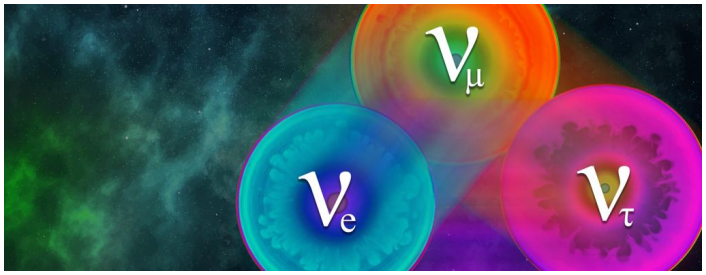

Contribution ID: **1** Type: **not specified**

Primordial gravitational waves in generalized Palatini gravity

Wednesday, 21 January 2026 16:00 (30 minutes)

Extended Palatini gravity is the metric-affine gravity theory characterized by zero torsion, nonzero metricity and a quadratic of the antisymmetric Ricci curvature. It reduces dynamically to general relativity plus a geometric Proca field. In this work, we study imprints of the geometric Proca field on the gravitational waves. Our results show that the geometric Proca leaves significant signatures in the gravitational wave signal, and gravitational wave energy density could be large enough to be detectable by the next upgrade of the existing GW detectors. Our results, if confirmed observationally, will be an indication that the gravity could be non-Riemannian in nature.
https://doi.org/10.1016/j.dark.2023.101336

Authors: KASEM, Ammar (Zewail City of Science and Technology); DEMIR, Durmus; GABRIEL, Khalid (German University in Cairo); Prof. KHALIL IBRAHIM, Shaaban (ENHEP Egyptian Network of High Energy Physics (EG))

Presenter: GABRIEL, Khalid (German University in Cairo)