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# Helical magnetic fields lead to baryogenesis

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The origin of primordial magnetic fields and baryon asymmetry of the Universe are still unresolved issues and require physics beyond the standard models of cosmology and particle physics. Since both require physics beyond the standard model, there is a possibility that the same new physics can solve both.

In this talk, I will discuss our model, where non-minimal coupling to the Riemann tensor generates sufficient primordial helical magnetic fields at all observable scales during inflation. Interestingly, the generation of helical magnetic fields leads to baryogenesis and the model predicts the observed amount of baryon asymmetry of the Universe for a range of reheating temperatures consistent with the observations. The talk will be based on the preprint 2103.05339.

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