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**Measuring Tidal Deformability and Radii of Neutron Star Sources with Third Generation Gravitational Wave Detector Networks** RACHAEL HUXFORD, Pennsylvania State University, ANURADHA GUPTA, University of Mississippi, SSOHRAB BORHANIAN, BANGALORE SATHYAPRAKASH, Pennsylvania State University, LVK COLLABORATION — Third generation gravitational wave detectors such as the Einstein Telescope and Cosmic Explorer could be the newest members of an ever-expanding network of current and planned ground-based detectors across the globe. With each detector addition, a more sensitive network is created with improved capabilities. In this presentation, we explore how well current and proposed detector network configurations constrain the tidal deformability and radii of neutron star sources and how third generation of detectors will improve these. Specifically, we focus on how the capability of possible 3G detector networks changes for different arm lengths and bandwidths of Cosmic Explorer.

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