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## The unreasonable effectiveness of LCDM

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The standard cosmological model (the LCDM model) has been established and its parameters are now measured with unprecedented precision. However, there is a big difference between modelling and understanding and precision is not enough: accuracy is also crucial. The “unreasonable effectiveness” of the LCDM model offers challenges and opportunities. In particular, as statistical errors in some key cosmological parameters have shrunk significantly very recently, some tensions have emerged, the most famous one being the ‘Hubble tension’. This has motivated the exploration of extensions to the standard cosmological model in which higher values of  $H_0$  can be obtained from CMB measurements and galaxy surveys. The trouble, however, goes beyond  $H_0$ ; such modifications affect other quantities too, such as cosmic times, age of the Universe and the matter density. Any Hubble trouble has implications well beyond  $H_0$  itself. I will recap some recent results, trying to look at cosmological tensions in both a model-dependent and model independent way and speculate what we can learn about the LCDM model and its effectiveness.

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