

The measurement of the Hubble Constant: beyond the cosmic ladder

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A precisely determined Hubble's constant H_0 would have an overarching effect on any feature of cosmological theory: the age of the Universe, the critical density of the Universe, or in the formation of cosmic structure. Producing a conclusive value for H_0 is difficult as absolute distances on the cosmic scale are difficult to measure. Inhomogeneous gravitational acceleration generates motion which does not follow the simple expansion as described by Hubble's Law $v = H_0 d$. An uncertainty arises due to the discrepancy between the methods to connect local distances to the smooth large-scale Hubble flow (Fukugita et al. 1993).

Measurements of cosmic distance

References

- Carroll, B. W. and Ostlie, D. A. (2007), An Introduction to Modern Astrophysics, 2nd edn, Pearson.
- Fukugita, M., Hogan, C. J. and E., P. P. J. (1993), ‘The cosmic distance scale and the Hubble constant’, Nature **366**.