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# The Cascade production in antikaon reactions with protons

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## Collaboration

## Abstract content

The chiral SU(3) Lagrangian extended to next-to-leading order (NLO) has been used to study the meson-baryon interaction in S-wave in the strangeness $S = -1$ sector. Consequently our model has 7 new parameters which have to do with NLO terms in the chiral Lagrangian, and which are of prime interest for us. A large set of experimental data available for different two-body channels has been used in the fit of the model. We pay particular attention to the $K^- p \to K\Xi$ reactions, where the effect of the NLO terms in the Lagrangian is sufficiently large to restrict the NLO parameters. In order to improve our model in these particular channels, we take into account phenomenologically the effects of the high spin hyperonic resonances, namely $\Sigma(2030) \left(\frac{7}{2}^+\right)$ and $\Sigma(2250) \left(\frac{5}{2}^-\right)$. Some preliminary results can be found in Refs. [1].

[1] V.K. Magas, A. Feijoo Aliau, A. Ramos, arXiv:1311.5025 [hep-ph]; arXiv:1402.3971 [hep-ph].

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