

Workshop for young scientists with research interests focused on physics at FAIR



Contribution ID: 30

Type: **not specified**

Hidden neutrons in HADES data

Thursday, 18 February 2016 11:15 (25 minutes)

The HADES experiment at GSI Helmholtzzentrum für Schwerionenforschung in Darmstadt (Germany) is a fixed target experiment using SIS-18 accelerator to study collisions of protons, heavy-ions or secondary pions with target nuclei. HADES is designed to study reactions with di-electrons in final state but it provides also very accurate measurement of charged hadrons.

The pion induced reactions provide unique opportunity to study exclusive reactions with neutrons in the final state. Using the inclusive channel $\pi^- + p \rightarrow \pi^- + \pi^+ + n$ we can optimize the selection criteria for neutron hits in TOF/RPC. Different ways of usage of MDC as veto is discussed. Dedicated simulations are compared with preliminary results of real data analysis for reaction channels with two neutral particles in the final state.

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Session Classification: Talks