

Abstract Submitted
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**Measuring neutron star tidal deformability with Advanced LIGO:
black hole - neutron star binaries** PRAYUSH KUMAR, Canadian Institute for
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Institute for Theoretical Astrophysics, University of Toronto — The pioneering ob-
servations of gravitational waves (GW) by Advanced LIGO have ushered us into an
era of *observational* GW astrophysics. Compact binaries remain the primary target
sources for GW observations, of which black hole - neutron star (BHNS) binaries
form an important subset. GWs from coalescing BHNS systems carry signatures of
the tidal distortion of the neutron star by its companion black hole during inspiral,
as well as of its disruption close to merger. In this talk, I will discuss how well we
can measure tidal effects from individual and populations of LIGO observations of
disruptive BHNS mergers. I will also talk about how our measurements of non-tidal
parameters can get affected by ignoring tidal effects in BHNS parameter estimation.

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