Abstract Submitted
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Integral method for fitting nuclear decay chains[1] RICHARD MITCHELL, MUSTAFA RAJABALI, Tennessee Technological University, CHARLIE RASCO, Oak Ridge National Lab — The conventional method for determining unknow half-lives of isotopes in data that have many decay chains is by fitting radioactive decay curves using the Bateman equations. The fit gets difficult in cases with very low statistics on the fast decaying components. To compensate for the low statistics, we propose a new method for fitting and extracting these half-lives. The new method consists of making an integral histogram of all the counts recorded from the radioactive isotope, then fitting the histogram with an integral of the Bateman method. In this work we show results from the new algorithm which was used to test the integral method. The validity of the integral method will also be disused. The result of the study will be shown I the presentation. This project was partially funded by the DOE grant number: DE-SC0016988

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