

Role of a triangular singularity in the $\gamma p \rightarrow p \pi^0 \eta$ reaction

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Recently structures in invariant mass distributions and excitation energy spectra have been attributed to triangular singularities as discussed in e.g.,[1,2] and in the review by Guo et al. [3]. These singularities emerge under specific kinematic conditions when new reaction channels open up. It will be shown that a triangular singularity associated with the opening of the $\gamma p \rightarrow p a_0 \rightarrow p \pi^0 \eta$ channel may explain a structure in the $M_{p\eta}$ invariant mass distribution near 1700 MeV/c² observed in the $\gamma p \rightarrow p \pi^0 \eta$ reaction [4].

[1] G. D. Alexeev et al., The COMPASS Collaboration, Phys. Rev. Lett 127, 082501 (2021)

[2] M. Mikhasenko, B. Ketzner and A. Sarantsev, Phys. Rev. D 91, 094015 (2015).

[3] F. K. Guo et al., Rev. Mod. Phys. D 90, 015004 (2018).

[4] V. Metag et al., EPJA 57 (2021) 325.

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