2ND EUROPEAN PHYSICS CONGRESS

May 20-21, 2019 | Berlin, Germany

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Dispersive extinction theory of cosmic redshifts: An alternative to the big bang cosmology

The spectroscopic redshift of the stars plays a crucial role in modern cosmology. It has been discovered that the spectroscopic redshift of a star is by and large linearly proportional to its distance from Earth. Hubble proposed that the redshift was caused by a Doppler effect due to the receding movement of the stars and galaxies, which logically led to a Big Bang universe. There are a number of fundamental problems with the big bang theory. First, the notion of having the enormous mass and energy of the universe coming out of nowhere defies every fundamental law known to physics. Second, the big bang theory demands an unobservable dark mass that is 30 times greater than the observed real mass. Third, the big bang theory is crucially dependent on the linearity of Hubble's law. Any genuine nonlinear function would suggest that our Earth is located at the center of the universe, which is patently false. The linearity of Hubble's law is far from conclusive. As a matter of fact, Hubble's constant is not accurately determined to within a factor of two. It is a known fact that for large values of the redshift the relationship between redshift and the velocity of is not linear. Another well-known problem of big bang theory is the so-called horizon problem which requires the universe to expand with velocities hundred times greater than the speed of light. To cope with the horizon problem, inflation theory was proposed that claims the speed of inflation was 20 orders of magnitude greater than the speed of light. The inflation theory exasperates the horizon problem instead of solving it. In this article we propose an alternative interpretation of the cosmic redshift. We attribute the redshift to the dispersive extinction, which includes absorption and scattering, by the space medium. The light extinction by interstellar matter is generally recognized, but the dispersion of extinction has never been investigated. A more general theory should include wavelength dependence, as no absorption or scattering is wavelength independent in any optical medium. The dispersive extinction by the space medium would cause the central wavelength of a spectral line to shift to the red. The amount of shift should depend on the thickness of the medium, or the distance between the light source and the observer. DET also provides a natural explanation to the 2.7 K background radiation – it is due to the dispersive scattering and absorption of starlight by the space medium. An experimental method is designed to test the validity of the dispersive extinction theory as opposed to the Doppler shift interpretation.

Biography

Ling Jun Wang is a Professor of Physics at University of Tennessee at Chattanooga, USA. His research interest is concentrated on theory of gravitation, general relativity and cosmology. His representative works are the unified theory of gravitational and electromagnetic fields and the Dispersive Extinction Theory (DET) of the cosmic redshift which offers an alternative to the Big Bang cosmology.

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