



Contribution ID: 123

Type: **Poster**

Preliminary results for observation of exclusive π^0 production

Wednesday, 15 September 2021 14:00 (5 minutes)

MesonEx experiment at CLAS12 studies exotic mesons production. Investigating exclusive π^0 production is crucial to understand the viability of the fundamental $\eta\pi$ reaction. These studies aim to the beam asymmetry Σ calculation and the comparison of the latter with the same obtained by GlueX and SLAC experiments. (Phys. Rev.C, 95:042201, Apr 2017) As the outcomes of these experiments shows significant discrepancies, the results provided by CLAS12 can be critical in the exotic meson production studies.

Thanks to data analysis, it has been possible to clearly identify the reserched reaction, improving the Signal/Background ratio and selecting π^0 exclusive reaction only.

The beam asymmetry calculation are ongoing, focusing on the different intervals selection.

Studies on the variation of the cross section with transferred p are also ongoing.

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Session Classification: Poster Session