



Contribution ID: 911

Type: Poster

## $\Sigma^0$ reconstruction in Ag+Ag collisions at 1.58A GeV with HADES

Friday 8 April 2022 14:36 (4 minutes)

HADES investigates the moderate temperature and high density regime of the QCD phase diagram. Strangeness can give a direct insight into the created dense matter, in particular close to the nucleon nucleon production threshold. In 2019 HADES collected Ag+Ag collisions at 1.58A GeV kinetic beam energy. A newly installed electromagnetic calorimeter allows for photon detection. Furthermore the RICH detector was upgraded, which strongly improves electron identification and the detection of conversion-pairs.

In this contribution preliminary results on the search for the  $\Sigma^0$  baryon, decaying electromagnetically into  $\Lambda + \gamma$  will be presented. Detailed simulations prove the feasibility of this measurement using photon detection in the electromagnetic calorimeter or by employing photon conversion method based on the reconstruction of low momentum electrons in the RICH. Using the photon detected in the electromagnetic calorimeter an estimate of the  $\Lambda/\Sigma^0$  ratio will be extracted.

**Primary author:** BECKER, Marten

**Presenter:** BECKER, Marten

**Session Classification:** Poster Session 3 T11\_5

**Track Classification:** Heavy flavors, quarkonia, and strangeness production