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Mx Magnetometry Optimisation in Unshielded Environments<sup>1</sup> STUART INGLEBY, PAUL GRIFFIN, AIDAN ARNOLD, ERLING RIIS, DO-MINIC HUNTER, University of Strathclyde — Optically pumped magnetometry in unshielded environments is potentially of great advantage in a wide range of surveying and security applications. Optimisation of OPM modulation schemes and feedback in the  $M_x$  scheme offers enhanced sensitivity through noise cancellation and decoherence suppression. The work presented demonstrates capability for softwarecontrolled optimisation of OPM performance in ambient fields in the 0.5G range. Effects on magnetometer bandwidth and sensitivity are discussed.

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