MAGIC

Science of the Cosmos

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Simple and direct formulae for Lambda model of 'adot'and 'Hubble parameter'

With our corrected cosmic red shift formula and Hubble-Hawking model of cosmology, we have developed direct relations for fitting the adot and Hubble parameter. Hubble-Hawking model of current Hubble parameter can be expressed as, $(H_0)_{HH} \cong 2.92\times10^{-19}\,(2.725)^2 \cong 66.9$ km/sec/Mpc. If $z_{new} \cong \frac{E_{emitted}-E_{Observed}}{E_{emitted}} \cong \frac{\lambda_{Observed}-\lambda_{emitted.}}{\lambda_{Observed}} \cong \frac{z}{z+1}$ and $1+z \cong \frac{1}{1-z_{new}}$, Lambda model of $(a_{dot})_z \cong \left[\frac{\sqrt{exp(0.5(z_{new}+sinh(z_{new})))(1+z)}}{1+2z_{new}}\right](H_0)_\Lambda$. Thus Lambda model of Hubble parameter (HP) can be expressed as, $(H_z)_\Lambda \cong \frac{(a_{dot})_z}{a} \cong (1+z)\,(a_{dot})_z \cong \left[\frac{\sqrt{exp(0.5(z_{new}+sinh(z_{new})))}}{1+2z_{new}}\right](1+z)^{\frac{3}{2}}\,(H_0)_\Lambda$. For example, if z=1100, obtained $(a_{dot})_{1100} \cong 1274.6$ km/sec/Mpc and $(H_{1100}) \cong 1403355.27$ km/sec/Mpc. Corresponding Lambda model values are, $(a_{dot})_{1100} \cong 1272.2$ km/sec/Mpc and $(H_{1100}) \cong 1400680.00$ km/sec/Mpc. See our two page PDF submitted by email for Table 1, Fig. 1 and https://cosmocalc.icrar.org/. With reference to our Hubble-Hawking model, $\left(\frac{H_z}{H_0}\right)_{HH} \cong \frac{T_z^2}{T_0^2} \cong (1+z)^2$. Hence, $\frac{(H_z)_\Lambda}{(H_z)_{HH}} \cong \left[\frac{\sqrt{(1-z_{new})exp(0.5(z_{new}+sinh(z_{new})))}}{1+2z_{new}}\right]$. One very interesting observation is that, Lambda model of cosmic age up to recombination can be expressed as, $(t_z)_\Lambda \cong \frac{\sqrt{1+z}}{(H_z)_{HH}} \cong \left[\left((1+z)^{\frac{3}{2}}\right)(H_0)_\Lambda\right]^{-1}$. Thus, $(t_z H_z)_\Lambda \cong \left[\frac{\sqrt{exp(0.5(z_{new}+sinh(z_{new})))}}{1+2z_{new}}\right]$. With further study and by considering the corrected cosmic red shift formula, true nature of cosmic expansion rate can be understood. It needs an unbiased review.

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