

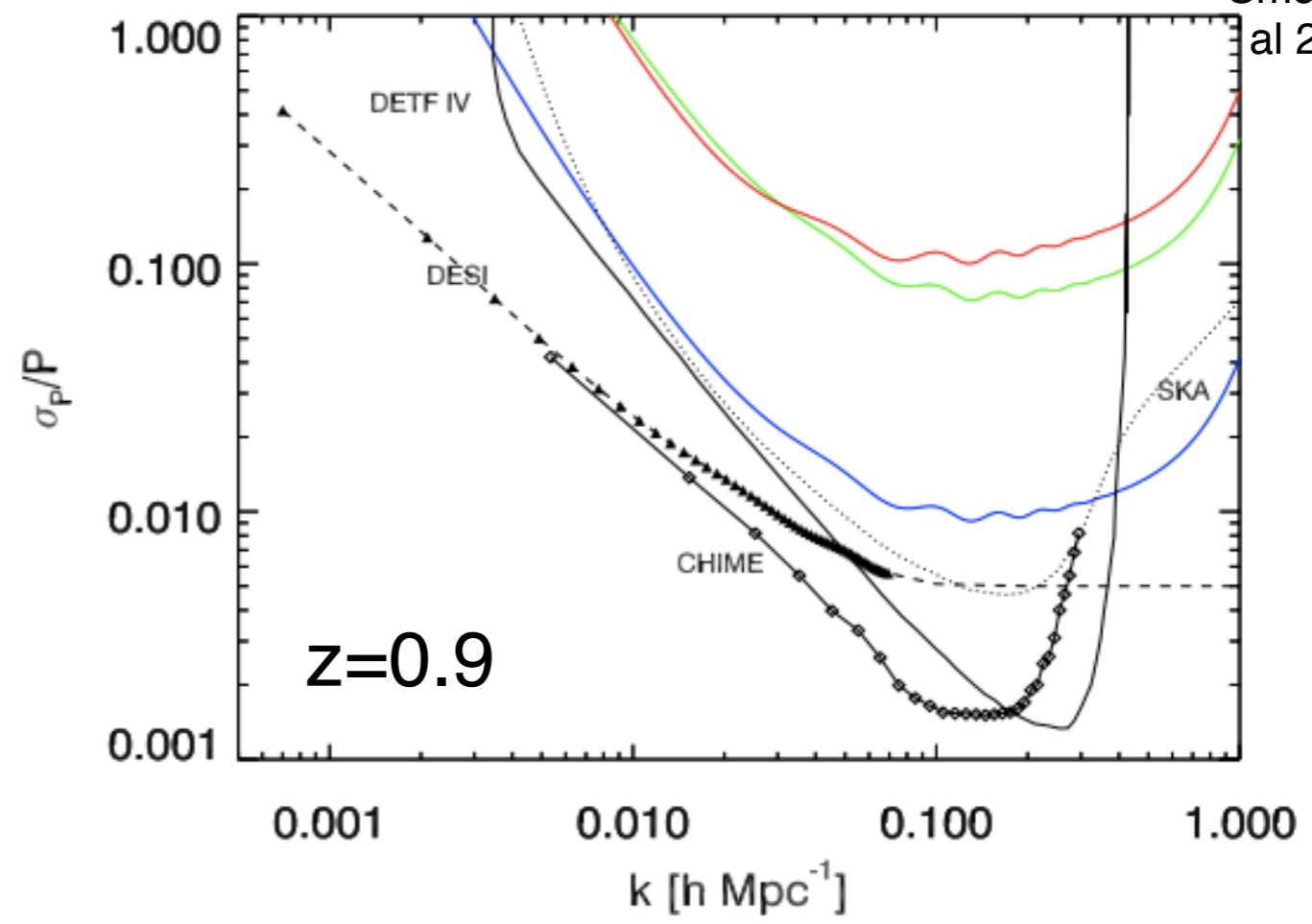
Statistical errors on P(k): sample variance & shot noise

$$\frac{\sigma}{P} = \sqrt{\frac{2}{n_{\text{modes}}}} \left(1 + \frac{1}{P\bar{n}} \right)$$

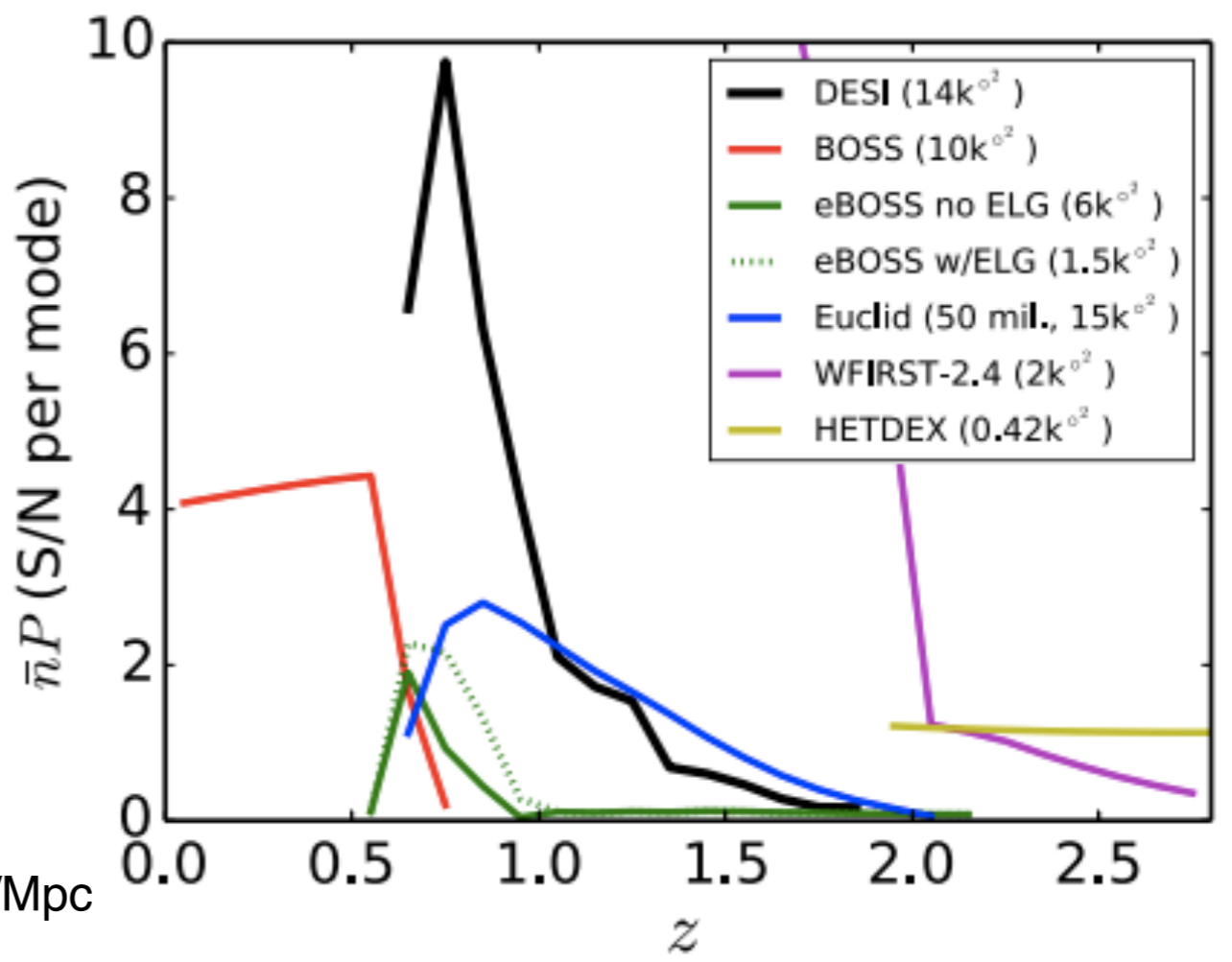
$$n_{\text{modes}} = V 4\pi k^2 \delta k / (2\pi)^3$$

$$P\bar{n} > 1, \sigma/P \propto 1/k$$

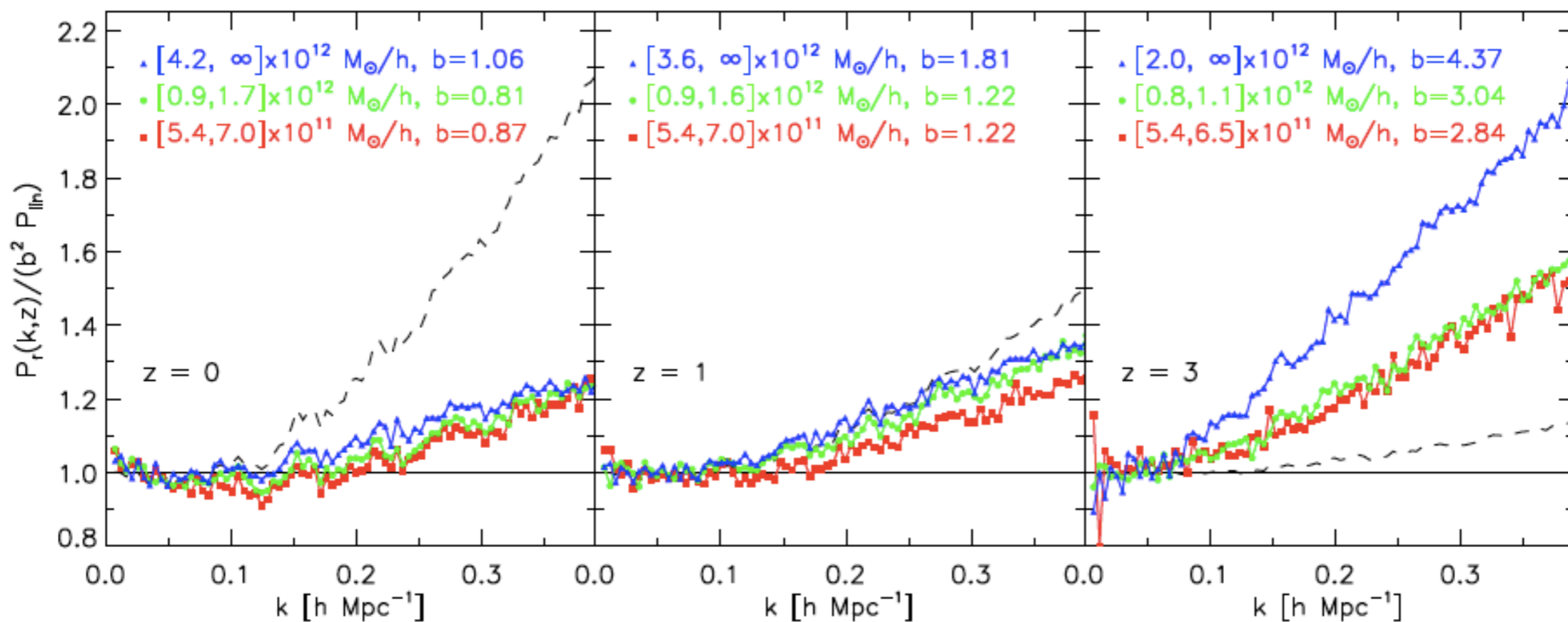
$$P\bar{n} = 1, \text{error independent of } k$$



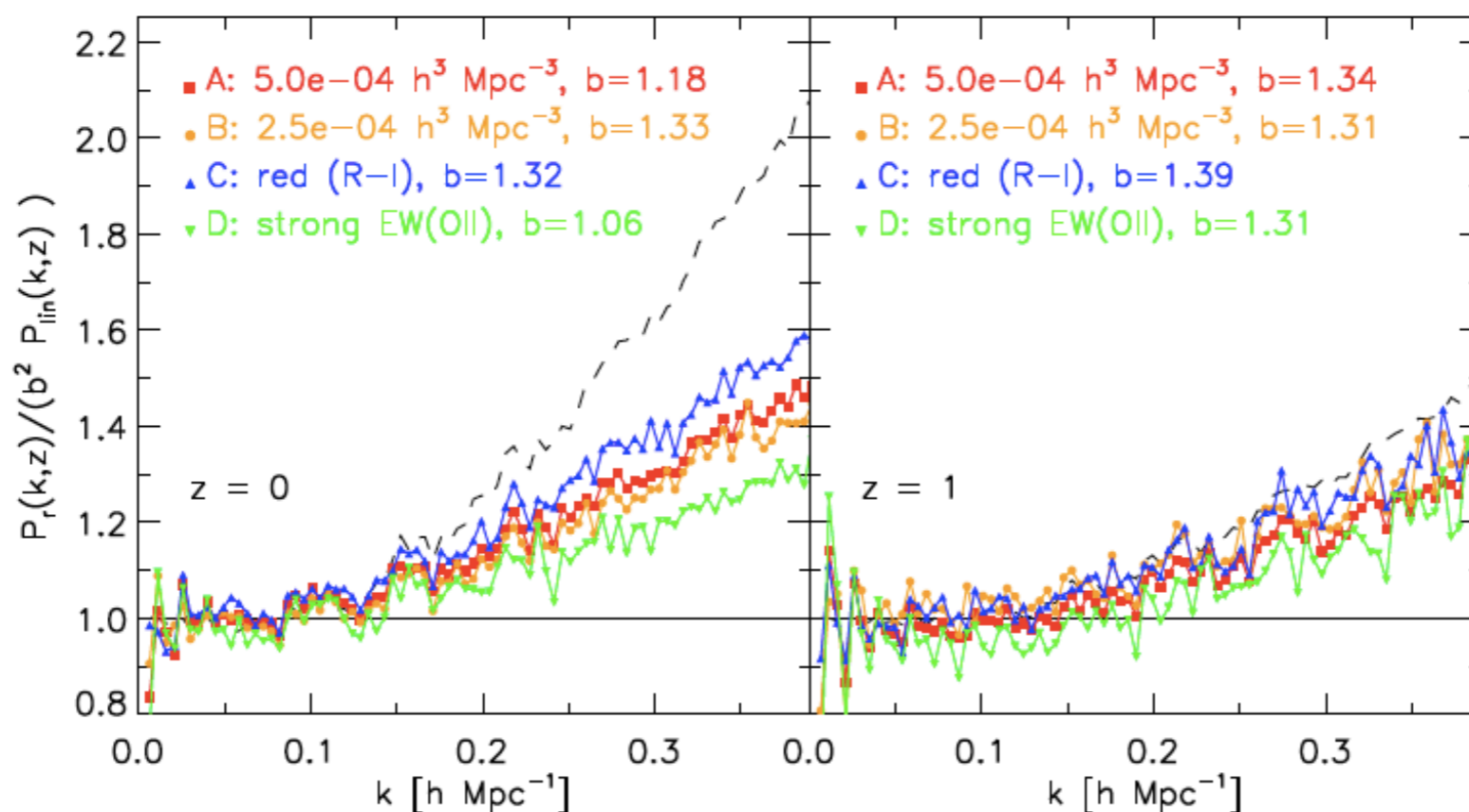
k=0.14h/Mpc



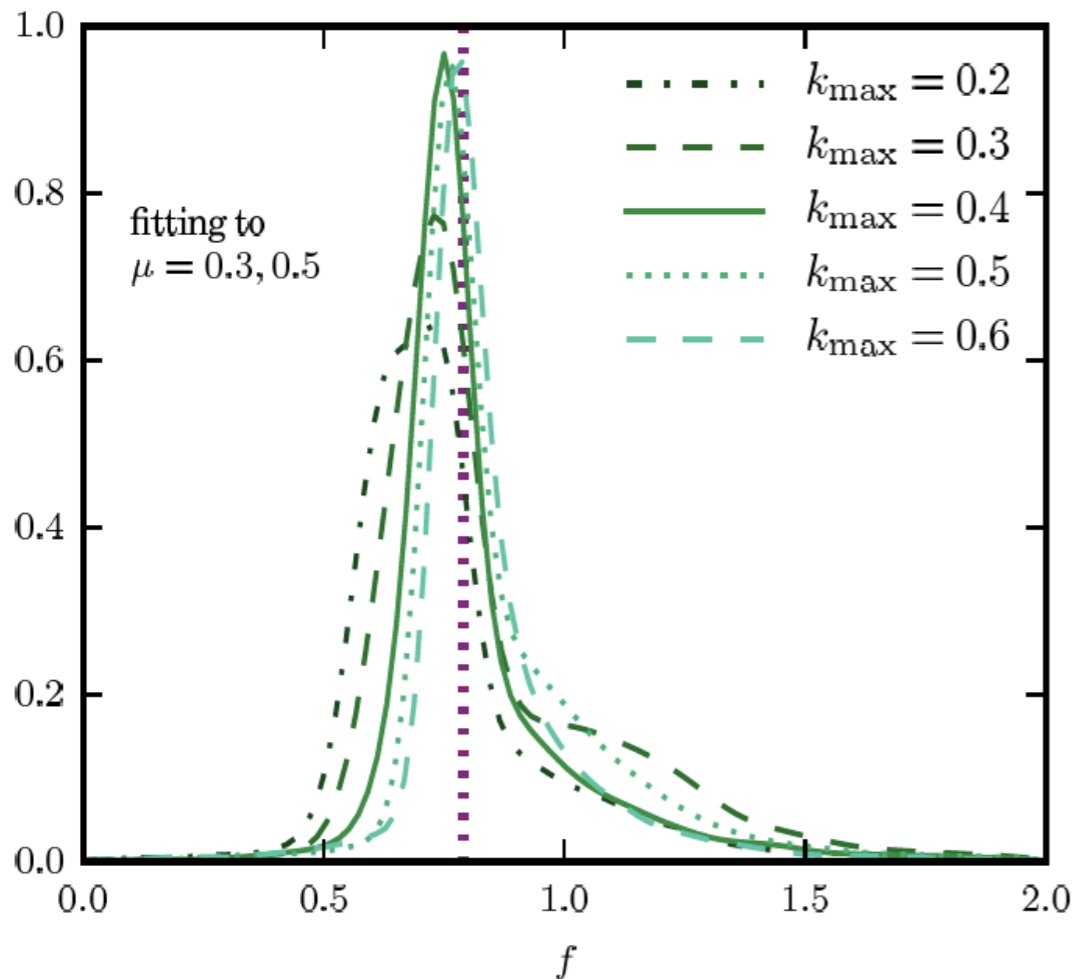
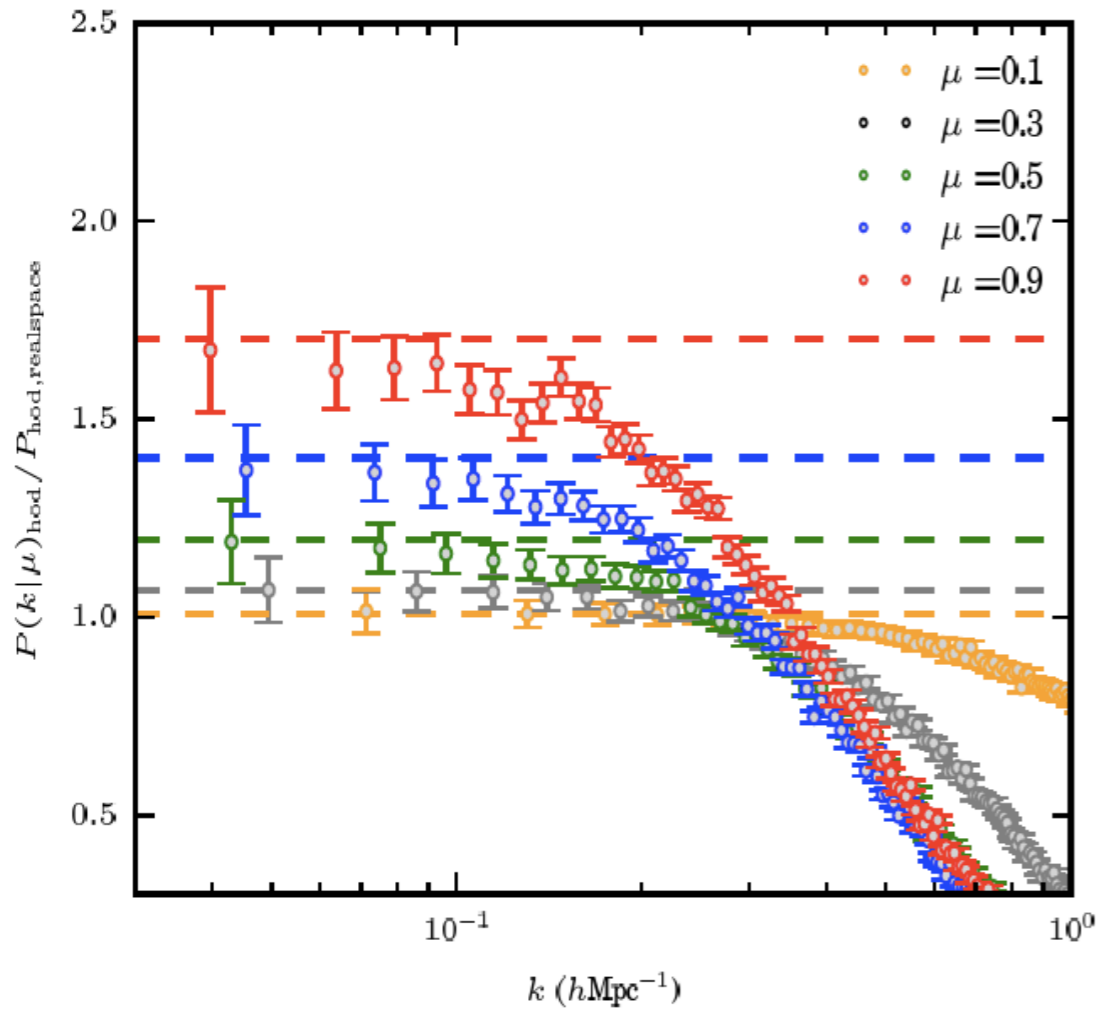
Pushing to larger kmax at higher redshift



Angulo et al 2009

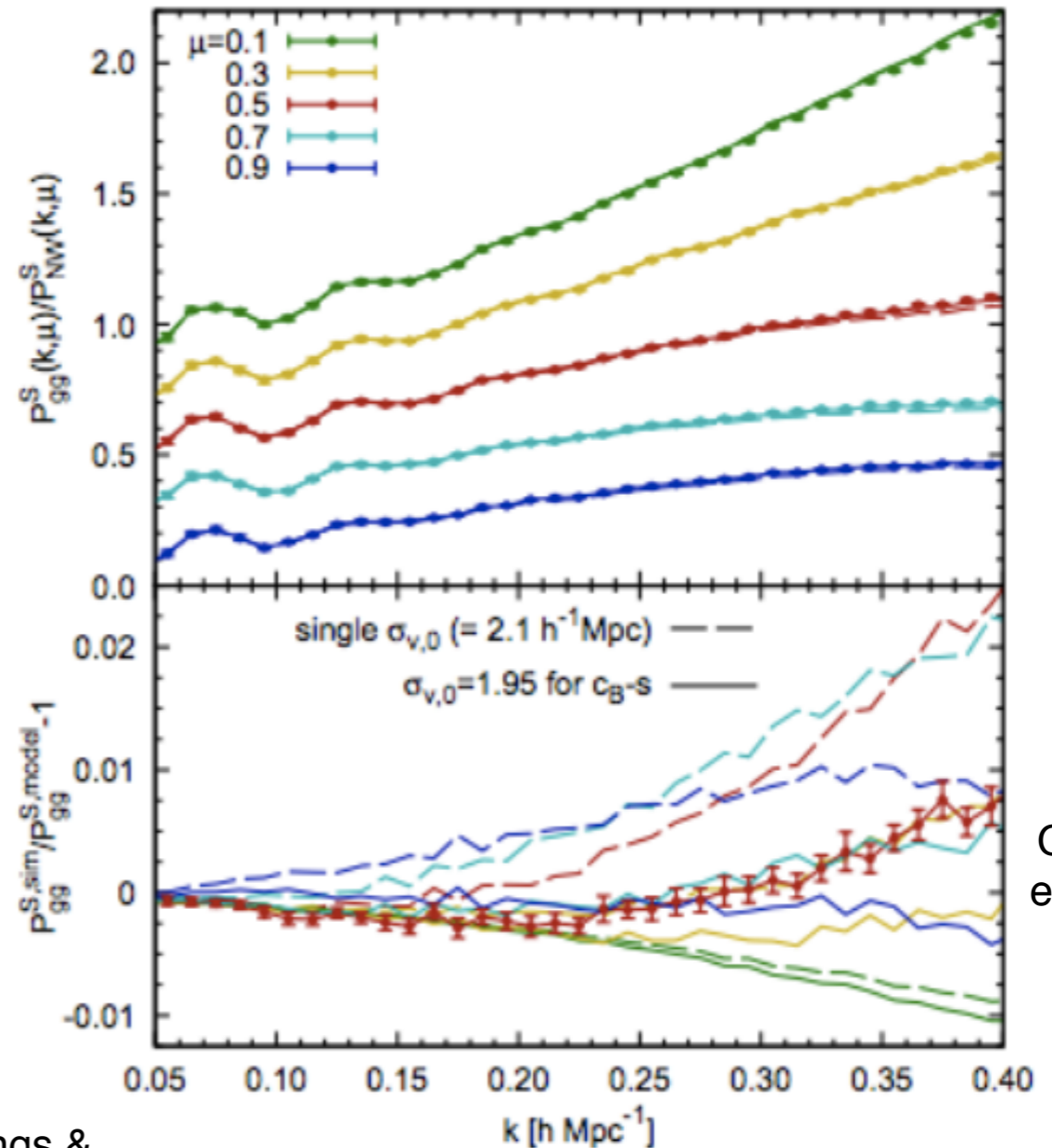


Why go to small nonlinear scales when theoretical models break down there?



Jennings & Wechsler 2015

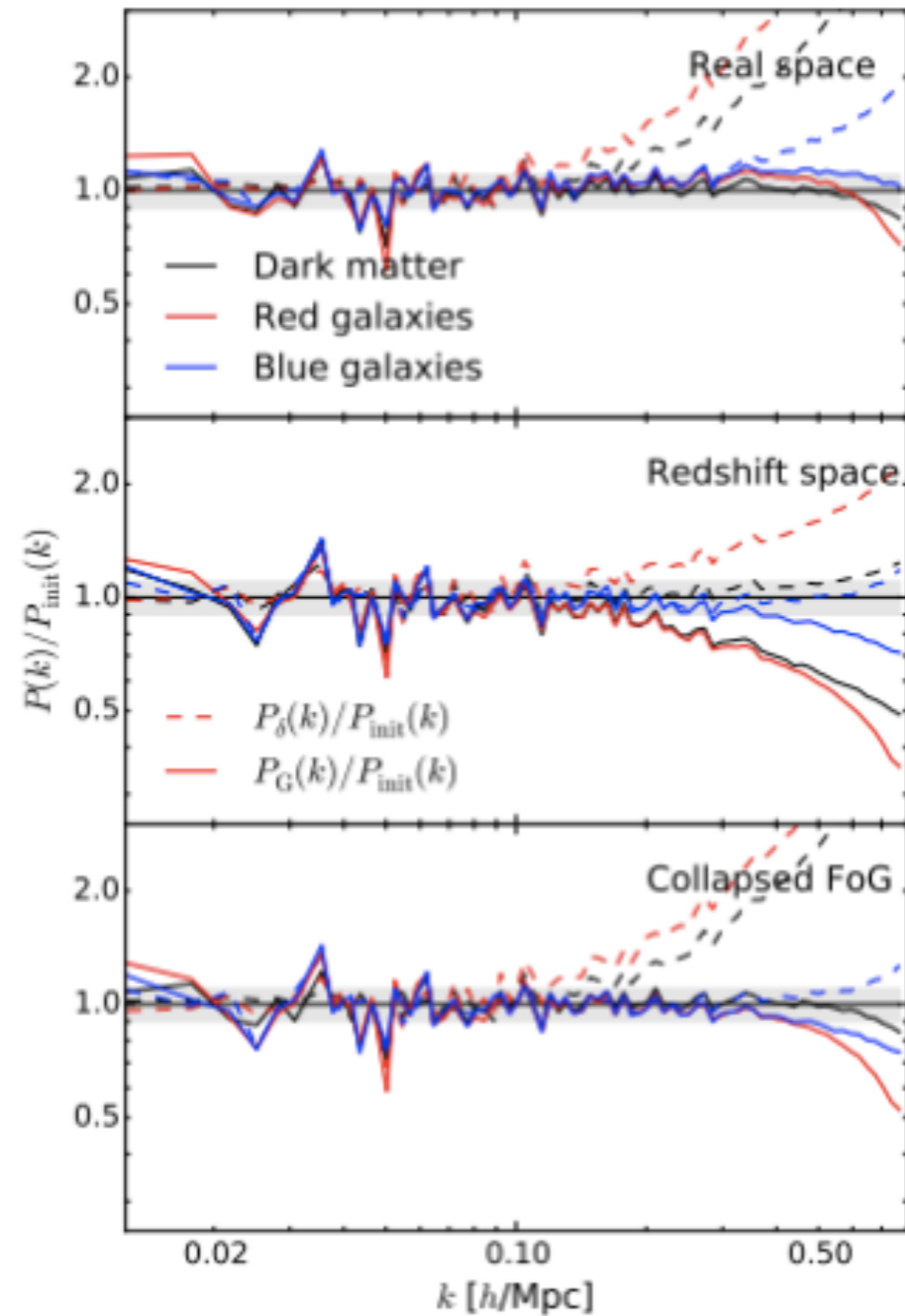
~2020 theoretical models will improve
 e.g. advances in RSD modeling
 analysis include velocity P_k



Okumura et al 2015

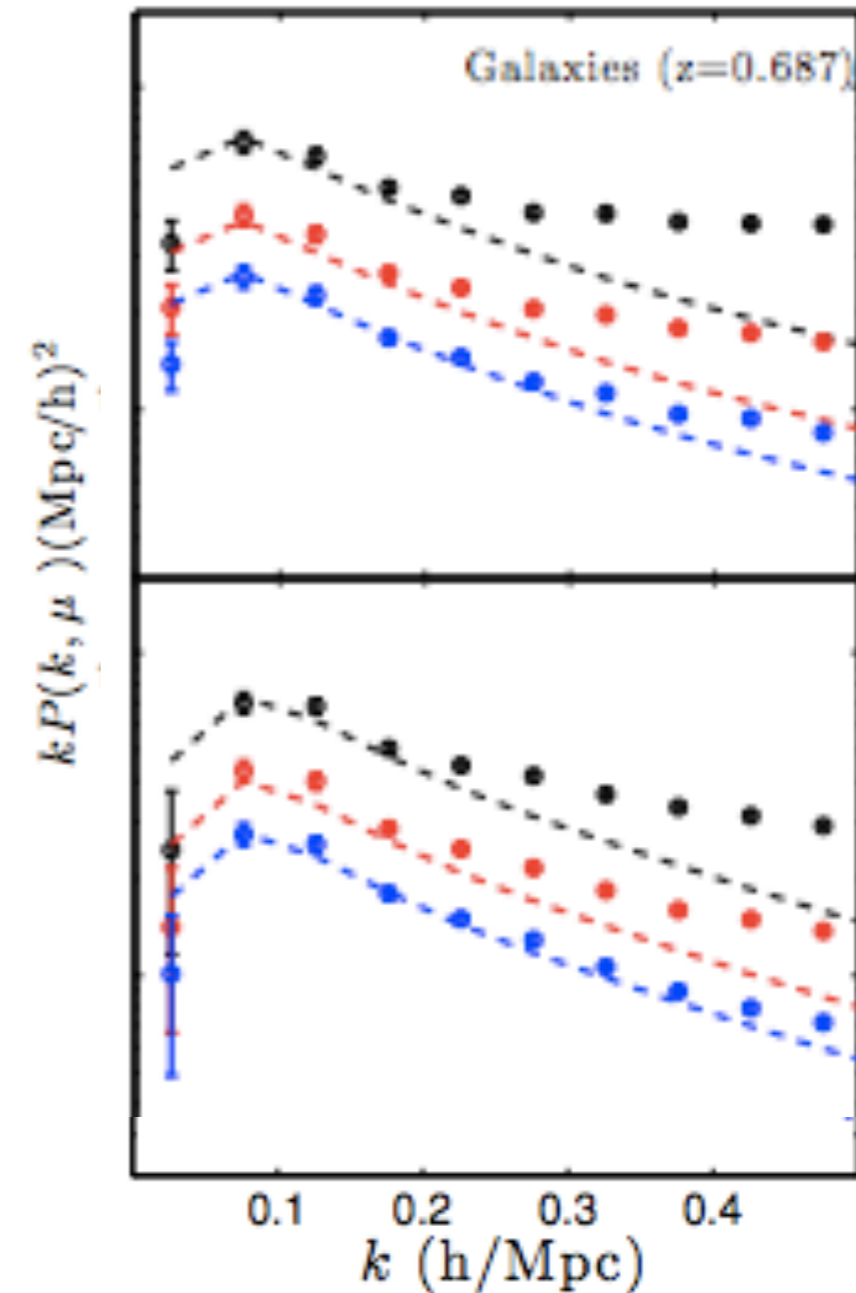
Improved statistical methods

Gaussianization



McCullagh
et al 2015

Clipping methods



Simpson
et al 2014