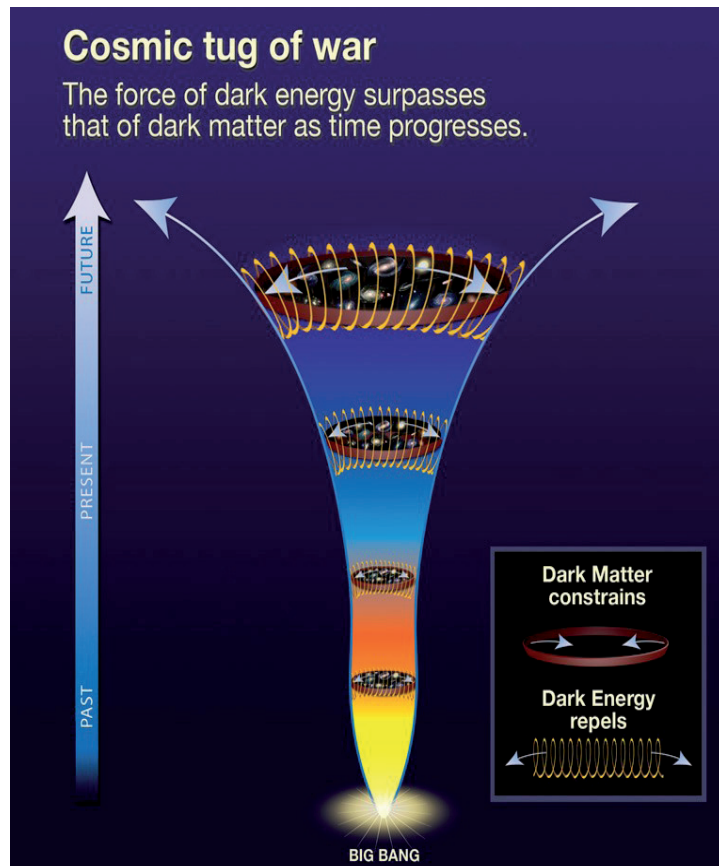


Dark Energy: the cosmological enigma

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Since its discovery about ten years ago, the acceleration of the expansion of the Universe is the biggest enigma in cosmology. If the hypothesis of a homogeneous and isotropic Universe as well as Einstein gravity are to be maintained, the energy density must at present be dominated by a gravitationally repulsive component which we dubbed 'dark energy'. Even if cosmological data is well fitted by the simplest form of dark energy, a cosmological constant or vacuum energy, the value of this vacuum energy density is ridiculously small from all other points of view.

In my talk I shall detail the dark energy problem and briefly discuss current attempts/ideas to address it.