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LCDM: the road ahead

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LCDM is the most expansive and most successful cosmological paradigm yet. It is supported by a wealth of precision data and observations, with many successes to its credit. However, it is incomplete: what is the nature of dark energy and the identity of the dark matter particle?; absence of a first principles model for inflation with supporting evidence, and firm ideas about the pre-inflationary era. A deluge of precision observations, coming from many directions, e.g., DES and DESI; the CMB; the Hubble tension; the LHC and dark matter searches; JWST and even more to come, are poking at it from many different directions, looking for cracks, hints and surprises. In this talk, I will try to make sense of it all.

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