Contribution ID: **7**   Type: **Oral presentation**

Measurement of (anti-)hypernuclei production with ALICE at the LHC

Wednesday, 13 September 2017 15:20 (20 minutes)

The Large Hadron Collider (LHC) has delivered at the end of 2015 Pb-Pb collisions at $\sqrt{s_{NN}}$ = 5.02 TeV. This data sample from the so-called LHC Run 2, complements the Run 1 datasets of Pb-Pb collisions at $\sqrt{s_{NN}}$ = 2.76 TeV. These datasets allow for a systematic study of the light (anti-)(hyper-)nuclei production in ultra relativistic heavy ion collisions. Thanks to its excellent particle identification and tracking capabilities, the ALICE detector allows for the identification of light nuclei and the corresponding anti-nuclei in a wide momentum range. Moreover, by means of the Inner Tracking System's capability to separate primary from secondary vertices, it is possible to identify (anti-)hypertritons exploiting the two (\hyp~→~\he~+~\pim) and three body (\hyp~→~d~+~p~+~\pim) mesonic weak decays.

The study of (anti-)hypertriton production at both energies will be discussed and findings will be compared to model predictions. Results on the measurement of (anti-)hypertriton production yields in Pb–Pb collisions along with the hypertriton lifetime will be shown. Plans for the future LHC Run 3, scheduled to start in 2021, with the expected improvements in the statistics and precision will be also presented.

Primary author: Dr PIANO, stefano (INFN sez Trieste)

Presenter: Dr PIANO, stefano (INFN sez Trieste)

Session Classification: Parallel P7 & P8

Track Classification: Hadron physics at LHC