

Entropy in a Coherent Universe: Quantum Information Flows in the Cosmic SuperWeb

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von Neumann of (thermal) quantum entropy fame purportedly responded to Shannon asking what his novel classical information content measure should be called: paraphrasing, entropy, nobody understands it anyway. Nowadays thermal entropy, gravitational entropy and information entropy have merged as ideas, and expanded to encompass phase info as well as counting info, into quantum information aka quantum cosmology. Entropic development and transport through all of the great cosmic epochs of instability accompanying transitions of phase is a unifying story of the Universe. Tis a big topic which I will meander through, from the emergence of coherence, through inflation. its end in the matter-entropy burst, cosmic neutrino background decoupling, cosmic photon decoupling, and entropy development and transport in the gravitationally-unstable nonlinear cosmic web, leading to black holes. With applications to observable entropic relics, such as CnuB, CMB, CIB, etc. One quest is for information-laden Planck-epoch intermittent non-Gaussianities, pinGs, which could generate anomalous collapse on any and all scales, e.g., with possible implications for enhanced early black hole production.

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