

# Low Energy Antikaon-nucleon/nuclei interaction studies by AMADEUS

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## Collaboration

AMADEUS

## Abstract content

The AMADEUS collaboration is performing experimental investigations in the low energy strangeness QCD sector.

The  $K^-$  nuclear absorption processes on light nuclear targets are studied, taking advantage of the monochromatic low-momentum negatively charged kaons produced by the DAFNE collider and exploiting the KLOE detector as an active target. The  $K^-$  single and multi-nuclear absorptions on H,  $4\text{He}$ ,  $9\text{Be}$  and  $12\text{C}$ , both at-rest and in-flight (for a kaon momentum of  $100\text{ MeV}/c$ ), 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.

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