

The 2nd Workshop on Grand Unified Theories: Phenomenology and Cosmology (GUTPC 2025)

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A simple and safe way to break PQ at the GUT scale

Friday, 18 April 2025 10:30 (30 minutes)

I will present a set of simple KSVZ-type axion models, with a breaking scale similar to the GUT-scale, and which doesn't have a domain wall problem or fine-tuning in the initial misalignment angle. I will use this model to argue that it is experimentally difficult to distinguish whether PQ symmetry is broken before or after inflation. I will describe how GW probes could provide vital information in this direction, giving us a concrete handle of relevant particle physics parameters and the UV physics.

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