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NA61/SHINE highlights: Recent results from NA61/SHINE

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News from NA61/SHINE

The NA61/SHINE experiment at the CERN SPS is a multipurpose fixed-target spectrometer for charged and neutral hadron measurements. Its research program includes studies of strong interactions as well as reference measurements for neutrino and cosmic-ray physics. A significant advantage of NA61/SHINE over collider experiments is its extended coverage of phase space available for hadron production. The latter includes the nearly entire forward hemisphere for charged hadrons and additionally, also a large part of the backward hemisphere for specific neutrals.

This talk will summarize the substantial package of new strangeness-related results, obtained by NA61/SHINE since the last Strangeness in Quark Matter conference (Busan, 2022). The latter will include preliminary and final data on strange baryon and strange meson production (Λ , K , K^* , and others) in proton-proton, pion-nucleus and nucleus-nucleus collisions in the collision energy range $\sqrt{s_{NN}} = 5-17$ GeV. Particular attention will be devoted to the difference observed between charged and neutral K mesons production in Ar+Sc reactions, up to now not understood by existing models.

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