



Contribution ID: 445

Type: **Invited talk in a parallel session**

Component separation of CMB polarization data

Friday, 12 July 2024 15:35 (35 minutes)

Upcoming experiments of the Cosmic Microwave Background (CMB) will reach unprecedented sensitivity to polarization, thus allowing to target the first detection of primordial CMB B-modes and possibly shed new light on reionization history, cosmic birefringence, neutrino masses, and large-scale CMB anomalies. However, accurate measurements of the CMB polarization require exquisite control of Galactic and extragalactic foreground contamination, thus pointing to the need for the application of robust component separation techniques. In this talk, I will provide an overview of the approaches adopted to reconstruct a cleaned CMB polarization signal together with future perspectives for the optimization of the different methodologies.

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Session Classification: Present and future of cosmic microwave background observations

Track Classification: Cosmic Microwave Background, Cosmological Tensions (CM): Present and future of cosmic microwave background observations