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Three methods for characterizing thermo-optic noise in optical cavities ANDRI GRETARSSON, Embry-Riddle Aeronautical University, ELIZABETH GRETARSSON, University of Arizona — Phase noise due to the thermo-optic effect in mirror coatings is likely to be a dominant noise source in next generation ultra-low noise optical cavities. We developed three measurement and analysis methods allowing us to estimate the level of such coating thermo-optic noise in gravitational wave detectors and elsewhere. We present the measurements and discuss the intricate procedure used to obtain a good estimate of thermo-optic noise.

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