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## **ICTS Seminar**

Title : A method to test the binary black hole nature of the compact binary Coalescence

Speaker : Krishnendu N V, Chennai Mathematical Institute, Chennai

Date : Tuesday, January 1, 2019

Time : 3:30 PM

Venue : Emmy Noether Seminar Room, ICTS Campus, Bangalore

Abstract : We propose a new method to test the binary black hole nature of compact binaries detectable by gravitational wave (GW) interferometers and, hence, constrain the parameter space of other exotic compact objects. The method relies on observationally measuring the spin-induced multipole moments of the compact binary constituents induced due to their spins. If the compact object is a Kerr black hole the spin-induced multipole moments are completely specified by mass and spin whereas for a non-black hole object this will be a function of the equation of state as well. We demonstrate the applicability of the method for black holes with different masses and spins.