

# SEMINAR ANNOUNCEMENT

國立中山大學物理系113學年度第二學期專題演講

## In Search for Holographic Models of Time Crystals in Superconductors

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### Abstract:

In high- $T_c$  cuprate superconductors, it has been proposed that optical driving can excite a composite resonance involving both the Higgs mode—corresponding to amplitude oscillations of the superconducting order parameter—and the Josephson plasma mode, associated with phase oscillations. This excitation gives rise to a subharmonic response, in which the system oscillates at frequencies that are incommensurate with the driving frequency, thereby breaking discrete time-translation symmetry of the drive—a defining characteristic of a time crystal. In this work, we investigate the emergence of analogous time-crystalline behavior in the context of holographic superconductors.

**TIME:** May. 22, Thu.  
14:10

**VENUE:** PH2006