
El Departamento de Matemática y Física Aplicadas tiene el
agrado de invitar al seminario

The asymptotic structure of flat spacetimes: a journey

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Resumen:

One of the most impressive achievements of theoretical physics is the “principle of least action” of classical mechanics, where a substantial number of phenomena can be described by just a single statement: the action must be stationary under arbitrary variations of the dynamical variables, with initial and final condition that must be held fixed. Therefore, the powerful formulation of classical and quantum mechanics based in the action, needs to be supplemented with a proper treatment of boundary conditions at infinity. This issue is of vital importance in the case of theories where the sufficiently rapidly decay of the fields at infinity is not a valid assumption. For example, the asymptotic symmetry analysis of General Relativity leads to the renowned BMS (Bondi-van der Burg-Metzner-Sachs) group, which corresponds to a fundamental piece in the understanding of the infrared dynamics of gravitational interactions.

In this talk, the asymptotic structure of flat spacetimes will be discussed, focusing on the case of gravity and its interactions, starting in three spacetime dimensions and then discussing the higher dimensional case.



Miércoles 31 de mayo 2023, 16:10 hrs

Auditorio San Agustín (Facultad de Ingeniería)

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