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Insight into $K^*(892)^0$ production in pp collisions as a function of collision energy, event-shape and multiplicity with ALICE at the LHC

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The lifetimes of short-lived hadronic resonances are comparable to the hadronic phase of the medium produced in high-energy collisions. Thus, these resonances are sensitive to the re-scattering and regeneration processes in the time interval between the chemical and kinetic freeze-out, which might affect the resonance yields. In addition, event shape observables like transverse sphericity are sensitive to the hard and soft processes and they represent a useful tool to separate the isotropic and jetty events in pp collisions. Furthermore the measurements in small systems are used as a reference for ion-ion collisions and are helpful for the tuning of Quantum Chromodynamics (QCD) inspired event generators. In this contribution, we present recent results on $K^*(892)^0$ obtained by the ALICE experiment in pp collisions at several collision energies, event multiplicities and as a function of transverse sphericity. The results include the transverse momentum spectra, yields and their ratio to long-lived particles. The measurements will be compared with model predictions and measurements at lower energies.

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