On the Nature of 'Time':

And the Predictions of General Relativity

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Abstract:

This letter proposes that 'time' is not an objective physical entity. So there is a difference between the ways how: 'space' is measured; and how 'time' is estimated. A foot-rule can measure a 'distance'; but a clock does not measure 'time'; rather we get an estimate of 'time' with the help of clock. Does an hour-glass measure 'time'? According to GR 'time' runs slower in stronger gravitational field. If an hour-glass were 'measuring' 'time', then the flow of sand should slow down. But we know that the flow of sand becomes faster in stronger gravitational field. Similarly, an atomic-clock too does not measure 'time'. Coincidently, the revolutions of electrons in the atoms slow-down in stronger gravity, but it should not be mistaken as an 'experimental-test' of GR. Since 'time' is not a physical entity, the general-relativistic space-time-continuum too is not an objective physical entity; rather it is nothing more than a 'mathematical abstraction'. Consequently, the 'expansion of space', and 'time-dilation' of super-novae 'light-curves' too are mathematical objects. As was shown in ref.1, any mechanism which can cause 'cosmological red-shift' will also cause 'time-dilation' of super-novae light-curves'. If the space between the galaxies is expanding; but the space within the galaxy is not expanding, because a galaxy is a 'gravitationally-bound-structure', then what happens at the boundary of the galaxy? Such un-even expansion of glass would break the glass, and should tear-off the space. Therefore, we need to find better alternative to the GR and the 'expanding model of the universe'.

References:

1. Tank, Hasmukh K. Wave-theoretical insight into the relativistic length-contraction and time-dilation of super-nova light-curves Adv. Studies Theor. Phys., Vol. 7, 2013, no. 20, 971–976 http://dx.doi.org/10.12988/astp.2013.39102