## 3rd Jagiellonian Symposium on Fundamental and Applied Subatomic Physics



Contribution ID: 14

Type: talk

## Hyperon studies and development of Forward tracker for HADES detector

Friday, 28 June 2019 15:50 (15 minutes)

The HADES detector is a versatile detector specialized for dilepton and strangeness measurements at GSI/FAIR [1]. It has been recently updated by an electromagnetic calorimeter, and a new RICH photon detector. In this year an additional Forward Detector (FD) will be installed. It will extend an acceptance of HADES at forward angles (0 to 6.5 degree) essential for many reactions channels. The Straw Trackers are currently assembled by the Krakow and FZ Juelich teams, based on developments for the PANDA Forward Tracker [2]. As this detector will operate in a field-free region the particle identification has to be performed based on dE/dx and time-of-flight measurements. Additionally, the straw tube tracking stations will be used for reconstruction of off-vertex decays. The increase of acceptance will play a significant role in studies of N( $\pi$ )+N and p+A reactions where this detector is essential for exclusive channels and PWA analyses of hyperon production and decays like for example  $\Lambda \rightarrow p \pi$ ,  $\Lambda(\Sigma) \rightarrow \Lambda$  e+e- (hyperon transition form-factors) and  $\Xi$ -  $\rightarrow \Lambda \pi$ -. In the present contribution the feasibility studies of hyperon reconstruction together with performance of the tracking detectors obtained in various test will be presented.

**Primary author:** RATHOD, Narendra (The Marian Smoluchowski Institute of Physics, Jagiellonian University)

**Co-authors:** Prof. SALABURA, Piotr (The Marian Smoluchowski Institute of Physics, Jagiellonian University); Prof. SMYRSKI, Jerzy (The Marian Smoluchowski Institute of Physics, Jagiellonian University)

Presenter: RATHOD, Narendra (The Marian Smoluchowski Institute of Physics, Jagiellonian University)

Session Classification: Friday