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Measuring Gravitational-Wave Polarizations with the Stochastic Background THOMAS CALLISTER, Caltech, LIGO SCIENTIFIC COLLABORATION COLLABORATION, VIRGO COLLABORATION COLLABORATION — The observation of gravitational waves by the LIGO and Virgo experiments has enabled many novel tests of general relativity (GR). One test of GR that has so far proven difficult, however, is verification of the polarization of gravitational waves. While GR predicts only two gravitational-wave polarizations (the plus and cross modes), generic metric theories can allow up to four additional polarizations. Current detectors, though, have limited ability to discern the polarization of transient signals, like those from neutron star and black hole mergers. In this talk, I will discuss an alternative means of revealing gravitational-wave polarizations – observation of the stochastic gravitational-wave background. In particular, I will describe methods with which to detect the stochastic background and directly measure its polarization content.

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