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To B or not to B: Primordial magnetic fields from Weyl anomaly

Monday, 21 January 2019 09:45 (45 minutes)

For more than twenty years, it has been argued that the Weyl anomaly of quantum electrodynamics sources cosmological magnetic fields in the early universe. If true, this would be a natural way to produce the seed magnetic fields of our universe within the Standard Model. In this talk, I will examine this long-standing claim and show that there is actually no production of coherent magnetic fields from the Weyl anomaly, irrespective of the number of massless charged particles in the early universe.

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