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Thermal Noise of Epoxies HANNAH FAIR, GREGORY HARRY, JONATHAN NEWPORT, American University, STEVE PENN, Hobart and William Smith Colleges — Interferometric precision optical measurement is a powerful tool for investigating the smallest of physical phenomena. Examples of this include gravitational wave detection, precision spectroscopy, and laser ring gyroscopes. The limiting noises sources include thermal fluctuations from optical materials and structures. Epoxies can be used to construct hardware for these experiments, which can significantly contribute to the thermal noise. At American University, we are investigating the elastic properties of various epoxies to better predict thermal noise.

Hannah Fair
American University

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