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Production of (anti-)nuclei in small systems with ALICE at the LHC

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The large sample of high quality data taken in pp collisions at $\sqrt{s} = 7$ TeV and 13 TeV and in p-Pb collisions at $\sqrt{s_{NN}}$ = 5.02 TeV at the LHC with the ALICE detector allows for a systematic study of the light (anti-)nuclei production in these collision systems.

The excellent performance of the Inner Tracking System, the Time Projection Chamber and the Time-Of-Flight detector provide a clear identification and separation of primary produced light (anti-)nuclei from secondaries. Additionally, the high energy deposit of Z=2 particles in the Transition Radiation Detector has been exploited to collect a hardware-triggered data sample in the high-interaction rate p-Pb collisions at $\sqrt{s_{NN}}$ = 8.16 TeV. First findings from this (anti-)nuclei enriched sample will be shown.

New results on (anti-)deuteron production as a function of multiplicity in pp and p-Pb collisions will be presented, as well as the measurement of (anti-)helium-3 in p-Pb collisions. The goal is to study production mechanisms such as coalescence in small systems, and to compare them to those in heavy-ion collisions. Finally, perspectives will be given for studies with the increased statistics from the LHC Run II.

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