DEPARTAMENTO DE FÍSICA

UNIVERSIDAD DE SANTIAGO DE CHILE

SEMINARIO ONLINE

THINKING EFFECTIVELY ABOUT GRAVITY

Mi 1
SEPTIEMBRE
15.30 horas

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ABSTRACT

We live at a time of contradictory messages about how successfully we understand gravity. General Relativity seems to work well in the Earth's immediate neighborhood, but arguments abound that it needs modification at very small and/or very large distances. This talk tries to put this discussion into the broader context of similar situations in other areas of physics, and summarizes some of the lessons which our good understanding of gravity in the solar system has for proponents for its modification over very long and very short distances. The main message is mixed: On one hand cosmology seems to like features (like light scalars and small vacuum energies) that are not generic to the long-wavelength limit of fundamental theories, and this is a crucial clue that would be silly to ignore. On the other hand, although some ways are known to contrive light scalars (and so among which we can seek explanations for observations), so far none are known that all agree could incorporate small vacuum energies (even in principle), making this a clue that seems difficult to use (at least until a convincing example is found – and if there is time I close by summarizing what seems to me the most hopeful direction)..

Meeting ID: 831 7347 1643

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