

## Productions of light nuclei and hyper-nuclei in heavy-ion collisions at the LHC

We extend an analytical coalescence model to include the hyperon coalescence besides the nucleon coalescence to simultaneously study production properties of light nuclei and hyper-nuclei in heavy ion collisions at the LHC. We derive the formula of the momentum distribution of two baryons coalescing into deuteron-like states and that of three baryons coalescing into triton-like states. We explain the centrality-dependent behaviors of the coalescence factors  $B_2$  and  $B_3$ , the transverse momentum spectra, averaged transverse momenta, yield rapidity densities and yield ratios of the deuteron, anti-helium-3, anti-triton and hypertriton measured by the ALICE collaboration. We give predictions of different  $\Omega$ -hypernuclei, e.g.,  $H(n\Omega)$ ,  $H(\Omega\Omega)$ ,  $H(nn\Omega)$  and  $H(n\Omega\Omega)$ , for further experimental measurements.

**Primary author:** Dr 王, 瑞芹

**Presenter:** Dr 王, 瑞芹

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