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## Strange particles reconstruction by the missing mass method

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The main goal of modern heavy-ion experiments is a comprehensive study of the QCD phase diagram, in a region of Quark-Gluon Plasma (QGP) and possible phase transition to QGP phase.

One of possible signals of QGP formation is enhanced strangeness production. Reconstruction of  $\Sigma$  particles together with other strange particles completes the picture of strangeness production.  $\Sigma^+$  and  $\Sigma^-$  have all decay modes with at least one neutral daughter, which can not be registered by the CBM detector.

For their identification the missing mass method is proposed: a) tracks of the mother ( $\Sigma^-$ ) and the charged daughter ( $\pi^-$ ) particles are reconstructed in the tracking system; b) the neutral daughter particle ( $n$ ) is reconstructed from these tracks; c) a mass constraint is set on the reconstructed neutral daughter; d) the mother particle is constructed of the charged and reconstructed neutral daughter particles and the mass spectrum is obtained, by which the particle can be identified.

The method can be applied for other strange particles too. In total 18 particle decays with neutral daughter are now included into physics analysis.

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