Contribution ID: **69** Type: **not specified**

Self-Similar Solutions in Dark-Fluid Cosmology

Wednesday, May 3, 2023 5:40 PM (10 minutes)

The scale-free nature of gravitational interaction in both Newtonian gravity and the general theory of relativity gives rise to the concept of self-similarity, where solutions replicate themselves as the scale varies. As a result of this property, the governing partial differential equations are greatly simplified. Moreover, certain self-similar solutions can describe the asymptotic behaviors of more general solutions. However, there are situations where similarity is partially broken, these are called kinematic self-similar solutions. These kinds of solutions have a wide application in cosmology and mathematical general relativity. We used self-similar solutions to study dark-fluid-based cosmological models.

Primary author: SZIGETI, Balazs Endre (Wigner Research Centre for Physics (Wigner RCP) (HU))

Presenter: SZIGETI, Balazs Endre (Wigner Research Centre for Physics (Wigner RCP) (HU))