

# DISTANT GALAXIES AND COSMOLOGICAL MODELS

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## Abstract

Astronomers observe distant galaxies, quasars and supernovae. They can measure apparent luminosity and redshift. From these measurements they seek to deduce things like velocity of recession expressed by the Hubble constant, distance away the galaxy or object is, age of the universe when the light was emitted they are now observing, present age of the universe and its future development, the value of the cosmological constant ( $\lambda$ ), the presence of dark matter, the shape of space and the like. To make these deductions, mathematical models called cosmological models are used. There have been many such models used over the years. Observations are suggesting which models are closest to fitting our real universe. How old is the universe? Is the expansion slowing down or speeding up? What is the eventual fate of the universe? Exciting things are happening and new data are pouring in. In this paper, a series of models of increasing sophistication is presented and related to experimental data to help with these questions and to help with understanding and interpreting how observations are being reported in the press. The concepts of general relativity used for these models are also described. Many easy-to-understand graphs and equations are also included. The graphs are presented with simple axes like time in years and distances in light-years.

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URL this site: <http://www.CosmologyModels.com>