

Abstract Submitted
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Ultracold collisions between optically trapped sodium and rubidium atoms DAJUN WANG, TING-FAI LAM, XIAOKE LI, FUDONG WANG, DEZHI XIONG, Department of Physics, the Chinese University of Hong Kong, Shatin, Hong Kong — NaRb molecule is a nice candidate for studying quantum gases with dipolar interactions because of its large electric dipole moment (3.3 Debye) and stability against exchange chemical reactions. We have constructed an all optical setup for producing ultracold Na and Rb atoms to obtain collisional and molecular spectroscopy information necessary for producing ground-state NaRb molecules. After loading an optical dipole trap directly from the two-species magneto-optical traps, evaporative cooling is applied by lowering the dipole trap potential. Heteronuclear photoassociation is then performed in the optical dipole trap near the Na (3S) + Rb (5P) asymptote. Progress toward the observation of Feshbach resonances between Na and Rb atoms will also be discussed. We are supported by Hong Kong RGC CUHK 403111.

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