

# Is the Non Linearity of Red-Shift-Distance-Curve, Observed by Perlmutter and Riess, Due to the ‘Reduction-of-Additional-Red-Shift’ with the ‘Reduction-in-Brightness’ of the Super Novae?

By: Hasmukh K. Tank

e-mail: [tank.hasmukh@rediffmail.com](mailto:tank.hasmukh@rediffmail.com), hasmukh.tank1@gmail.com

## The Description:

The inverse square law predicts that brightness of every celestial-body reduces with distance, as shown in fig.1, blue curve. On the surface of a super nova, at a distance of one radius, say the brightness is one-unit; and with the increase of radial distance the brightness reduces as shown in fig-1, blue-curve:

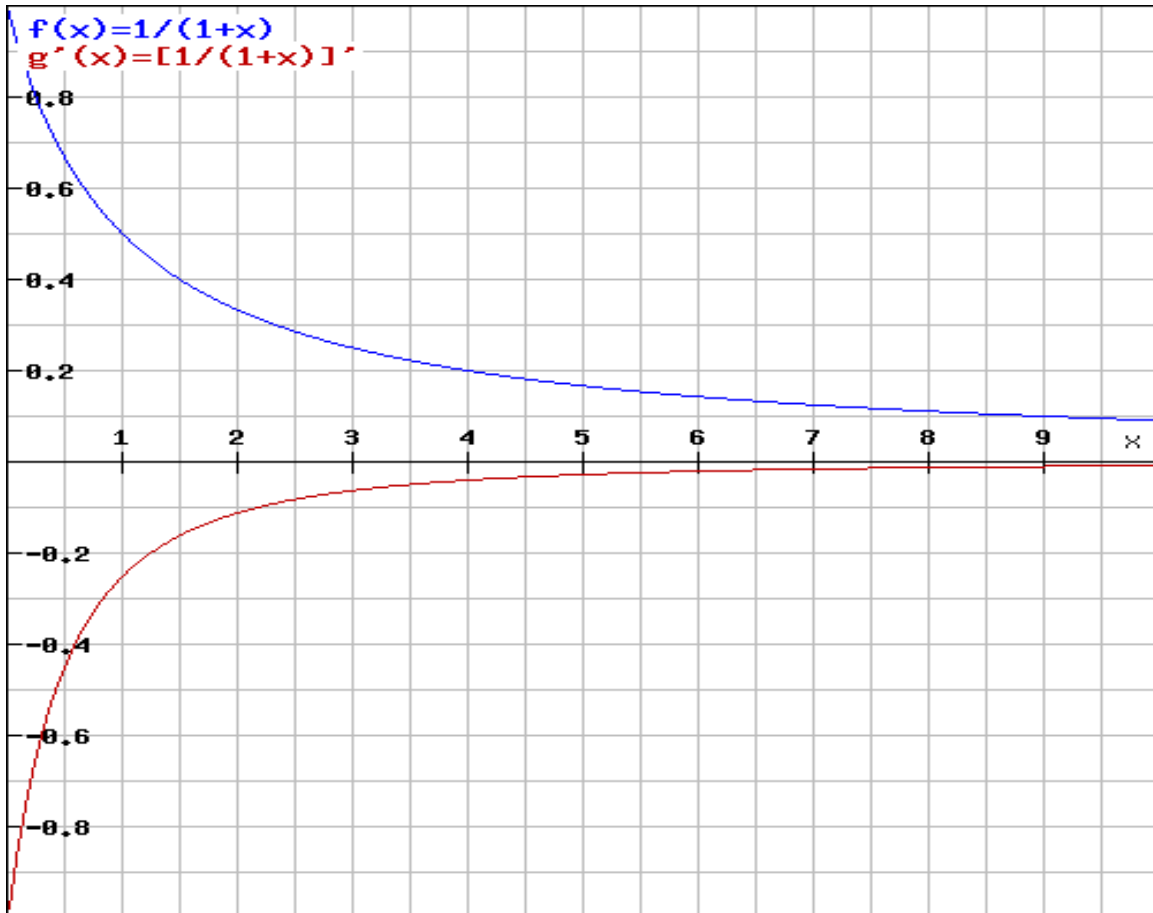


Fig.1. Showing reduction in observed brightness of supernova at various distances from its surface (the blue curve). And the *rate of reduction of brightness* at various radial distances (the red curve).

And from the fig.1, we find that the rate of reduction of brightness keeps on changing with the radial distance; as shown in the fig.1, red curve. We also know that light is electromagnetic waves, so when amplitude of any wave reduces with time at certain rate, then its frequency also gets red shifted depending upon the *rate of reduction of the brightness*. This is the reason why in the case of ‘amplitude-modulation’, in which only the amplitude of single-frequency sine wave is changed, also causes a wide spectrum, depending upon the *rate of change of amplitude* of that single-frequency-sine-wave.

Now, according to the ‘Big Bang Theory’, all the galaxies are moving away from each other, at the velocities proportional to their distance from us. If so, then, we should be able to measure, that the brightness of all the galaxies and super novae reducing with time; and as shown in the fig.1 red curve, the *rate of reduction of brightness* should go on reducing with time; and the additional red shift, caused due to rate-of-reduction-of-brightness should go on reducing with time. Therefore, my question is: has such reduction in brightness of distant super novae, and reduction in additional-red shift (in addition to the well known Doppler shift), been noticed, in these eight decades, after E.P. Hubble first measured the brightness verses red shifts of many galaxies, in nineteen thirties? My second question is: does the recently observed non linearity in the red-shift-distance-curve, by Perlmutter and Reiss, can be explained in terms of ‘reduction in the additional-red-shift caused due to reduction in rate of reduction of brightness with distance, as shown in green in the graph below?

