Abstract Submitted
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Perspective of Λ hyperon production in semi-inclusive DIS with an 11 GeV electron beam at Jefferson Lab[1] XIAODONG JIANG, Rutgers, the State University of New Jersey, HAI-JIANG LU, University of Science and Technology of China, Hefei, China — With the planned energy upgrade and the large acceptance CLAS12 detector operated at the high luminosity of 10^{35} cm^{-2}s^{-1}, Jefferson Lab provides unique opportunities to study Λ^0 hyperon productions in semi-inclusive DIS reactions in the current fragmentation regime ($x_F > 0$, $z > 0.5$). Based on the LUND model and the recent HERMES data, we carried out numerical estimations of the following physics observables: 1. lepton to Λ longitudinal spin transfer, 2. beam-target double-spin asymmetries, 3. nucleon to Λ spin transfer, 4. Induced Λ polarization on an unpolarized target, 5. transverse Λ polarization on a transversely polarized target. The projected statistical accuracies will be compared with existing theory models and recent data from the COMPASS and the HERMES collaborations.

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