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【457】 Engineering ultracold molecules under a microscope

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The combination of quantum gas microscopy and ultracold polar molecules promises experimental access to rich new many-body physics. Our experiment focuses on achieving this using the KCs molecule. We present recent work on optical transport of ultracold atoms using a focus tuneable Moiré lens. The use of this lens makes the setup more robust, compact and stable compared to conventional methods. We will also present our exploratory work on different strategies of mixing and condensing Cs and K before association into molecules. Finally, we will give an overview of the ongoing construction and design of a new quantum gas microscope chamber.

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