

Abstract Submitted  
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**Fermionic Ground State Molecules NaK with Strong Dipolar Interactions** JEE WOO PARK, JENNIFER SCHLOSS, ZOE YAN, HUANQIAN LOH, SEBASTIAN WILL, MARTIN ZWIERLEIN, Massachusetts Institute of Technology —  $^{23}\text{Na}^{40}\text{K}$  is a fermionic molecule that is especially well suited for this purpose. In the rovibrational ground state, NaK molecules are chemically stable and possess a large electric dipole moment of 2.72 Debye. The poster will report on our progress at MIT that recently led us to the creation of the first dipolar ground state molecules of NaK, covering the formation of Feshbach molecules, spectroscopic investigation of the molecular structure of NaK as well as the successful coherent two-photon transfer of NaK to the absolute ground state. These advances bring the exploration of novel states of matter in strongly dipolar quantum matter within experimental reach.

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