

PHAROS Conference 2020: The multi-messenger physics and astrophysics of neutron stars



Contribution ID: 93

Type: **Oral Presentation**

Transient gravitational waves from pulsar post-glitch relaxations

Thursday 2 April 2020 16:45 (15 minutes)

This talk explores whether gravitational waves (GWs) from neutron star (NS) mountains can be detected with current 2nd-generation and future 3rd-generation GW detectors. In particular, we focus on a scenario where transient mountains are formed immediately after a glitch. In a glitch, the NS's spin frequency abruptly increases and then often exponentially relaxes back to, but never quite reaches, the spin frequency prior to the glitch. If the relaxation is ascribed to an additional torque due to a transient mountain, we find that GWs from that mountain are not detectable with 2nd-generation detectors, but will be for 3rd-generation detectors such as the Einstein Telescope.

Author: Mr YIM, Garvin (University of Southampton)

Presenter: Mr YIM, Garvin (University of Southampton)

Session Classification: Parallel 3A

Track Classification: Pulsar glitches and superfluidity