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Identification of a visible narrow cusp structure in

$$\Lambda_c^+ \rightarrow pK^- \pi^+$$

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A resonance-like structure as narrow as 10 MeV is observed in the $K^- p$ invariant mass distributions in $\Lambda_c^+ \rightarrow pK^- \pi^+$. This precise measurement is based on a data sample of about 1.5 million events, and the bin width of $K^- p$ invariant mass is only 1 MeV. The narrow peak precisely lies on the $\Lambda\eta$ threshold, because of which it is natural to identify it as a threshold cusp. Being different from the common two-body unitary cusp, we find that the narrowness of this cusp can be induced by a nearby triangle singularity of the Λ - $a_0^+(980)$ or η - $\Sigma(1660)$ rescattering process.

Primary author: LIU, Xiao-Hai (Tianjin University)

Co-authors: LI, Gang (Qufu Normal University); Dr XIE, Ju-Jun (IMP@CAS); Prof. ZHAO, Qiang (Institute of High Energy Physics, Chinese Academy of Sciences)

Presenter: LIU, Xiao-Hai (Tianjin University)

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