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On possible quantization of spacetime curvature

When generalized noncommutative Heisenberg algebra accommodating gravitational field as specified by string theory, for instance, is thoughtfully applied on Finsler manifold, the quantized metric tensor could be defined. By constructing the affine connections on pseudo-Riemannian manifold, quantization of Riemann curvature tensor and its unique contractions, Ricci curvature tensor and scalar, are also formed. Accordingly, we have constructed the Einstein tensor, in which besides quantization additional geometric structures are emerged. As in Einstein's theory of general relativity, we have proved that the covariant derivative of the quantized Einstein tensor vanishes, as well.

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