

Abstract Submitted  
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**Retro-causal Holographic Dark Energy Coherent Vacuum Super-Solid Tetrad Emergent Gravity** JACK SARFATTI, ISEP — Frictionless irrotational flow in superfluid helium comes from the gradient of a single Goldstone phase in the spontaneous broken  $U(1)$  symmetry ground state, so too the four gravity tetrad and six spin connection Einstein-Cartan 1-form fields come from eight  $SU(3)$  Goldstone phases of the post-inflation macro-quantum coherent 4D super-solid “world crystal lattice” QCD vacuum superconductor. Wheeler-Feynman’s advanced potential, Hoyle-Narlikar’s future influence functional, Cramer’s “transaction” and Aharonov’s pre-selection history/post-selection destiny double quantum state vector lead to the hologram idea that our interior bulk accelerating comoving spacelike slice 3D cosmological metric expansion rate in conformal time is a dynamical 3D back-from-the-future (final cause) retro-causal holographic image of 2D surface fractional quantum statistical anyonic qubit patterns on our observer-dependent thermal future de Sitter (dS) event horizon whose asymptotically constant area/entropy is the reciprocal dark energy density.

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