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Axions, String Theory, and the Swampland

Friday 13 September 2024 14:00 (45 minutes)

Axions provide one of the most promising routes for bridging the gap between string theory and experiment. In this talk, we will focus on several observed features of the string landscape (e.g. the absence of global symmetries and the Weak Gravity Conjecture) and their implications for axion physics (e.g. the axion quality problem and axion inflation). I will also introduce the notion of an “axion bitower,” which can be understood as a tower of towers of particles coupled to an axion field. We will see that such bitowers are ubiquitous in string theory, and they may have important observational effects.

Presenter: RUDELIUS, Tom