

## Multimessenger constraints on intergalactic magnetic fields: quo vadis?

*Monday, 27 May 2024 10:30 (1 hour)*

Recently, there has been a burgeoning interest in the exploration of intergalactic magnetic fields (IGMFs) through the use of multiple astrophysical messengers. In fact, this has prominently featured as a primary science case of gamma-ray and (ultra-high-energy) cosmic-ray observatories. While numerous studies have derived bounds on IGMFs, many of these results have been obtained under assumptions that do not reflect the true nature and distribution of these fields. Moreover, other potentially relevant effects have been neglected. In this presentation, I will discuss how certain limitations in the construction of models can impact the results, and explore strategies to mitigate modelling uncertainties when constraining IGMFs.

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