Contribution ID: 448

Type: Oral

Reactions dd \rightarrow **dd** $\pi\pi$ **and pd** \rightarrow **pd** $\pi\pi$ **and isoscalar dibaryons**

Saturday 5 July 2025 12:30 (20 minutes)

At present the resonance peak $D_{IJ} = D_{03}$ observed by WASA@COSY in the total cross section of the reaction of two-pion production in the isoscalar channel of the reaction pn $\rightarrow d\pi^0 \pi^0$ [1], is considered as one of the most realistic candidate to the dibaryon resonance [2]. Here I=0 is the isospin and $J^P = 3^+$ is the total angular momentum and parity of this resonance. A similar resonance structure was observed by ANKE@COSY in the differential cross section of the two-pion production reaction pd \rightarrow pd $\pi\pi$ at beam energies 0.8-2.0 GeV with high transferred momentum to the deuteron at small scattering angles of the final proton and deuteron [3]. In this case the kinematic conditions differ considerably from that in Ref. [1] and two final pions not detected and, therefore, the isoscalar channel was not separated. Nevertheless, in the distribution over the invariant mass $M_{d\pi\pi}$ of the final $d\pi\pi$ system of the reaction $pd \rightarrow pd\pi\pi$ the resonance peak was also observed at $M_d \approx 2.38$ GeV [3] that is the mass of the isoscalar two-baryon resonance D_{03} . In order to explain these data, in Refs. [4] the two-resonance model [5] of the reaction pn $\rightarrow d\pi^0 \pi^0$ was applied by inclusion of the t-channel σ -meson exchange between the proton and deuteron in the reaction pd \rightarrow pd $\pi\pi$. Recently in Ref. [6] the reaction $\gamma d \rightarrow d\pi^0 \pi^0$ was studied and an indication to excitation of isoscalar dibaryon resonance $D_{03}(2380)$ and more heavier dibaryons d(2470) and d(2630) was found. These resonances can be excited also in the reaction $dd \rightarrow dd^*$ at SPD NICA collider. In this work we estimated the differential cross sections of the reactions dd \rightarrow n+pd $\pi\pi$ (with pd \rightarrow pd $\pi\pi$ subprocess) and dd \rightarrow dd $\pi\pi$ assuming excitation of the dibaryons by σ - meson exchange in t-channel as in Refs. [4] and distributions over the invariant mass of the final d $\pi\pi$ system for these reactions were calculated.

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Session Classification: 4. Relativistic nuclear physics, high-energy and elementary particle physics

Track Classification: Section 4. Relativistic nuclear physics, high-energy and elementary particle physics.