

New bounds on monopole abundance from cosmic magnetic fields

Tuesday 14 May 2024 16:43 (5 minutes)

Magnetic monopoles are intriguing hypothetical particles and inevitable predictions of Theories of Grand Unification. They are produced during phase transitions in the early universe, but mechanisms like the Schwinger effect in strong magnetic fields could also contribute to the monopole number density. I will show how from the detection of intergalactic magnetic fields we can infer additional bounds on the magnetic monopole flux, and how even well-established limits, such as Parker bounds and limits from terrestrial experiments, are affected by the acceleration in cosmic magnetic fields. I will also discuss the implications of these bounds for minicharged monopoles and magnetic black holes as dark matter candidates.

Would you be interested in presenting a poster? (this will not impact the decision on your talk)

yes

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