SEMINÁŘ OTF ÚJF, ŘEŽ

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The $\bar{K}N$ and ηN dynamics at energies near threshold

Abstrakt

We analyze the $\bar{K}N$ and ηN interactions using an effective separable potential coupled channels model that implements chiral symmetry. The energy dependence of both the $\bar{K}N$ and ηN scattering amplitudes is strongly affected by dynamically generated resonances close to the meson-baryon thresholds, the $\Lambda(1405)$ and $N^*(1535)$, respectively. We discuss the relation of the observed energy dependence to the resonance pole dynamics in a free space and in nuclear medium. The model predicts an ηN stattering length $\Re a_{\eta N} \approx 0.7$ fm and in-medium subthreshold attraction most likely sufficient to generate η-nuclear bound states, similar to those predicted for the $\bar{K}$-nuclear interactions.

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v zasedací místnosti ÚJF Řež

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