

# MULTISCALE COMPARISON OF POTENT AND IRAS

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We compare the density fields from POTENT and IRAS. We vary the smoothing scale, and use a non-parametric test to obtain a value for the linear bias parameter  $b$ , as a function of offset  $c$ , which arises because the normalisation volumes for the two samples are different (Deke *et al.*, 1993). The smoothed fractional overdensities are related by  $\delta_P = \delta_I/b + c$ .

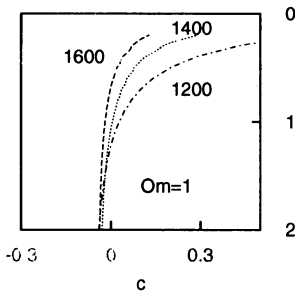


Fig. 1 — For constant offset  $c$ , the bias parameter  $b$  decreases for larger smoothing scale. The Wilcoxon-Mann-Whitney (WMW, 1984) test is similar to the KS test. We see that for  $c = 0$  the bias is roughly 1. For optical galaxies,  $b \sim 1.3$  (Hudson *et al.*, 1995)

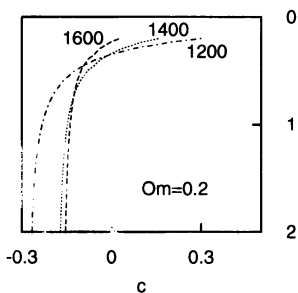


Fig. 2 — For  $\Omega = 0.2$ , the scale dependence of  $b$  derived from the simple nonparametric test is not so clearly scale dependent. For  $c=0$ , the bias is low.

## References

- Dekel, A., Bertschinger, E., Yahil, A., Strauss, M.A., Davis, M., & Huchra, J.P. (1993), *ApJ* **412** 1.  
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 Lloyd, E., ed., (1984) *Handbook of Applicable Mathematics Vol. VIB*, John Wiley & Sons, Chichester.