The 8th International Workshop on Chiral Dynamics 2015



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Leading Talk Evidence that the Lambda(1405) is a molecular antikaon-nucleon bound state.

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We present lattice QCD results showing that the strange magnetic form factor of the Lambda(1405) vanishes, signaling the formation of an antikaon–nucleon. Together with a Hamiltonian effective-field-theory model analysis of the lattice QCD energy levels, this strongly suggests that the structure is dominated by a bound antikaon-nucleon component. This result clarifies that not all states occurring in nature can be described within a simple quark model framework and points to the existence of exotic molecular meson-nucleon bound states.

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