

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

HELMHOLTZ

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Is M-theory emergent?

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In this talk, I will present recent progress in the Swampland Program, which I will briefly introduce, focusing primarily on one of its less established conjectures, usually referred to as the Emergence Proposal. This postulates that the low energy effective action of a quantum gravity theory may be obtained by integrating out light towers of states appearing in various asymptotic regions of the moduli space. I will motivate why the Emergence Proposal seems to be naturally realized in the (not yet completely understood) decompactification limit to M-theory by reviewing recent calculations of higher derivative couplings and independent arguments.

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