

## First International Latin American Conference on Gravitational Waves: 10 years since first detection



Contribution ID: 3

Type: **not specified**

### Continuous Gravitational Waves from Neutron Stars Magnetic Mountains

In this presentation, I will discuss the emission of continuous gravitational waves by neutron star mountains. I will begin with an overview of the different mechanisms for forming neutron star mountains and their role in generating gravitational radiation. The focus then shifts to magnetically confined mountains and the process of magnetic field burial. To explain the model, I will introduce the key equations of magnetohydrodynamics that describe this system both in the classical and in the general relativistic paradigms. Numerical solutions of these models will be presented and compared, highlighting the impact of relativistic effects. At the end, I will display the estimates for gravitational wave emission and discuss whether future detectors will be able to measure such emissions.

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