Effect of Nonlocality in Nuclear Potentials on Nuclear Observables and Scattering Wave Functions GRAHAM TUPPER, LEI JIN, CHARLOTTE ELSTER, Ohio University — The influence of nonlocality on nuclear scattering observables is still a topic of interest. In this project we start from a local potential and introduce nonlocalities by applying unitary transformations to the Hamiltonian which modify the short-range part of the potential. By modifying the parameters of the transformation we can investigate how the off-shell behavior of the two-body t-matrix as well as the resulting scattering wave function change. We can also investigate spurious effects that may be introduced to scattering calculations when nonlocalities are introduced that do not arise from unitary transformations.

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