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## On the pair correlations of neutral K, D, B and B<sub>s</sub> mesons with close momenta produced in inclusive multiparticle processes

The phenomenological structure of inclusive cross-sections of the production of two neutral  $K$  mesons in hadron-hadron, hadron-nucleus and nucleus-nucleus collisions is theoretically

investigated taking into account the strangeness conservation in strong and electromagnetic interactions. Relations describing the dependence

of the correlations of two short-lived and two long-lived neutral kaons

$K_S^0 K_S^0$ ,  $K_L^0 K_L^0$  and the correlations of "mixed" pairs

$K_S^0 K_L^0$  at small relative momenta upon the space-time parameters

of the generation region of  $K^0$  and  $\bar{K}^0$  mesons

have been obtained. These relations involve the contributions

of Bose-statistics and  $S$ -wave strong final-state interaction of two

$K^0$  ( $\bar{K}^0$ )-mesons as well as of a  $K^0$ -meson with

a  $\bar{K}^0$ -meson, and also the contribution of transitions

$K^+ K^- \rightarrow K^0 \bar{K}^0$ , and they depend upon the

relative fractions of generated pairs

$K^0 K^0$ ,  $\bar{K}^0 \bar{K}^0$  and  $K^0 \bar{K}^0$ .

It is shown that under the strangeness

conservation the correlation functions of

the pairs  $K_S^0 K_S^0$  and  $K_L^0 K_L^0$ , produced in the same

inclusive process, coincide, and the difference between the

correlation functions of the pairs  $K_S^0 K_S^0$  and  $K_S^0 K_L^0$

is conditioned exclusively by the production of the pairs of non-identical

neutral kaons  $K^0 \bar{K}^0$ .

Analogous correlations for the pairs

of neutral heavy mesons  $D^0$ ,  $B^0$  and  $B_s^0$ , generated in

multiple inclusive processes with the charm (beauty) conservation, are also theoretically analyzed,

and differences from the case of neutral  $K$  mesons are discussed.

### Summary

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