

Partial wave analyses of the $\pi^+\pi^-\pi^-$ system with upgraded VES setup

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Partial Wave Analysis of the $\pi^+\pi^-\pi^-$ system produced by 28 GeV/c π^- beam on berillium target is presented. About $30 \cdot 10^6$ events in the wide $|t|$ -prime range $0 \dots 1 \text{ GeV}^2/c^2$ are collected with upgraded VES setup. The size of the data sample is 2.5 times larger than that previously analyzed by VES. Data are analyzed using formalism of density matrix with unlimited rank. We will discuss status of the states $a_1(1700)$, $a_2(1700)$, decay modes with $J^{PC} = 1^{++}$ P-wave $f_0(980)\pi$, $J^{PC} = 2^{-+}$ D-wave $f_0(980)\pi$, structure of exotic P-wave $\rho(770)\pi$ with $J^{PC} = 1^{-+}$.

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