

Abstract Submitted
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Hot Young Solution to Faint Sun and Supernova Problems

LOUISE RIOFRIO, Galileo Inc. — Results from three independent experiments involving the speed of light are presented. Luminosity of Type Ia supernovae depend upon constant fundamental parameters. Accurate measurements of c provide a valuable check on “dark energy” theories. One Theory states that scale R of Space/Time is related to age t by $R = ct$. Gravitation then requires that $GM=tc^3$. These expressions provide a simple solution to Einstein-Friedmann equations with $k=0$. Predicted change in c provides a close fit to observations of Type Ia supernova redshifts. The “Faint Young Sun” has been a paradox of astrophysics. According to standard models, when Earth was forming solar luminosity was only 75% of today’s value. Geology and the fossil record contradict this prediction. Because the Sun turns fuel to energy according to $E=mc^2$, change in c precisely accounts for the difference. If c had not changed in the amounts predicted, life would not have evolved on Earth. The Lunar Laser Ranging Experiment from 1969 measures the Moon’s recession at 3.82 cm/yr, anomalously high. Geological evidence states that average recession is only 2.9 cm/yr. Change in c precisely accounts for the anomaly, indicating that c changes to this day. Corroborating evidence from three truly independent experiments distinguishes Theory from other DE models. Since $M = R = t$ (Planck Units) leads to predictions not epicycles, Theory should be considered as an alternative to more cumbersome ideas.

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