

On a sneezing universe

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A 1-parameter class of quadratic equations of state is confronted with the Hubble diagram of supernovae. The fit is found to be as good as the one using the standard LambdaCDM model. The corresponding universe has no initial singularity, only a mild bounce. However this quadratic equation of state precludes objects with redshifts higher than $z_{\text{max}} = 1.7$. Adding a fair amount of cold matter to the model increases z_{max} without spoiling the fit.