

(De)Constructing Scale Separation with Weak Gravity and Anisotropies

mercredi 29 novembre 2023 14:45 (30 minutes)

The existence of a separation of scales between the four observed spacetime dimensions and the unobserved additional ones is a minimal requirement for string phenomenology and an open problem therein. In the first part of the talk, I will present a general argument excluding scale separation in anti-de Sitter vacua of gauged supergravity with at least eight supercharges, as a consequence of the weak gravity conjecture. The argument is evaded by vacua with four or less supercharges and indeed examples of this kind are known in type IIA compactifications. In the second part, I will review one of these constructions and comment on some of its features, such as the fact that the internal manifold needs to be non-isotropic to get scale separation. This motivates the need to look for anisotropic setups more in general.

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Classification de Session: :