SEMINARIO

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Generalised holographic dark energy and novel entropies

Abstract: It is explained the concept of generalised holographic dark energy. It is shown that entire evolution of the universe from the inflation till dark energy maybe provided by holographic dark energy with specific cut-offs. All known specific holographic dark energies, like Tsallis, Renyi, etc are shown to be particular examples of such generalised holographic dark energy introduced in Nojiri-Odintsov, Gen.Rel.Grav. 38 (2006) 1285-1304. The relation of holographic dark energy with modified gravity is also explained. At the second part of talk novel 4 or 5 parameters dependent entropy which generalises the Bekenstein-Hawking, Tsallis, Renyi, Barrow, Sharma-Mittal,Kaniadakis and Loop Quantum Gravity entropies is introduced following Nojiri-Odintsov-Faraoni, Phys.Rev.D 105 (2022) 4, 044042. We address the implications of the generalized entropies on black hole thermodynamics as well as on cosmology, and discuss various constraints of the entropic parameters from different perspectives. The relation to holographic dark energy is briefly discussed. Our findings indicate that entropy is not fundamental quantity but may serve the basis for qualitatively new approaches to modern cosmology.

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