

# XVth Quark Confinement and the Hadron Spectrum



Contribution ID: 165

Type: Oral

## Predictions for neutron star mergers from the gauge/gravity duality

*Monday 19 August 2024 14:30 (30 minutes)*

The gauge/gravity duality, combined with information from lattice QCD, nuclear theory, and perturbative QCD, can be used to constrain the equation of state of hot and dense QCD. I discuss an approach based on the holographic V-QCD model, which includes both nuclear and quark matter phases, separated by a first order phase transition. By using this model in state-of-the-art simulations of neutron star binaries, I study the formation of quark matter during the merger process, and its effect on the threshold mass for prompt collapse into a black hole.

**Author:** JARVINEN, Matti

**Presenter:** JARVINEN, Matti

**Session Classification:** Strongly-Coupled Theories and Dark Matter

**Track Classification:** G: Strongly-Coupled Theories and Dark Matter