

Abstract Submitted
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New Interpretation for the Observed Cosmological Redshifts and its Implications¹ BRANISLAV VLAHOVIC, North Carolina Central University, 1801 Fayetteville St, Durham, NC 27707 — The cosmological redshifts z frequently are interpreted as a special-relativistic Doppler shift alone. We will show that this interpretation is not correct and that the contribution of gravitational redshift is always present and significant. It will be shown that gravitational redshift is actually about the same magnitude as cosmological redshift, but that only for the cosmological models without dark energy component cosmological and gravitational redshift can be considered to be the same. Significant contribution of the gravitational redshift due to the gravitational field of the Universe, which is ignored in interpretation of observational data, could have considerable impact on cosmological theories. We will first calculate contributions of gravitational redshift to CMB and time dilation of Type Ia supernovae, and later use it to explain the excess redshifts of quasars and active galaxies, and redshifts of companion galaxies of stars. We will show its possible implications on the interpretation of mass density of matter and mass as function of cosmological time. It will be demonstrated that taking into account gravitational redshift allows to interpret luminosity distance and surface brightness of distant galaxies to be consistent with the static universe cosmological models. Finally, it will be considered as a possible explanation for recently found blueshift in angular distribution of quasars spectra and earlier reported anomalies in the low multipoles of the CMB.

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