Contribution ID: **666** Type: **Poster**

Deuteron (and cluster) production in ultrarelativistic heavy-ion collisions

Thursday, 30 July 2020 13:42 (3 minutes)

We consider two mechanisms for the light clusters production: the coalescence model and the thermal static model. The first one postulates that light nuclei are formed only at late times of the fireball evolution by recombination of protons and neutrons with close positions and velocities on the kinetic freeze-out surface. On the other hand, the thermal model assumes that there is a perfect chemical equilibrium above the chemical freeze-out temperature. Then the thermal model describes yields of all hadron species with the unique temperature of T = 156 MeV. This would mean that light nuclei seem to behave like all other hadrons. This is very surprising because it is hard to imagine that loosely bound sizeable nuclei can exist in the hot and dense hadron gas. From previous studies, we know that both models predict similar deuteron yields. We try to understand the cluster production and to distinguish between models also with the help of the anisotropic flow of the clusters.

Secondary track (number)

Primary author: SOCHOROVÁ, Radka (FNSPE, Czech Technical University Prague, Czech Republic)

Presenter: SOCHOROVÁ, Radka (FNSPE, Czech Technical University Prague, Czech Republic)

Session Classification: Heavy Ions - Posters

Track Classification: 07. Heavy Ions