

Crystal Ball gamma energy calibration for s393

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Within the s393 experiment, a 4pi gamma detector (known as Crystal Ball), consisting of an array of 162 NaI crystals surrounding the reaction target, is used for measuring the gamma rays emitted by the de-exciting fragment after quasifree reactions. During the gamma energy calibration stage of this detector, we performed some changes in the already known scripts used for this matter, due to the fact that we discovered gain-dependent jumps in the peaks delivered by some crystals. Besides, we found out that the calibration parameters varied along the experiment. To minimize the effect of this latter, we used the LT_RANGE function implemented in land02 for enhancing the choice of parameters for Crystal Ball measurements. The study of the background peaks in data runs acquired between calibration runs allows us to decide which set of calibration parameters to use for a specific run. Comparison with the usual technique of choosing the average value of the calibration parameters will also be shown.

Primary author: Mrs MOSTAZO CARO, Magdalena (PhD Student, University Santiago de Compostela, Spain)

Presenter: Mrs MOSTAZO CARO, Magdalena (PhD Student, University Santiago de Compostela, Spain)

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