On the vacuum entropy and the cosmological constant

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Abstract
It is generally accepted that the entropy of an asymptotically de Sitter universe is bounded by the area, in Planck units, of the de Sitter horizon. Based on an analysis of the entropy associated to the vacuum quantum fluctuations, we suggest that the existence of such a holographic bound constitutes a possible explanation for the observed value of the cosmological constant, theoretically justifying a relation proposed 35 years ago by Zel’’dovich.