \frac{35}{2}\,\hbar$ states in ^{179}W and ^{181}Re. The dependence of measured isomeric ratios on the number of abraded nucleons, spin and excitation energy above the yrast line will be discussed and compared with predictions from a simple, 'sharp cut-off' model based on the abrasion-ablation description of the fragmentation process [3].

References

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$\boxed{\text{Invited talk.}}$