

## **Three universes confront the LHC**

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The problem of explaining the origin of the weak scale of particle interactions dates from Fermi's theory of weak interactions proposed almost 80 years ago. It has led particle physicists to propose three very different paradigms for the structure of the fundamental interactions in the universe: supersymmetry, compositeness (including extra dimensions), and anthropic selection.

The LHC is the experimentum crucis for deciding between these different possible universes. This talk will review the motivation for these three paradigms and what the first year of LHC data might be telling us about deciding between them.