

Baryogenesis in the Axiverse

Thursday 13 November 2025 14:00 (20 minutes)

Axiogenesis links the baryon asymmetry and dark matter abundance through the dynamics of the QCD axion, but its minimal form overproduces dark matter and can exacerbate the QCD axion quality problem. In this talk, I'll show how these issues are naturally resolved in an axiverse framework, where the QCD axion arises from multiple interacting axions. This setup generates large axion velocities without spoiling the Strong CP solution and introduces new friction channels that reduce the relic abundance. The resulting theory makes imminently testable predictions for haloscopes, colliders, and the CMB.

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