

SHAM for eBOSS LRG&ELG

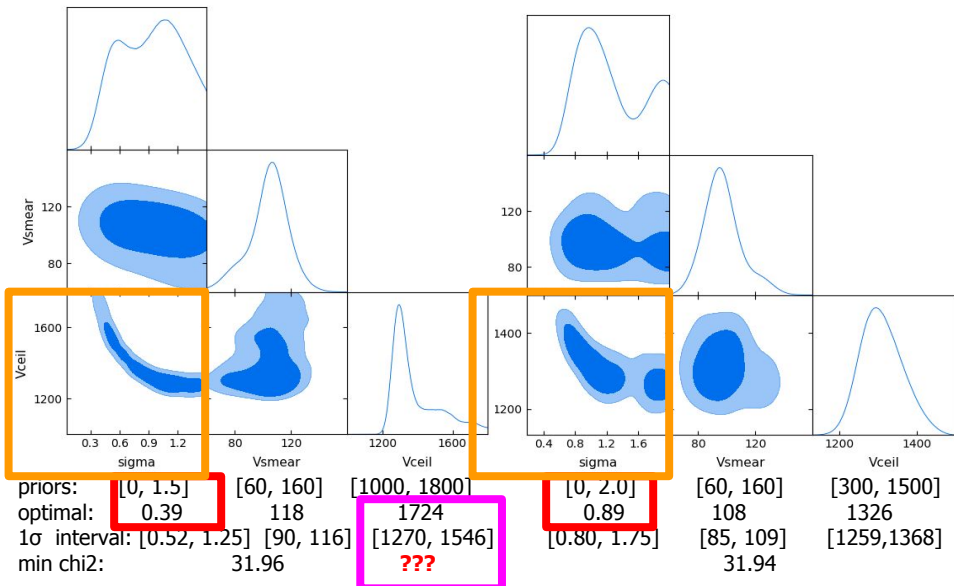
My SHAM model has 3 parameters:

1. σ , controls the $V_{\text{peak}}-M^*$ scatter, BOSS SHAM $\sigma=0.31$
2. V_{ceil} , prevent the most massive halos from having a galaxy
3. V_{smear} , smear the peculiar velocity for the z uncertainty

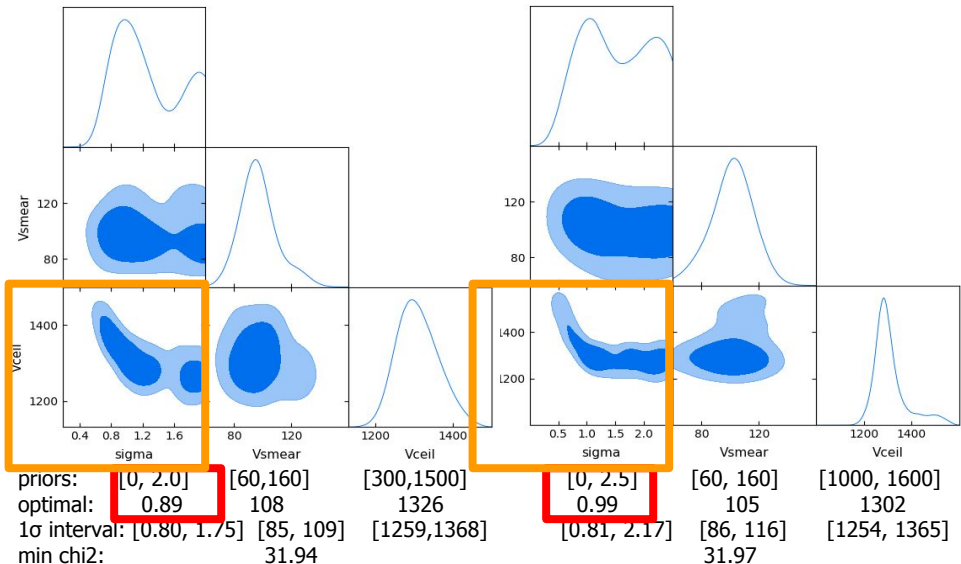
Optimal Parameter Properties:

1. **large optimal σ , increasing** as I extend the prior
2. **“L” shaped Vceil- σ posteriors**, meaning that for large σ , Vceil won't change (i.e., a random halo-galaxy relation)
3. They might be **out of the 1σ confidence interval**

SHAM posteriors for LRG in SGC



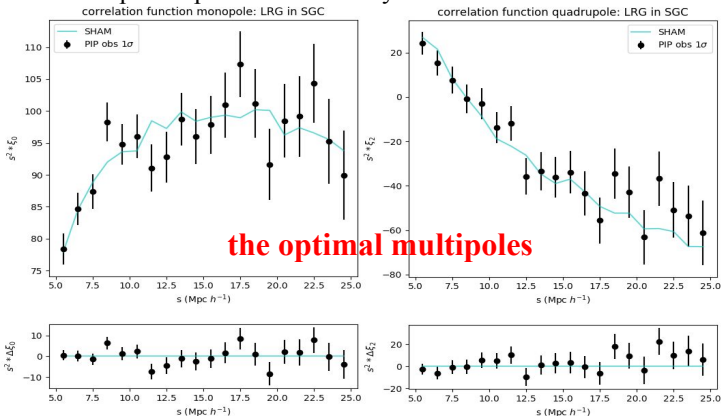
SHAM posteriors for LRG in SGC



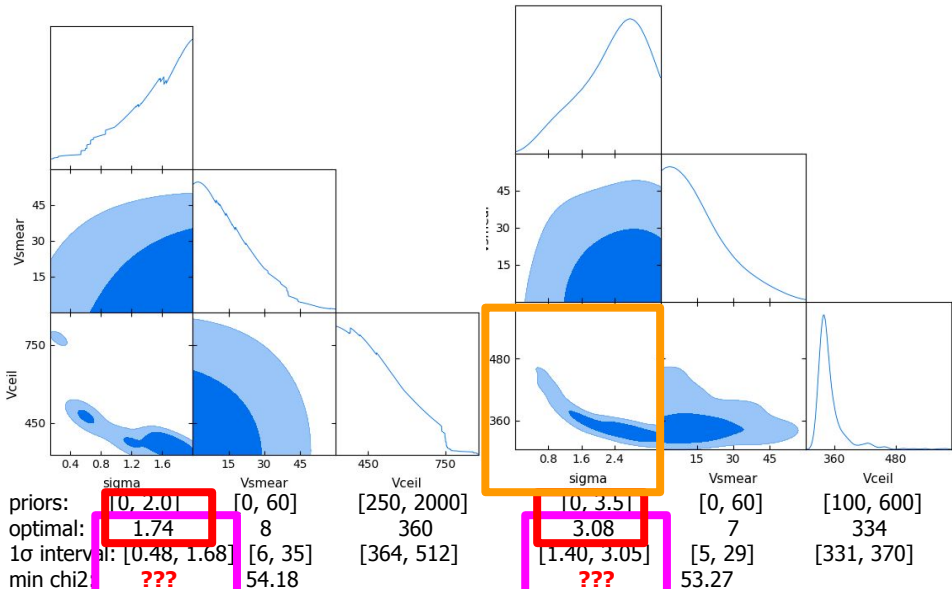
SHAM for eBOSS LRG in SGC

The optimal SHAM parameters:

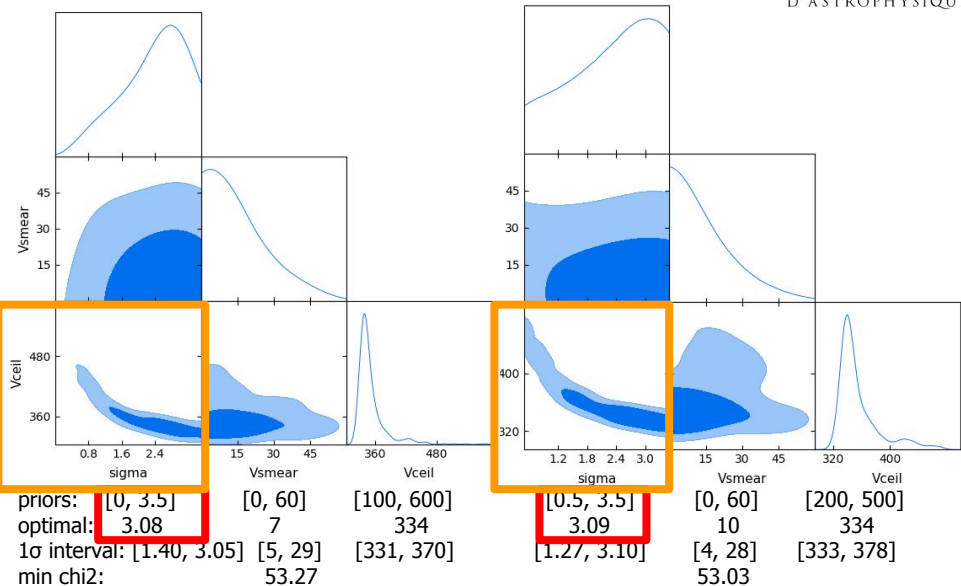
1. BOSS SHAM give $\sigma=0.31$, but mine are **much larger**
2. **Vceil- σ posteriors** have an “L” shape
3. some optimal parameters are beyond the 1σ confidence interval



SHAM posteriors for ELG in SGC



SHAM posteriors for ELG in SGC



SHAM for eBOSS ELG in SGC

The optimal SHAM parameters:

1. my σ is **much larger than 1**, i.e., a **random halo-galaxy relation**
2. **Vceil posteriors** have an **long tail**
3. some optimal parameters are beyond the 1σ confidence interval

