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Space-Time and Quantum Mechanics Implications of Discovered Cosmic Acceleration THOMAS CHAMBERLAIN, University of California, Berkeley — Although cosmology is "a branch of astronomy dealing with origin, evolution, and eventual fate of the universe," it is the physics frontier on atomic and laboratory scales as well. Einstein's relativity is a principal contributor to the overarching LambdaCDM model from the Big Bang to present time. Now empirical constraints and discoveries ranging from observed wide-binary/spiral galaxy rotation flattening to cosmic acceleration and the Hubble tension point to extended space-time physics encompassing (again) all scales. Here we build on derived cosmic acceleration (2019/20) and the related derivation of wide-binary/spiral galaxy rotation flattening (2017/20; setting aside "external field effect" for now) to show that the "round-trip axiom" holds in the accelerating Hubble-expansion (as it holds in Michelson-Morley type experiments). This step is a further validation of "inward-singular light-speed" to each point (with half-c outward) that introduces novel time-dilation/gravitational fields while accommodating conventional mathematical physics. Additional results bearing on quantum mechanics' temporal entanglement and the long-standing measurement problem are addressed.

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