

Abstract Submitted
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Ultracold Neutron Nonimaging Optics KEVIN P. HICKERSON, Caltech — The design principles of nonimaging optics are applied to ultracold neutron (UCN) transport. In particular, a vertical compound parabolic concentrator (CPC) that efficiently redirects UCN vertically into a bounded spatial volume where they have a maximum energy mga that depends only on the initial phase space cross sectional area πa^2 creates a spectrometer which can be applied to neutron lifetime experiments, gravitational quantum state experiments and $\bar{n}\bar{n}$ oscillation searches.

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