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Tests of Lorentz and Local Position Invariance using Microwave Oscillators and Interferometers

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We present current work at the University of Western Australia and Paris Observatory to test fundamental physics using precision phase and frequency measurements. We describe three experiments under development. Firstly, we describe a continuously rotating cryogenic microwave oscillator constructed to test Local Lorentz Invariance. Secondly, we describe the development of a new, magnetically asymmetric, microwave interferometer with thermal noise limited readout, which will allow a sensitivity to the scalar and odd-parity coefficients for Lorentz violation in the photon sector of the Standard Model Extension. Thirdly, we describe an experiment between a cryogenic sapphire oscillator and a Hydrogen maser, which is used to test fundamental constants and Local Position and Lorentz Invariance.