

Abstract Submitted
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Driving millimeter-wave transitions in ultracold Sr Rydberg atoms¹ S.K. KANUNGO, Y. LU, R. DING, J.D. WHALEN, H.Y. RATHORE, F.B. DUNNING, T.C. KILLIAN, Rice University — Transitions between Rydberg states can be driven very efficiently with millimeter-wave radiation. This has been used for coherent control of electronic Rydberg states and for precision measurements. In this poster we will describe progress towards driving millimeter-wave transitions in ultracold Sr Rydberg atoms. We focus on millimeter-wave excitation of $5sns\ ^3S_1$ Rydberg states to nearby 3P_j states and $^3S_1/^3D_j$ states with one and two-photon excitation respectively. A major motivation of the development of this technique is the study of vibrational wave-packet dynamics in ultralong-range Rydberg molecules.

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