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Using a precise time measurement in a highly granular calorimeter

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The last decades have seen the development of calorimeters with pixels smaller than 1 cm^2 or even 1 cm^3 considering the extent in depth. Today it looks possible to measure the time of the pixel energy deposits with a resolution similar to their size (1 cm = 30 ps), even though limitations linked to technology will come in. What can bring such a performance to the performances of the calorimeter itself or of the detector globally? In this paper a description of different contributions is offered. This embeds time-of-flight applications as well as helping shower pattern recognition by imposing proper succession of the shower hits, say causality.

Time Zone

Europe/Africa/Middle East

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