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Exploring nuclear optical potentials under similarity renormalization group transformations[1] R. P. CAULFIELD, R. J. FURNSTAHL, Ohio State Univ - Columbus — Recent work has suggested that incorporating nonlocality in (d,p) scattering introduces sensitivity to high n-p momenta and the deuteron D-state probability [1,2]. This leads to the question of how similarity renormalization group transformations, which soften potentials and increase nonlocality, impact optical potentials. We explore this question using simple models.
[1] G. W. Bailey, N. K. Timofeyuk and J. A. Tostevin, Phys. Rev. Lett. **117**, 162502 (2016) [arXiv:1609.07303].
[2] G. W. Bailey, N. K. Timofeyuk and J. A. Tostevin, Phys. Rev. C **95**, 024603 (2017) [arXiv:1701.05853].

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