

Sixteenth Marcel Grossmann Meeting



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Type: **Talk in the parallel session**

DHOST theories

Monday, 5 July 2021 16:30 (45 minutes)

The last few years have witnessed a great enthusiasm for modified theories of gravity and particularly for scalar-tensor theories. The motivations to modify gravity are to test the limits of general relativity on the one hand and also to propose “answers” to open questions of cosmology and astrophysics. In this context, many theories have emerged and a very complex landscape of theories has appeared in the literature. In this talk, I will show how we can classify some of these theories and how we can construct the most general tensor-scalar theories (aka DHOST theories) that are physically viable (in a precise sense that I will give). Finally, we will show how these modified theories can be applied to cosmology (to account for dark energy) and in astrophysics.

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Session Classification: Ghost-Free Models of Modified Gravity: Massive Gravity, Horndeski and DHOST Theories, Other Related Models; Their Properties and Solutions.

Track Classification: Alternative Theories: Ghost-free models of modified gravity: massive gravity, Horndeski and DHOST theories, other related models; their properties and solutions.