

Low-energy kaon-nucleon/nuclei interaction studies by AMADEUS

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The strong interaction theory in the low energy regime, is still missing fundamental experimental results in order to achieve a breakthrough in its understanding. Among these, the investigation of the low-energy kaon-nucleon/nuclei processes plays a key-role, with important consequences going from particle and nuclear physics to astrophysics. The kaon-nuclei interactions are being measured by the AMADEUS collaboration by using the KLOE detector. The K- single and multi-nuclear absorptions on H, 4He, 9Be and 12C, both at-rest and in-flight (for a kaon momenta up to 120 MeV/c), are investigated with the aim to determine the nature of the controversial $\Lambda(1405)$, the non-resonant hyperon pion formation amplitude below the K-N threshold, the yields and cross sections of K- multi-nucleon absorptions (intimately related to the antikaon multi-nucleon clusters properties) and the K- scattering cross sections on light nuclear targets. The results of the AMADEUS analyses will be shown.

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