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Hyperon resonances and meson-baryon interactions

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In this talk we present our latest study on pseudoscalar-baryon and vector baryon coupled channel interactions. The formalism consists of calculations of s-, t, and u-channel diagrams for all channels and use the sum of such diagrams as kernels to solve Bethe Salpeter equation. The vertices, to calculate the lowest order amplitudes, are taken from chiral and hidden local symmetry Lagrangians. The divergent loops are regularized using the dimensional regularization method and the subtraction constants have been fitted to reproduce cross section data on several relevant processes, as well as to reproduce the energy level shift and width of the 1s state of the kaonic hydrogen measured by the SIDDHARTA collaboration. With these constrained amplitudes, we study the properties of resonances in the complex plane.

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