$n - \bar{n}$ **oscillations in deuterium** BINGWEI LONG, UBIRAJARA VAN KOLCK, Department of Physics, University of Arizona — Neutron-antineutron ($n - \bar{n}$) oscillation requires interactions that change baryon number by 2 units ($\delta B = 2$), hence providing a stage for physics beyond Standard Model. We generalize the pionless nuclear effective field theory to include $\delta B = 2$ interactions, and examine $n - \bar{n}$ oscillation in vacuum and in nuclei. We provide, in leading order in a controlled expansion, a model-independent link between the $n - \bar{n}$ vacuum oscillation time and the lifetime of deuteron. We compare our result with previous model estimates, and discuss extensions to other nuclei and to subleading orders.

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