

RPC Detector Simulation Based on CST

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An early test shows serious “crosstalk” in the strips of the RPC detector for ATLAS Phase II. The unexpected signals on non-main strips increase the invalid counts and system load. To find the origin of the “crosstalk”, we decide to simulate the RPC detector and change related parameters to eliminate the “crosstalk”.

CST (Computer Simulation Technology) is a powerful simulation platform for all kinds of electromagnetic field problems and related applications. CST is suitable for our simulation. We tested some models like high surface resistivity of graphene, adding isolating bars between strips or segmenting the graphene. According to the result of simulation, increasing the resistivity of graphene or segmenting the graphene is effective.

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