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## Evolution in Dipole Lambda CDM Cosmology, from Big Bang to Now

*Tuesday 1 August 2023 15:00 (1h 20m)*

Dipole cosmology is the maximally Copernican generalization of the FLRW paradigm that can incorporate bulk flows in the cosmic fluid. In this talk, I first discuss how multiple fluid components with independent flows can be realized in this set up. This is the necessary step to promote “tilted” Bianchi cosmologies to a viable framework for cosmological model building involving fluid mixtures (as in FLRW). I present a dipole Lambda CDM model which has radiation and matter with independent flows, with (or without) a positive cosmological constant. We follow evolution of the model from Big Bang and discuss the singularity around the Big Bang. A remarkable feature of dipole Lambda CDM model is that the relative flow between radiation and matter can increase at late times, which can contribute to eg., the CMB dipole. This can happen generically in the space of initial conditions. We discuss the significance of this observation for late time cosmic tensions.

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