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# Affleck-Dine magnetogenesis

Magnetogenesis in the early Universe can have strong impacts in cosmology since it can be responsible for the intergalactic magnetic fields suggested by blazar observations and for the baryogenesis. In this talk, I point out that the Affleck-Dine (AD) mechanism, which is one of the popular scenarios of baryogenesis, can also be the source of the magnetic field generation. By integrating out the heavy fields that obtain mass from the AD field value, the AD field can have the anomalous coupling to the unbroken U(1) field, which causes the tachyonic instability in the magnetic field. This is similar to the chiral plasma instability, caused by the chiral magnetic effect in the Standard Model, and can be regarded as "scalar chiral magnetic effect". Cosmological consequences of this scenario such as the "re"generation of the baryon asymmetry as well as the remaining magnetic field properties are discussed.

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