Abstract Submitted
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Numerical studies of few-body dipole-dipole interactions in rubidium[1] BRIANA STRICKLAND, EVAN DRYFOOS, Ursinus College, NINA P. INMAN, Bryn Mawr College, THOMAS J. CARROLL, Ursinus College, MICHAEL W. NOEL, Bryn Mawr College — Ultracold Rydberg atoms can exchange energy through resonant dipole-dipole interactions. This includes a class of recently discovered few-body interactions. In concert with recent experimental work in our group, we present computational studies of the density-dependence and lineshape of two-, three-, and four-body resonant dipole-dipole interactions in rubidium. We also investigate the prospects for studying thermalization and many-body localization in these systems.

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