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The Hubble Tension and Primordial Magnetic Fields

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The Hubble tension hints at a missing ingredient in our model describing the universe around the epoch of recombination. A stochastic magnetic field, if present in the plasma prior to last scattering, would induce baryon inhomogeneities and speed up the recombination process, reducing the sound horizon at last scattering and potentially helping to relieve the Hubble tension. Intriguingly, the strength of the magnetic field required to alleviate the Hubble tension happens to be of the right order of magnitude to explain the origin of magnetic fields in galaxies, clusters of galaxies and the intergalactic space. I will review this proposal and provide an update on its current status.

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