

Abstract Submitted  
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**Towards a Quantum Gas Microscope for Laser-Cooled Molecules**

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— Ultracold molecules, with their rich internal structure and long-range dipolar interactions, could be a powerful platform for applications ranging from quantum simulation and information processing to ultracold chemistry. Here we report on progress towards a new apparatus for laser-cooled CaF molecules. Our apparatus is designed to produce large samples of trapped molecules while allowing detection and control at the single molecule level. These capabilities could be important for future explorations in quantum science, such as simulating spin models and building molecular qubits.

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