2022 CAP Congress / Congrès de l'ACP 2022



Contribution ID: 2993

Type: Invited Speaker / Conférencier(ère) invité(e)

(I) The Hubble tension and the magnetic universe

Monday 6 June 2022 10:45 (30 minutes)

Magnetic fields, if present in the primordial plasma prior to last scattering, would induce baryon inhomogeneities and speed up the recombination process. As a consequence, the sound horizon at last scattering would be smaller, which would help 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 also explain the observed magnetic fields in galaxies, clusters of galaxies and the intergalactic space. I will review this proposal and provide an update on its status in the context of the latest data.

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Session Classification: M1-2 Gravity and Cosmology I (DTP) | Gravité et cosmologie I (DPT)

Track Classification: Technical Sessions / Sessions techniques: Theoretical Physics / Physique théorique

(DTP-DPT)