

Minimum time integration calorimetry

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We present the results of the studies of the electromagnetic and hadronic shower developments with the goal to determine minimum charge integration window to preserve both the energy calibration and the resolution of a calorimeter. Integration time of only a few ns appears to be enough for the hadronic showers detection and even shorter times are adequate for the electromagnetic showers detection. These results are important for the design of the calorimeters for very high energy and high luminosity colliders as well as for the optimization of the accelerator bunch spacing.

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