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## Antikaon absorption in nuclear medium and kaonic atoms

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We have developed a microscopic model for the  $K^-NN$  absorption in nuclear matter [1]. The absorption was described as a meson-exchange process and the primary  $K^-N$  interaction strength was derived from the state-of-the-art chiral models. The medium modifications of the  $K^-N$  scattering amplitudes due to the Pauli principle were taken into account. The model was applied in calculations of kaonic atoms for the first time [2]. The description of the data significantly improved when the two nucleon absorption was considered. The branching ratios for various  $K^-$  absorption channels in  $^{12}\text{C}+K^-$  atom were calculated and compared with old bubble chamber data, as well as with the latest data from the AMADEUS collaboration [3]. Next, we considered the hadron ( $Y, K^-, \pi$ ) selfenergies in the  $K^-N$  scattering amplitudes as well as in the  $K^-NN$  absorption model. Their effect on the total  $K^-$  potential in nuclear matter is currently being explored.

### References:

- [1] J. Hrtankova, A. Ramos, Phys. Rev. C 101 (2020) 035204.
- [2] J. Obertova, E. Friedman, J. Mares, Phys. Rev. C 106 (2022) 065201.
- [3] R. Del. Grande et al., Eur. Phys. J. C 79 (2019) 190.

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