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Axiogenesis

Thursday, 26 March 2020 15:30 (30 minutes)

We proposed a mechanism called axiogenesis to explain the observed cosmological excess of matter over antimatter. A rotation of the QCD axion is induced by explicit Peccei-Quinn symmetry breaking in the early universe. The rotation corresponds to the asymmetry of the PQ charge, which is converted into the baryon asymmetry via QCD and electroweak sphaleron transitions. The concrete model we explore predicts a small decay constant and has close connections with axion dark matter and new physics at the colliders.

Talk based on:

<https://arxiv.org/pdf/1910.02080.pdf>

<https://arxiv.org/pdf/1910.14152.pdf>

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