

# Cosmic strings, Dark Matter, and Gravitational Wave Signatures from Pure Yang-Mills Theory

*Thursday, 9 November 2023 14:30 (30 minutes)*

I will explain the formation of cosmic superstrings following the confinement phase transition in pure Yang-Mills theory, without invoking string theory or extra dimensions, and their significance in the production of GWs. Moreover, in pure  $SO(2N)$  gauge theory, a “baryonic glueball” is predicted as a potential candidate for dark matter. This model offers a way to potentially explain both the observed dark matter abundance and the GW signals detected in pulsar timing arrays.

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**Session Classification:** Topological Defects