



IV Amazonian Workshop on Black Holes and Analogue Models of Gravity

May 11th - 15th 2015
Federal University of Pará

Brief overview on alternative theories of gravity

Vincenzo Vitagliano

Universidade de Lisboa, Portugal

The 2015 Relativist cannot avoid to be faced with Alternative Theories of Gravity: despite the notorious achievements of General Relativity, Einstein's theory is under scrutiny due to the lack of a suitable scheme to quantize gravity as well as for the puzzling features it shows both at the strong (early universe, black holes) and low (Dark Energy problem) energy regimes.

The proposal to extend the classical theory of gravity harbors the intriguing goals to cure some of these inconsistencies (and sometimes to introduce new ones...). In this short course I will try to review some simple examples of the theoretical and phenomenological issues commonly addressed in such attempts to generalize GR.