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^{23}Na^{87}Rb polar molecules in 3D optical lattice[1] JUNYU HE, JUNYU LIN, DAJUN WANG, Chinese Univ of Hong Kong — In recent years, ultracold polar molecules have attracted more and more attentions due to their many potential applications. However, several recent experiments have observed strong inelastic losses even for ultracold molecules in their absolute ground states. While it is generally agreed that this unexpected loss is due to the formation of two-molecule complexes, no clear remedy to this issue is known other than isolating these molecules from each other. Here we report our progress on creating a sample of ground-state ^{23}Na^{87}Rb molecules in 3D optical lattices. With a strong enough lattice potential, long-lived samples with lifetime of more than 10 seconds are observed. We will also discuss the investigation on the coherence between nuclear hyperfine levels and dipolar effects between adjacent lattice sites.

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Junyu He
Chinese Univ of Hong Kong

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