

Measurement of $K^*(892)$ production in the $^{12}\text{C}(K^-, p)$ reaction at 1.8 GeV/c

Tuesday, 17 October 2023 16:47 (3 minutes)

$K^*(892)$ production from nuclei provides a crucial test ground for exploring possible in-medium modification of $K^*(892)$ properties. Recently, we collected high-statistics datasets for $^{12}\text{C}(K^-, p)$ reactions at 1.8 GeV/c. We performed this measurement simultaneously in the J-PARC E42 run for the H-dibaryon search. The HypTPC helps reconstruct the $K^*(892) \rightarrow K_s^0 \pi^-$ decay, while a forward spectrometer tags a proton in the angular range $0^\circ < \theta_{K^-p} < 20^\circ$. This talk will present preliminary results on the differential cross-section measurement for $^{12}\text{C}(K^-, p)K^*(892)X$ and $p(K^-, p)K^*(892)$ at 1.8 GeV/c. Furthermore, the measurement of decay particles from the kaonic-bound region will be also discussed, which can be a good probe for kaonic-bound nuclei.

Parallel Session

Hadron Spectroscopy

Primary author: CHOI, Sungwook (Korea University)

Co-author: AHN, JungKuen (Korea University)

Presenter: CHOI, Sungwook (Korea University)

Session Classification: Poster Session