

## **New Prospects for Automated Particle Identification**

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Advances in detectors and electronics have provided isotopic resolution over a large range of nuclei. These advances make new physical insights possible. These results come at a high human cost: the extraction of the identity of the particles requires tedious human labor measurable in man-years. We are developing a new algorithm based on statistical methods to automate this process. The algorithm relies on local data-smoothing techniques, peak-finding routines, and cluster recognition algorithms. We successfully apply this technique to detectors in the NIMROD array, and compare the results with the high-quality results from the labor-intensive manual method. The methods may be applied to other types of clustered data, with potential applications in position calibration and in energy calibration.