

Whispers from the Dark Universe - Particles & Fields in the Gravitational Wave Era

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WHISPERS FROM THE DARK UNIVERSE – PARTICLES & FIELDS IN THE GRAVITATIONAL WAVE ERA

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Inflation and current couplings in the Einstein-Cartan gravity

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Einstein–Cartan $f(R)$ theory is known not to induce an additional scalar degree of freedom, the scalaron, contrary to the case in the metric formalism. In this research, we show that by including other geometric quantities in the Einstein–Cartan gravity such as the Nieh–Yan and the Holst term, it is possible to have a propagating scalaron and realize alpha-attractor inflation and its deformation. We also discuss matter currents coupled to the scalaron in this setup.

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