

## Spanish and Portuguese Relativity Meeting



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# Searching for fifth forces and modifications of gravity

*Wednesday 24 July 2024 11:00 (40 minutes)*

Light scalar fields are often considered as part of explanations for dark energy and dark matter. They also appear in theories in which gravity is modified on cosmological scales. If the scalar field theory has a screening mechanism, the fifth forces that the scalar mediates can be significant in the cosmological vacuum but suppressed on Earth and in the solar system. I will discuss how this gives rise to novel signatures that could enable us to detect fifth forces, but also the challenges involved in making accurate theoretical predictions for these non-linear theories.

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