

Quantum Vacuum and Cosmology with a Background of Zeta Functions

Friday 11 September 2015 10:00 (20 minutes)

What drives the acceleration of the Universe expansion? Dark energy, of course, but what is it? Beautiful mathematics, involving the zeta function of pseudodifferential operators, are key in answering this question. After summarizing the uses of the zeta function for the definition of regularized traces and determinants, the motivations behind the celebrated Chowla-Selberg formula will be discussed, together with some non-trivial generalizations of it and some applications in Physics and Cosmology.

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