Estimating H_0 in non-stationary noise SIMONE MOZZON, LAURA
NUTTALL, ANDREW WILLIAMSON, University of Portsmouth — Gravitational-
wave observations of binary neutron star mergers and their optical counterparts
provide an independent measurement of H_0. Therefore, a thorough understanding
of the source of systematic uncertainty for gravitational-wave observations is crucial.
Estimating the properties of gravitational-wave signals measured by ground-based
detectors requires an understanding of the characteristics of the detector noise. The
most commonly used likelihood assumes that the noise is Gaussian and stationary.
However, data from ground-based detectors can be highly non-stationary, which
means the broadband detector noise can change on the order of tens of seconds.
Variations in the detector noise could bias the estimation of the properties of the
gravitational-wave sources. This talk will characterize how non-stationary noise
affects the parameter estimation of gravitational-wave signals in LIGO and Virgo
data from the third observing run and how this may affect the estimation of H_0.

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