

Seminarium Zakładu Fizyki Teoretycznej

Departament Badań Podstawowych
Narodowego Centrum Badań Jądrowych

March 22, 2023 (Wednesday), h. 11:15

The seminar will be held in room 207 @Pasteura 7

Quentin Vigneron
(Nicolaus Copernicus University, Toruń)

"Topological term in the Einstein equation and consequences for cosmology"

ABSTRACT:

I will present a modification of the Einstein equation featuring a term related to the topology of the Universe. First, I will discuss the main motivation for this modification, which is related to the existence of the non-relativistic limit for any topology. Second, I will present the modification and its consequences for cosmology. In particular, we will see that under the framework of this new relativistic equation, the expansion of the Universe does not depend anymore on the presence of spatial curvature, i.e. $\Omega = 1$, for all Ω_K , giving an elegant solution to the flatness problem, and asking for a reevaluation of Ω_K from cosmological data.

Best regards,
T. Altinoluk, M. Kowal, P. Małkiewicz, E. Sessolo, P. Zin