

Neutron spectra from the \bar{K} + d break-up reaction and the shape of the $\Lambda(1405)$ resonance.

Mittwoch, 7. September 2011 16:00 (20 Minuten)

Coupled channels Faddeev equations are being solved for the \bar{K} +d break-up reaction in the \bar{K} -N-N \leftrightarrow π -Sigma-N three-body system. The main aim is to calculate the neutron spectra for fixed incident kaon energy - a really observable quantity, which is directly related to the shape of the $\Lambda(1405)$ state, as opposed to the widely used hypothetical curves, such as sub-threshold \bar{K} -p amplitudes or π -Sigma cross sections.

We plan to investigate the effect of different \bar{K} -N interaction models on this spectrum, basically using interaction types introduced in [1] and further developed in subsequent papers of N.V.Shevchenko, e.g. [2].

[1] J.Revai, N.V.Shevchenko

Isospin mixing effects in the low-energy \bar{K} -N - π -Sigma interaction

Phys. Rev. C 79, 035202 (2009)

[2] N.V.Shevchenko

One- versus two-pole \bar{K} -N - π -Sigma potential: \bar{K} -d scattering length

arXiv: 1103.4974

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Sitzung Einordnung: Contributions II

Track Klassifizierung: Strangeness in Matter