

## 2nd Terrestrial Very-Long-Baseline Atom Interferometry Workshop



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*Thursday 4 April 2024 16:50 (2 hours)*

As part of the AION consortium, the University of Birmingham is investigating the enhancement of large momentum transfer (LMT). The sensitivity goals for AION aim for LMT which is an improvement of a factor of over 500 times the current state of the art for strontium. Modelling suggests that hybrid solutions are required which utilise various advanced techniques simultaneously, including composite pulses, pulse shaping and wavefront control. Enhancement of LMT will benefit both laboratory-based fundamental physics experiments and the commercial devices based on atom interferometry. In my poster I will provide an overview of the work towards AION at Birmingham, with a focus on both the laboratory progress and the theoretical exploration of LMT.

**Session Classification:** Poster Session & Wine & Coffee