

## Contribution submission to the conference SMuK 2021

**Hypertriton production in 13 TeV pp collisions** — ●MICHAEL HARTUNG for the ALICE-Collaboration — Institut für Kernphysik, Goethe Universität, Frankfurt, Germany

The  ${}^3_{\Lambda}\text{H}$  is a bound state of proton, neutron and lambda. Studying its characteristics provides insights about the strong interaction between the lambda and ordinary nucleons. In particular, the  ${}^3_{\Lambda}\text{H}$  is an extremely loosely bound object, with a large wave-function. As a consequence, the (anti-) ${}^3_{\Lambda}\text{H}$  production yields in pp collisions are extremely sensitive to the nucleosynthesis models. Significant hypertriton yields have so far only been measured in Pb–Pb collisions at the LHC. Due to the excellent particle identification through the energy-loss measurement in the Time Projection Chamber in combination with the capabilities to separate primary particles from those from secondary decays, provided by the Inner Tracking System, it is possible to identify the hypertriton in pp collisions. With the precision of the presented production yields some configurations of the Statistical Hadronisation and Coalescence models can be excluded leading to tighter constraints to available theoretical models. Supported by BMBF and the Helmholtz Association.

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