Has the Brightness of Distant Super Novae Reduced in the past 6-7 Decades?

Hasmukh K. Tank
Indian Space Research Organization, 22/693 Krishna Dham-2, Vejalpur, Ahmedabad-380015 India. E-mail: tank.hasmukh@rediffmail.com, hasmukh.tank1@gmail.com

Abstract: If the galaxies are receding from each other, as per the general relativistic metric expansion of space, then the 'inverse-square-law of brightness of light' predicts that brightness of distant super novae should go on decreasing with time. And in the past seven-eight decades after Hubble, astronomers should have noticed some reduction in the brightness of distant super novae. In addition to that, the reduction in amplitude of the waves of light with time, should also cause some additional red-shift; depending upon the rate at which the brightness is reducing. The questions raised here are: Has such reduction in brightness, and additional red-shift proportional to the rate of reduction of brightness, been noticed? If not, then it is quite possible that the universe may not be expanding!

The Description:

1. When E.P. Hubble measured brightness of a particular star say SL1, the star was say x1-light-years away from us, in the year 1930; and its measured brightness was say, B1.
2. Now, as per the general relativistic metric expansion of space, to-day in the year 2014, the SL1 should have moved further away from us; to a distance x2. And the inverse-square-law of brightness of light predicts that the brightness of SL1 should have decreased to B2, in these past eight decades.

Now,

3. My first question is: has such a reduction in brightness of the same star, say SL1 been noticed by the astronomers, after the eight long decades?
4. My second question is has any change in the red-shift of that particular star, namely SL1, been noticed, in the past eight decades? Eight decades is a long-enough time to notice the difference in the brightness and red-shift of the same star, namely SL1.
5. My third question is : whenever amplitude of a wave reduces, its frequency also shifts towards lower-frequency, depending upon the rate-of-reduction of the amplitude. This frequency remains shifted as long as the process of reduction of the amplitude is in progress. If the star SL1 is continuously receding away from us, and its brightness is reducing at some rate, then we should observe this additional red-shift, in addition to the Doppler-shift.

Has such an additional red-shift been noticed?

6. If, neither, any reduction in brightness, nor any additional red-shift, as discussed above, are noticed after such a long period of eight decades, then it is quite possible that the universe may not be expanding.