

KECK SPECTROSCOPY OF MODERATE REDSHIFT GALAXIES IMAGED BY HST

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Combining the results from Keck spectral and HST imaging data (Forbes *et al.* 1994), we have derived various quantitative parameters for 17 faint ($I \sim 21$), distant ($z \sim 0.5$) galaxies. Such redshifts correspond to a look-back time that is about half the age of the Universe and for which some scenarios predict significant galaxy evolution. We have measured disk scale lengths (with sizes ranging from 1–5 kpc) from fits to the surface brightness profiles and internal velocities with a rest frame resolution of $\sigma = 55$ to 80 km s^{-1} by fitting to the emission lines. The luminosity–disk size and luminosity–internal velocity relations for our moderate redshift galaxies are similar to the scaling relations seen for local galaxies, albeit with modest $\Delta M_B \sim 1^m$ brightening. We do not see evidence for a dominant population of starbursting dwarf galaxies, that have disappeared by the present epoch. Further details of this study can be found in Forbes *et al.* (1995). When large samples of kinematic data on distant galaxies are available, we will be able to trace galaxy evolution by mass as distinct from light.

References

- Forbes, D. A., Elson, R. A. W., Phillips, A. C., Koo, D. C., & Illingworth, G. D. 1994, *ApJ*, 437, L17
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