ICTS Seminar

Title : Bound orbits around Schwarzschild Black Holes in pure Lovelock gravity

Speaker: Mukul Bhattacharya, University of Texas at Austin, USA

Date : Tuesday, January 2, 2018

Time : 3:30 PM

Venue : Emmy Noether Seminar Room, ICTS Campus, Bangalore

Abstract : We study the motion of particles and photons around a static Einstein and pure Lovelock black hole in higher dimensions. It is well known that in higher dimensions, bound orbits exist only for pure Lovelock black holes in all even dimensions, D = 2N + 2, where N is the degree of Lovelock polynomial action. In particular, we compute light bending and periastron shift and show that the former is directly proportional to the transverse spatial component of the Riemann curvature tensor in higher space-time dimensions. We also define pseudo-Newtonian potential and derive the Kruskal coordinates for both Einstein and pure Lovelock gravity to compare them.