

The $pd \rightarrow pd\pi\pi$ reaction with dibaryon $d^*(2380)$ excitation

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The WASA@COSY collaboration observed in the total cross section of reaction $pn \rightarrow d^{00}$ a clear dibaryon resonance in a non-strange sector with a mass of 2380 MeV and a remarkably narrow width of 70 MeV [1]. Later on the ANKE@COSY also found indications to excitation of this dibaryon in other reaction, $pd \rightarrow pd$ [2]. For explanation of the ANKE@COSY data we applied the two-resonance model [3] to the reaction by inclusion of the t -channel π -meson exchange between the proton and deuteron [4]. In this talk we extend the model [4] of the reaction $pd \rightarrow pd$, taking into account the recent results of Ref. [5], where the $(1232)(1232)$ resonances channel was introduced in addition to the $d^*(2380) \rightarrow D(2150) + \pi \rightarrow d + \pi$ and $d^*(2380) \rightarrow d + \pi \rightarrow d + \pi$ channels of the decay of the $d^*(2380)$ resonance in describing the reaction $pn \rightarrow d^{00}$.

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