

# The 2023 Shanghai Symposium on Particle Physics and Cosmology: Phase Transitions, Gravitational Waves, and Colliders (SPCS 2023)

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## Addressing the Gravitational Wave - Collider Inverse Problem

*Friday, 22 September 2023 14:00 (30 minutes)*

This talk is based on arXiv:2203.05889. Next generations of gravitational wave and future collider detectors can probe beyond the Standard Model theories that predict a strong first order electroweak phase transition. A combination of these two signals could be used to determine BSM scenarios and to measure relevant model parameters. In this talk, I will show a roadmap for addressing this gravitational wave –collider inverse problem. Our study relies on a combination of state-of-the-art perturbative treatments for thermodynamics and results from non-perturbative simulations. For illustration, we apply our methods to a real scalar triplet extension of the Standard Model.

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