

TetraBall: a single-moderator neutron spectrometers for HL-LHC

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This contribution presents a novel single moderator neutron spectrometer, named “TetraBall”, developed at INFN and optimized for characterizing the neutron field in the CMS experimental cavern. The TetraBall condenses the functionality of several Bonner Speres (BS) in a single moderator and it is equipped with 42 SiC radhard detectors organized in a tetraedric geometry designed to be insensitive to gamma and to charge hadrons. Thanks to lead inserts it can respond up to GeV energies. It works in single exposure mode to be suitable for “quasi-online” monitoring, overcoming the limitation of BS systems. It is designed to be used as neutron monitor for the HL-LHC data period.

Collaboration

Role of Submitter

I am the presenter

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