

## **To B or not to B: Primordial magnetic fields from Weyl anomaly and Beyond**

*Tuesday 24 March 2020 14:25 (25 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. I will also comment on other possibilities for magnetic field generation.

**Presenter:** KOBAYASHI, Takeshi (Kobayashi-Maskawa Institute for the Origin of Particles and the Universe, Nagoya University)

**Session Classification:** Short talks