## XXVI DAE-BRNS High Energy Physics Symposium 2024



Contribution ID: 257

Type: Postar

## Wormholes in Non-commutative space-time

We construct and study traversable wormhole solutions in  $\kappa$ -deformed space-time. The metric of a traversable wormhole is generalized to  $\kappa$ -deformed space-time and the field equations are constructed. Using the field equations and conditions necessary for a wormhole to be traversable, we find constraints on the components of the metric and the velocity of

the traveller. Further, Casimir Energy is considered a possible candidate for exotic material and its implications on the wormhole solutions are studied in  $\kappa$ -deformed space-time.

## **Field of contribution**

Theory

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Track Classification: Formal theory