Theoretical Physics Seminars

Viscous dark matter growth in (neo-) Newtonian cosmology

Speaker: Mr. Arvind Kumar Mishra

From: Physical Research Laboratory, Ahmedabad

When: July 20 , 2017 Thursday 4:00 pm

Place: Room No. 469

The cosmic structure formation on the subhorizon scale can be studied within the Newtonian framework of pressureless cold dark matter (CDM). However, if there is small but nonzero pressure of CDM then the Newtonian description will not be valid. In this talk we will argue that a new Newtonian approach will resolve the problem of Newtonian approach by incorporating pressure effects into the cosmic fluid dynamics and reproduces the general relativistic dynamics as well. Assuming that the CDM have small bulk viscosity, we will discuss about the effects of viscosity on the growth of scalar perturbations and put upper limit on the viscous coefficient.

All are welcome