

Functional Analysis and Mathematical Physics

Interdepartmental Research Group

(FAMP)

Colloquium Series

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Talk 5: New Geometric and Field Theoretic Aspects of the Radiation Dominated Universe

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Abstract

The homogeneous and isotropic radiation dominated universe, following the inflationary stage, is expressed as a spherically symmetric and inhomogeneous space-time upon a power law type conformal transformation of the null (cosmological) coordinates. This new metric has a few interesting properties. The symmetry of the metric offers a new unitarily inequivalent quantization of the massless scalar field and provides a new example of particle creation in curved space. The new set of observers, detecting particles, are freely falling in asymptotic past and future, but accelerated in between.

Friday, March 23, 2018, 2:00-2:50 PM, PB 428