

Abstract Submitted
for the DAMOP19 Meeting of
The American Physical Society

Observation of resonant dipole collisions in ultracold $^{23}\text{Na}^{87}\text{Rb}$ rotational mixtures¹ JUNYU HE, XIN YE, JUNYU LIN, DAJUN WANG, The Chinese University of Hong Kong — We report the investigation on resonant dipole collisions between different rotational states of ultracold bosonic $^{23}\text{Na}^{87}\text{Rb}$ molecules. In a mixture of two rotational states with opposite parities, such interaction naturally arises without the need for external electric fields. The strength of this resonant dipole interaction can be tuned by preparing molecules in different rotational Zeeman states with microwave spectroscopy. In our experiment, the effect of the resonant dipole interaction and its state dependence are revealed by measuring the loss rate constants of different mixtures.

¹This work was supported the Hong Kong RGC General Research Fund (grant No. 14301815 and 14303317).

Junyu He
The Chinese University of Hong Kong

Date submitted: 30 Jan 2019

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