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$K^*(892)^0$ production in p+p interactions from NA61/SHINE

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The NA61/SHINE experimental physics program is focused on searching for the critical point and on the study of the properties of the onset of deconfinement in strongly interacting matter. A scan of the phase diagram of strongly interacting matter is done by changing the energy of colliding ions (from 13A to 150/158A GeV) and by changing the system size (from p+p to Pb+Pb).

The main topic of this talk are preliminary results on $K^*(892)^0$ meson production in p+p interactions at beam momentum 158 GeV/c and the pilot results at beam momenta 31-80 GeV/c obtained by the NA61/SHINE experiment. The analysis of $K^*(892)^0$ was done for the first time with the template method in the $K^+\pi^-$ decay channel. The results include the double differential spectra $d^2n/(dydp_T)$, $d^2n/(m_T dm_T dy)$ as well as p_T integrated and extrapolated dn/dy spectra. The measured mass of the $K^*(892)^0$ as a function of transverse momentum is also presented and compared to other published results. Finally, the multiplicity of $K^*(892)^0$ and the ratio of $<K^*(892)^0>/<K^{+/-}>$ as a function of system size and energy are planned to be presented together with the results from other experiments.

Collaboration name

NA61/SHINE

Track

Hadron Resonances

Author: TEFELSKA, Angelika Magdalena (Warsaw University of Technology (PL))

Presenter: TEFELSKA, Angelika Magdalena (Warsaw University of Technology (PL))

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