

**SUSY 2024**

Theory meets Experiment

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## Axion paradigm with "coloured" neutrino masses

*Friday 14 June 2024 12:00 (20 minutes)*

I will discuss our recent paper Phys.Rev.Lett. 132 (2024) 5, 051801, where we propose a generalized KSVZ-type axion framework in which coloured fermions and scalars act as two-loop Majorana neutrino-mass mediators. The global Peccei-Quinn symmetry under which exotic fermions are charged solves the strong CP problem. Within our general proposal, various setups can be distinguished by probing the axion-to-photon coupling at helioscopes and haloscopes. We also comment on axion dark-matter production in the early Universe.

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