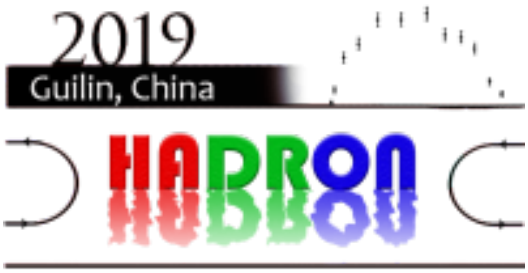

Contribution ID: **61** Type: **Parallel**

Simulation study of the $\bar{p}p \to \bar{\Sigma}^0\Lambda$ reaction with PANDA at FAIR

Tuesday, 20 August 2019 09:35 (20 minutes)

The PANDA experiment is one of the pillars of the new Facility for Antiproton and Ion Research (FAIR), currently under construction in Darmstadt, Germany. PANDA stands for antiProton ANnihilation at Darmstadt, and it will be a fixed-target experiment which will allow the study of non-perturbative phenomena of the strong interaction. These will be probed in antiproton-proton collisions in the beam momentum range of 1.5 - 15 GeV/c. Within the PANDA physics program, strangeness production will be addressed through $\bar{p}p \to \bar{Y}Y$ processes, where Y denotes a hyperon and $\bar{Y}$ an antihyperon. Measurements of the $\bar{p}p \to \bar{\Sigma}^0\Lambda$ channel for its comparison with the existing data of the $\bar{\Lambda}\Lambda$ channel give the possibility to study the role of isospin symmetry in hadron production dynamics. This work consists of a simulation study focused on the feasibility of measuring the $\bar{p}p \to \bar{\Sigma}^0\Lambda$ reaction at PANDA. Reconstruction efficiencies and rates are presented for two antiproton beam momenta: 1.771 GeV/c and 6 GeV/c.

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