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## Lemaitre class dark energy model for relaxing cosmological constant

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1. One-horizon spacetimes.
2. Holographic principle.
3. Spacetime singled out by evaporation of the cosmological horizon.
4. Lemaitre class model for relaxing cosmological constant.
5. Cosmological evolution.
6. Anisotropy.

### Summary

Regular spacetimes with the de Sitter center contain a family of one-horizon spacetimes with the same global structure as that for the de Sitter spacetime. Regular cosmological models belong to the Lemaitre class models with anisotropic pressures and describe time-dependent and spatially inhomogeneous vacuum dark energy. Among these models there is a special class singled out by quantum evaporation of a cosmological horizon. Cosmological evolution goes from a large initial value of the cosmological constant to a small non-zero final value which is tightly fixed by the quantum dynamics of the horizon. For the case when we adopt the GUT scale for the initial value of cosmological constant, its present value appears in remarkable agreement with the value given by observations. Degree of anisotropy, which is intrinsic for the Lemaitre model, quickly grows after the inflationary stage and slowly decreases at the recombination time.

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