Department of Theoretical Physics

THE QUANTUM SPACETIME SEMINAR SERIES

Anomalous Continuous Translations

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Date: February 11, 2025

Time: 11 AM IST

Venue: A304

Zoom link shall be shared separately

We will discuss a large class of non-relativistic continuum field theories where the Euclidean symmetry of the classical theory is violated in the quantum theory by an Adler-Bell-Jackiw-like anomaly. In particular, the continuous translation symmetry of the classical theory is broken in the quantum theory to a discrete symmetry. Furthermore, that discrete symmetry is extended by an internal symmetry. We will show that in some cases, the anomalous continuous translation symmetry is resurrected as an exact noninvertible continuous translation symmetry. We will also discuss the relation between this phenomenon and underlying lattice models.

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