

## Cosmic Magnetism in Voids and Filaments



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### **Dark matter minihalo production from primordial magnetic fields**

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Primordial magnetic fields can enhance baryon perturbations on scales below the photon mean free path prior to recombination. However, these perturbations are suppressed if the magnetic Jeans length scale becomes larger than the scale of the perturbation. In this work, we show that the growth of baryon perturbation also causes a growth in dark matter perturbation, and the latter is not suppressed by magnetic pressure. Consequently, searches for dark matter minihalos can prove as valuable tools in the search for primordial magnetic fields with coherence scales below the magnetic Jeans length.

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