Proceedings of the 3rd China-Japan-Korea Hardron and Nuclear Physics 2008 Symposium

Origin of Dynamically Generated Baryon Rsonances

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摘要

We study the origin of baryon resonances which are dynamically generated in the chiral unitary approach. We propose a natural renormalization scheme for the dynamical generation of resonances using the low energy chiral interaction and a general feature of the scattering theory. A deviation of a phenomenological scattering amplitude from the natural one is interpreted by an effective pole term interaction of genuine nature which can not be described by the meson　baryon dynamics, reminiscent of the CDD pole. Applying the present method to physical meson　baryon scatterings, we find that the $\Lambda(1405)$ resonance is dominated by a meson　baryon component forming a $\overline{K}N$　$\pi\Sigma$ molecular　like structure, while the $N(1535)$ resonance requires some pole contribution.

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