

Fitting UltraVista data with Schechter using MCMC

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- Schechter model:

$$\Phi(M)dM = e^{-M/M^*} [\Phi_1^* \left(\frac{M}{M^*}\right)^{\alpha_1} + \Phi_2^* \left(\frac{M}{M^*}\right)^{\alpha_2}] d\left(\frac{M}{M^*}\right)$$

- Convolved Schechter: (Ilbert 2013)

$$\Phi_{\text{convolved}}(\log M) = (\Phi * (L \times G))(\log M)$$

- MCMC: posterior distribution in parameter space +/- errors

- emcee (Foreman-Mackey 2013)

- Euclid project: LF and SMF for cluster galaxies

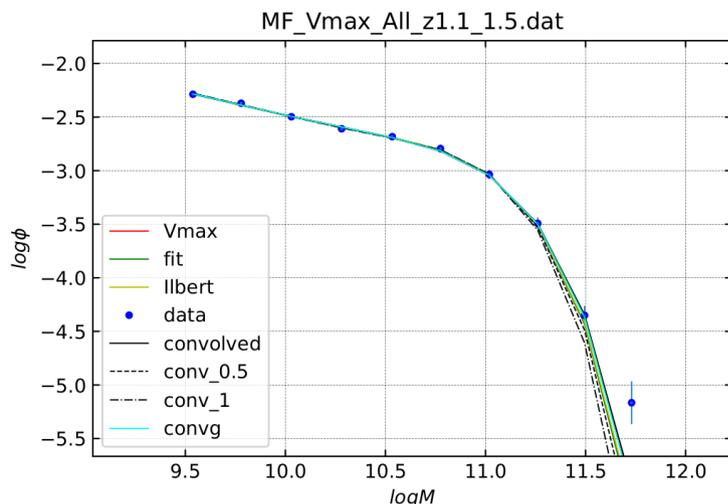


Fig. 1: Fit of different models to and the UltraVista data (Ilbert 2013), for all galaxies in the redshift range $1.1 < z < 1.5$.

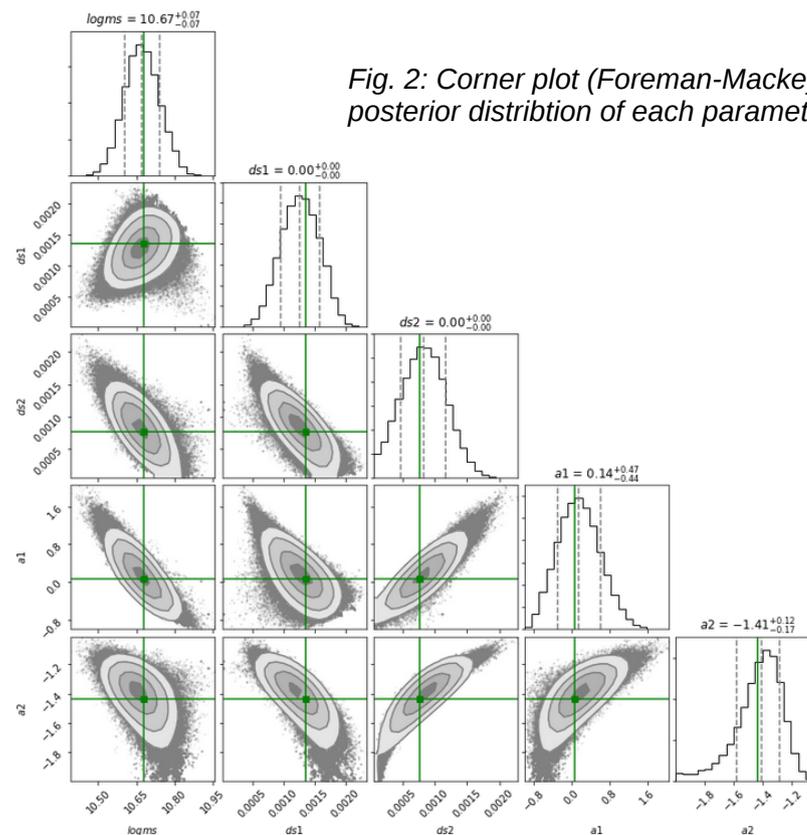


Fig. 2: Corner plot (Foreman-Mackey 2016): posterior distribution of each parameter.