Séminaire de matrices, cordes et géométries aléatoires

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Mercredi 18/09/2019, 14h15-15h15

Orme des Merisiers Salle Claude Itzykson, Bât. 774

Anomaly inflow for M5-branes, geometric engineering, and holography

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A large class of 4d SCFTs can be engineered by wrapping a stack of M5-branes on a compact space, possibly with defects. 't Hooft anomalies are crucial observables for such theories, which often do not admit any known Lagrangian description. Building on the seminal work of Freed, Harvey, Minasian, Moore, we develop systematic tools for extracting the 't Hooft anomalies of a geometrically engineered 4d theory using anomaly inflow from the M-theory bulk. We exemplify our tools by studying a class of setups with M5-branes probing a C^2/Z_2 singularity. We argue that these setups define 4d SCFTs which are dual to a class of AdS$_5$ solutions—first discussed by Gauntlett, Martelli, Sparks, Waldram—whose field theory interpretation has been a longstanding puzzle.