Contribution ID: **3** Type: **not specified**

Increase of the Coalescence Coefficient in Diffraction Processes

Tuesday 22 July 2025 15:45 (40 minutes)

(ONLINE)
We study the formation of high-energy deuterons by the coalescence mechanism in ultrarelativistic heavy-ion collisions. We find the coalescence coefficient by calculating the corresponding Feynman diagrams taking into account the coherent nature of the process. We show that the probability of neutron and proton fusion into a high-energy deuteron is higher in the diffraction region than in the central rapidity region. We also present the physical interpretation of this phenomenon.

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Session Classification: Afternoon session

Track Classification: Theoretical models of diffraction: General Quantum Theory and diffraction