Dynamics of strongly reactive molecules

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ANA MARIA REY, JILA, NIST, and University of Colorado at Boulder — As degenerate gases of ground-state polar molecules approach realization [1], it is increasingly important to understand the effects of lossy interactions on quantum simulations. We explore the dynamics of strongly reactive molecules in a variety of lattice geometries, and point out ways in which losses can be used as ideal probes of these systems. We further explore the use of losses as projective measurements onto entangled subspaces [2], and discuss realistic implementations of these ideas with ground-state molecules.