

Overview of ALICE results on light flavor hadron production

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Light flavor hadrons are copiously produced in hadronic and heavy-ion interactions and bring a wealth of information about properties of the produced medium and reaction dynamics. In this talk, we review the most recent ALICE results on the production of different light-flavor hadrons, including transverse momentum spectra, yields, nuclear modification factors and particle ratios in pp, p-Pb, Xe-Xe and Pb-Pb collisions at LHC energies. Having different masses, quark content and lifetimes, light flavour hadrons do not only serve as general observables in the soft sector, but also play an important role as high transverse momentum probes and signatures of the onset of collectivity in high-multiplicity collisions of small systems. Production of light flavour hadrons containing strange quarks is enhanced from pp to p-Pb and Xe-Xe/Pb-Pb collisions. The strength of such an enhancement depends on the particle strangeness content, but it is also present for $\phi(1020)$ mesons with hidden strangeness. The production of short-lived resonances with lifetimes comparable to that of the fireball is suppressed in central heavy-ion collisions, which can be attributed to rescattering of daughter particles in the dense hadronic medium. Transverse momentum spectra for light hadrons become harder at higher multiplicities in all collision systems, which is likely the result of radial flow. The baryon-to-meson ratios evolve with event multiplicity and demonstrate qualitatively similar behavior in pp, p-Pb and Xe-Xe/Pb-Pb collisions at high multiplicities. Production of light hadrons is similarly suppressed at high transverse momenta in central Pb-Pb collisions, while no significant modification is found in p-Pb collisions. The obtained results are compared to lower energy experiments and theoretical model predictions where available.

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