Contribution ID: **16** Type: **not specified**

Threshold cusp structure in multi-channel scattering

Wednesday, April 2, 2025 5:30 PM (20 minutes)

Near-threshold exotic hadrons are studied actively. In order to understand the nature of them, it is necessary to determine the scattering length from experimental data, because the scattering length governs the near-threshold scatterings. The cusp structure of cross sections reflects the value of the scattering length.

In this work, we study the behavior of threshold cusp in multi-channel scattering using the general scattering amplitude near the threshold [1]. As a result, we show that while there are four kinds of cusps in general case, only two of them are possible in two and three channel cases because of the constraints from the unitarity.

[1] K. Sone and T. Hyodo, arXiv:2405.08436 [hep-ph].

Presenter: SONE, Katsuyoshi (Tokyo Metropolitan University)

Session Classification: Parallel Session (B)