Abstract Submitted
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Probing Molecular Interactions of Cs in an Optical Lattice for Quantum Information BRIAN MISCHUCK, IVAN DEUTSCH, University of New Mexico — We describe a scheme to probe the spectrum of interacting Cs atoms in an optical lattice. Transport of the atoms to overlapping wells is achieved through a microwave drive between hyperfine levels in a polarization-gradient lattice. The spectral response of pairs of atoms to microwaves can be used to measure the effect of the interactions, even in the presence of a large background of unpaired atoms. Control of such interactions may have applications in quantum computation

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