

SEMINARIO
Departamentos de Física Teórica I y II
Universidad Complutense de Madrid

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TITULO: Axion electrodynamics and topological insulators

LUGAR: FACULTAD DE CIENCIAS FÍSICAS UCM

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ABSTRACT

Topological insulators in three spatial dimensions (3D TI's) display a distinctive electromagnetic response encoded in the topological magnetoelectric or axion term. This response gives rise to 'exotic' optical properties that might be used to identify such state of matter. The key point for the observability of this topological response is the opening of a gap in the surface states by time reversal breaking perturbations. In this talk I will review the electromagnetic properties of 3D TI's and discuss in which ways it is possible to open a spectral gap in the mentioned electronic surface states.