Weyl invariant Dirac-Born-Infeld-Einstein theory

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We consider

Dirac-Born-Infeld-Einstein theory

$$L \approx \pm\sqrt{-\det(g_{\mu\nu} \pm \alpha R_{\mu\nu})}\,,$$

Weyl's gauge gravity theory

$$g_{\mu\nu} \to g'_{\mu\nu} = e^{2\Lambda(x)} g_{\mu\nu}\,,$$

➡ Weyl invariant Dirac-Born-Infeld-Einstein theory

The new metric:

$$\hat{g}_{\mu\nu} \equiv f^{-2}\Phi^{\frac{4}{D-2}} g_{\mu\nu}$$

The new vector field:

$$\hat{A}_\mu \equiv A_\mu - \frac{2}{D-2}\partial_\mu \ln\Phi$$

We assume:

$$ds^2 = -dt^2 + a^2(t)d\mathbf{x}^2\,,$$

A_μ acquires mass. Nonminimal coupling of A_μ and curvatures are induced.

➡ The vector inflation scenario. ➡ Poster No.23

Thank you for your attention!