

2nd Terrestrial Very-Long-Baseline Atom Interferometry Workshop



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AION (Atom Interferometer Observatory and Network) and MAGIS (Matter-wave Atomic Gradiometer Interferometric Sensor) are a consortium of strontium atom interferometry experiments, with the science goals of probing gravitational waves in the mid-band detection region between 0.1-10 Hz and to search for ultra-light dark matter candidates. MAGIS is currently constructing the 100 m vertical baseline in the MINOS access shaft at Fermilab. AION plans to build the 10 m detector at the University of Oxford, with prospects of setting up the 100 m baseline in Boulby Underground Laboratory. Rutherford Appleton Laboratory hosts one of five strontium labs in the AION consortium with a 1m interferometer. This is a testbed to understand and further develop cold atom technologies that required for the 10 m AION tower. Currently a 2D Magneto-Optical Trap (MOT) has been formed, with progress towards setting up the next cooling stage for the 3D MOT. The goal is to achieve strontium interferometry with the potential to test the out-of-vacuum phase-shear imaging platform in collaboration with the University of Liverpool.

Session Classification: Poster Session & Wine & Coffee