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LEvitated MAgnets for QUantum METrology

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The coupling between the magnetization and the lattice of a ferromagnet gives rise to interesting dynamics. Specifically, in low magnetic fields a levitated magnet should precess, like a spinning top. Such behaviour will enable the use of a ferromagnet as a gyroscope, as a system to test for exotic bosons, and, in the future, to test experimentally the gyrogravitational ratio.
Recently, a collaboration arose to build a proof of principle prototype: LEMAQUME is a European Union's QuantERA project. In my talk, I will present the motivation to explore such a magnet's dynamics and the ongoing experimental efforts and plans of the collaboration.
https://www.lemaqume.org/
https://arxiv.org/abs/2010.08731
https://arxiv.org/abs/2006.09334

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