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Improving Pulse Shape Analysis in a tracking array with reference pulses obtained from source data

Pulse Shape Analysis (PSA) is one of the most important steps in gamma-tracking arrays like AGATA. The accuracy in the determination of hit locations by PSA affects the tracking performance. For an accurate PSA, the reference pulses basis for each detector has to be as realistic as possible. This is usually done via simulations taking into account the geometry of the electric field. An in-situ method to build new bases from source experimental pulses is under test. Those bases will contain the information of the different detectors electronics response functions and real experimental environment. The preliminary results of the application of those new bases to experimental data from the GANIL campaign will be shown, after a general introduction to the analysis method. The improvement in the energy resolution of tracked energy spectra will be discussed.

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