

Growing neutrinos and cosmological selection

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The time evolution of a cosmological scalar field can be stopped by an increasing mass of the neutrinos. This leads to a transition from a cosmological scaling solution with dynamical dark energy at early time to a cosmological constant dominated universe at late time. The trigger for the transition is set at the time when the neutrinos become non-relativistic. This is a possible solution of the “why now” problem.

We present a particle physics realization of this “growing matter” scenario. It is based on the very slowly varying mass of a superheavy scalar triplet field whose expectation value dominates the light neutrino masses. A simple and realistic dark energy cosmology can be obtained in this way.

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