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## **【456】 The NewLanD experiment: a novel approach to dipolar physics with ultracold dysprosium atoms**

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Simulating quantum magnetism is one of the major high goals pursued currently in the field of ultracold atoms and molecules. Recently a new approach was suggested for the production of a dipolar quantum gas utilizing both electric and magnetic dipole moments. The scheme relies on exciting dysprosium atoms into a superposition of long-lived opposite-parity states near degeneracy. We have set up a compact apparatus incorporating a quantum gas microscope. The apparatus allows the use of UV optical lattices, therefore boosting the dipolar interaction and further enables the detection of spin order atom by atom. The last is crucial for establishing the complex phase diagrams of models for quantum magnetism.

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