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Measurements of Optical Scatter versus Annealing Temperature for Ta2O5 and Ti:Ta2O5 thin-film coatings ELENNA CAPOTE, JOSHUA SMITH, AMY GLECKL, JAZLYN GUERRERO, ERICK ENGELBY, MICHAEL REZAC, California State University, Fullerton — Light scattered by amorphous thin-film optical coatings limits the sensitivity of interferometric gravitational-wave detectors. We describe an imaging scatterometer to assess the role that crystal formation and growth during annealing plays in this scatter. We present results of measuring scatter while annealing Ta2O5 and Ti:Ta2O5 thin-film coatings to high temperatures in vacuum.

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