## The $\bar{K}^*$ meson in dense matter

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Taking advantage of recent developments on the interaction of vector mesons with baryons using the hidden local gauge formalism, we tackle the problem of the evaluation of the  $\bar{K}^*$  selfenergy in nuclear matter. The selfenergy is evaluated as a function of energy, momentum and density and we find a sizable contribution to its imaginary part from different mechanisms, leading to a  $\bar{K}^*$  width at normal nuclear matter as large as five times the free width. The real part of the selfenergy is also sizable, but more moderate, leading to a smaller mass of the  $\bar{K}^*$  in the medium. In order to motivate measurements of the magnitudes found here we make a qualitative estimate of the transparency ratio of the  $\gamma \ A \to K^+ \ K^{*-} \ A'$  reaction and find large effects, easily detectable in experiments feasible at present Facilities.

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