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## **【182】 Magnetostriction and heat capacity measurements of quantum spin ice materials at ultra-low temperatures**

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In the search for Quantum Spin Liquid (QSL) phases, Rare-Earth pyrochlores are of interest to stabilize Spin Ice states. In QSL candidates, magnetic neutron scattering is a well-established probe for studying magnetic order and interactions. However, in rare-earth elements, degrees of freedom can include magnetic and electric multipoles, which are elusive in scattering experiments. Then, bulk techniques like specific heat and magnetostriction, especially at ultra-low temperatures (ULTs), are crucial to detect phase transitions “hidden” in scattering experiments. We present magnetostriction measurements on Quantum Spin Ice candidates and the development of a heat capacity probe at ULTs.

### **Theoretical Work**

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