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**Cosmogenesis and collapse.** (English) Zbl 1243.83084

*Found. Phys.* 42, No. 1, 4-18 (2012).

Summary: Some possible benefits of dynamical collapse for a quantum theory of cosmogenesis are discussed. These are possible long waits before creation begins, creation of energy and space, and choice of a particular universe out of a superposition.

**MSC:**

**83F05** Relativistic cosmology

Cited in **2** Documents

**83D05** Relativistic gravitational theories other than Einstein's, including asymmetric field theories

**83C45** Quantization of the gravitational field

**83C75** Space-time singularities, cosmic censorship, etc.

**81T20** Quantum field theory on curved space or space-time backgrounds

**Keywords:**

dynamical collapse; cosmogenesis; creation of space; Planck energy; Zeno's paradox/watched pot behavior; energy conservation violation; spin 1/2 and collapse; harmonic oscillator and collapse; Fokker-Planck equation

**Full Text:** [DOI](#)

**References:**

- [1] Pearle, P.: *Phys. Rev. A* 39, 2277 (1989) · [doi:10.1103/PhysRevA.39.2277](#)
- [2] Ghirardi, G.C., Pearle, P., Rimini, A.: *Phys. Rev. A* 42, 78 (1990) · [doi:10.1103/PhysRevA.42.78](#)
- [3] Pearle, P.: In: Petruccione, F., Breuer, H.P. (eds.) *Open Systems and Measurement in Relativistic Quantum Theory*, p. 195. Springer, Heidelberg (1999)
- [4] Bassi, A., Ghirardi, G.C.: *Phys. Rep.* 379, 257 (2003) · [Zbl 1034.81004](#) · [doi:10.1016/S0370-1573\(03\)00103-0](#)
- [5] Pearle, P.: *J. Phys. A: Math. Theor.* 40, 3189 (2007) · [Zbl 1117.81318](#) · [doi:10.1088/1751-8113/40/12/S18](#)
- [6] Pearle, P.: In: Myrvold, W., Christian, J. (eds.) *Quantum Reality, Relativistic Causality and Closing the Epistemic Circle*, pp. 257–292. Springer, Berlin (2009)
- [7] Misra, B., Sudarshan, E.C.G.: *J. Math. Phys.* 18, 756 (1977) · [doi:10.1063/1.523304](#)
- [8] Pearle, P., Squires, E.: *Phys. Rev. Lett.* 73, 1 (1994) · [doi:10.1103/PhysRevLett.73.1](#)
- [9] Bassi, A., Ippoliti, E.: *Phys. Rev. A* 69, 012105 (2004)
- [10] Pearle, P.: *J. Stat. Phys.* 41, 719 (1985) · [doi:10.1007/BF01009030](#)
- [11] Pearle, P.: *Phys. Rev. D* 13, 857 (1976) · [doi:10.1103/PhysRevD.13.857](#)
- [12] Ghirardi, G.C., Rimini, A., Weber, T.: *Phys. Rev. D* 34, 470 (1986) · [Zbl 1222.82047](#) · [doi:10.1103/PhysRevD.34.470](#)

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