

Abstract Submitted  
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**Correcting the Hubble constant, 41.6.** RUSSELL COLLINS, retired, U. T. Austin — The Hubble constant, obtained from a plot of measured distance vs. red shift  $Z$ , is seriously flawed. Distance must be extrapolated to present time. Only the Doppler portion of the red shift should be used. And the gravitational changes of the metric, through which the light passes, invalidates the inverse square law and leads to curvature of the Hubble plot. The big bang is modeled as a sphere of radius  $R=cT$ , with uniform mass density. The separation of Doppler shift  $\beta$  from  $Z$  is accomplished by recognizing that the event time  $T^*$  connects the gravitational and Doppler components. The gravitational potential decreases as the big bang expands, and this increases the measured optical distance. Extrapolation is had by multiplying distance by  $1+\beta$ . Mass-metric relativity fully accounts for the curvature in high  $Z$  plots. Using a data set to  $Z=1.2$  by Riess, one finds  $T=23.5$  billion years ( $H_0=41.6$ ). This is larger than present consensus values,  $T=14$  billion years ( $H_0=71$ ). Plotted as present distance vs. Doppler velocity, a linear Hubble plot is obtained. There is no need to invent dark energy to explain curved Hubble plots. Details at arxiv physics/0601013.

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