

# Whispers from the Dark Universe - Particles & Fields in the Gravitational Wave Era

CLUSTER OF EXCELLENCE  
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## WHISPERS FROM THE DARK UNIVERSE – PARTICLES & FIELDS IN THE GRAVITATIONAL WAVE ERA

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## Arithmetic aspects of Gepner Models

*Wednesday 25 September 2024 15:08 (17 minutes)*

There is growing evidence that the geometries associated to rational conformal field theories (RCFTs) which have a target space interpretation are distinguished by the fact that they admit complex multiplication (CM). I will show where this intuition naturally originates from in the context of toroidal CFTs (Work by Gukov, Vafa and Moore) and generalize the idea to higher dimensions. In particular I will show how the quantum symmetries present in all Gepner models equip the associated geometries with an enlarged Hodge endomorphism algebra that fulfills the CM criteria. I will comment on relations to attractor points and motives. This is based on work in progress with Hans Jockers and Pyry Kuusela.

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