

**Prize Talk** PRV IV Wed 13:00 HSZ/0003  
**Fractionalisation, fractals and strong coupling QED in spin liquids** — ●RODERICH MOESSNER — MPI-PKS Dresden — Laureate of the Max-Born-Prize 2026

After a long and sustained research effort, the quest for an experimental realisation of a quantum spin liquid shows encouraging signs of nearing conclusion. This talk recalls some basic background on the nature of

spin liquids and their place in what has become known as topological condensed matter physics. It then covers particularly notable properties which have been experimentally discovered in the magnetisation dynamics, namely the existence of a dynamical fractal and of disorder-free subdiffusion in three dimensions. It concludes with a discussion of the promise of realising an experimental platform for strong coupling quantum electrodynamics in the present work on pyrochlore materials.