

# Neutral Kaon Production in p+p and p+Nb Collisions with HADES

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Kaon interaction with baryonic matter is characterized by a repulsive potential according to common belief. However, the values of the measured potential are not yet consistent with each other [1,2]. We analyze the kaon in-medium behavior employing K0s's identified with the HADES detector in p+p and p+Nb collisions at 3.5 GeV kinetic beam energy. The comparison of the K0s differential cross sections in p+Nb and p+p collisions provides access to the in-medium kaon potential at normal nuclear matter density. The distinctive feature of our measurements is a high-statistics sample of kaons with low transverse momenta ( $p_t < 100$  MeV/c), ensuring the sensitivity to the nuclear matter effects. We present the data analysis method and first results.

[1]M.L. Benabderrahmane et al. (FOPI), Phys.Rev.Lett.102, 182501 (2009)

[2]G. Agakishiev et al. (HADES), Phys.Rev.C 82:044907 (2010)

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