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A Partial-wave Analysis of the $\pi^+\pi^-\pi^-$ system

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Abstract

Nearly 850,000 events of the type $\pi^- p \to \pi^+\pi^-\pi^- p$ at 18 GeV/c were collected in 1994, using the Brookhaven National Laboratory Multiparticle Spectrometer (MPS) facility.

A partial wave analysis (PWA) of the $\pi^+\pi^-\pi^-$ system produced in the exclusive reaction for mass up to 2 GeV/c^2 has been carried out, and we present the results of the mass-independent fits. Our objective was to search for the J^{PC}-exotic wave in the vicinity of the $a_2(1320)$ meson, which was reported by the VES collaboration in Protvino, Russia.

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