Revised Schwarzschild Solution

To Accommodate Space Expansion

By Thomas E. Chamberlain, Ph.D.

ABSTRACT

Spectrographic observations of spiral galaxies since the 1960s have exhibited far field gravitation declining inversely with radius, contrary to inverse-radius squared gravitation of Newtonian theory and general relativity. Vera Rubin, in her highly important discovery of galaxy rotation flattening, hypothesized the existence of undetected matter in necessarily prodigious amounts to comply with standard gravitational modeling. This “dark matter” eventually became integrated with the later discovered “dark energy” to form the successful LambdaCDM cosmological model with general relativity and Einstein’s cosmological constant (Lambda) at its core. The model is, however, increasingly challenged on empirical grounds—e.g., Hubble Tension—and from the theoretical side—e.g., the 2019 derivation of cosmic acceleration. Here we derive a novel time-dilation field associated with large scale baryonic entities (stars, galaxies, etc.) which, when plugged into the Einstein equations via the Minkowski metric and

solved, gives a Hubble emergent, inverse-radius gravitation that agrees with “rotation flattening” around stars and spiral galaxies. This result greatly reduces—if not eliminates—the need for dark matter haloes around stars and galaxies, with a similar prospect for galaxy clusters. Additionally, because of agreement with observation, new credence is given to one-way infinite light-speed inward to each particle in direct comparison against Einstein’s isotropic (c=constant) light-speed. More generally, the new solution to the Einstein equations may influence our understanding of early-universe evolution, inasmuch as general relativity resides, as noted, at the core of the LambdaCDM model. This, in turn, could contribute to resolving the growing Hubble tension. It is anticipated that singularly anisotropic light-speed will help solve Einstein’s non-local influence problem in quantum mechanics by way of backward cause and effect via wave function collapse.

Revised Schwarzschild Solution--9-18-2020.pdf