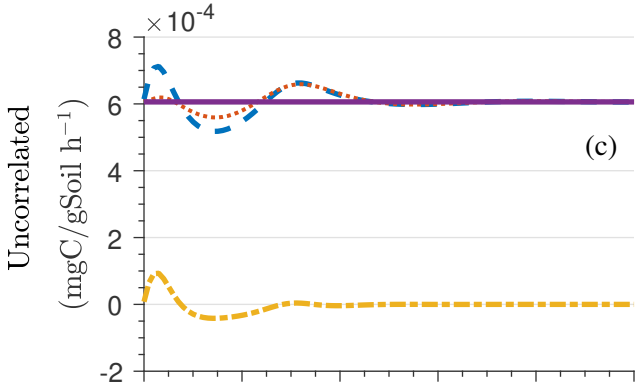
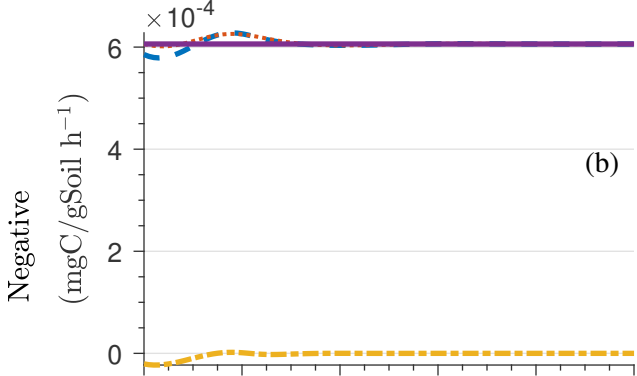
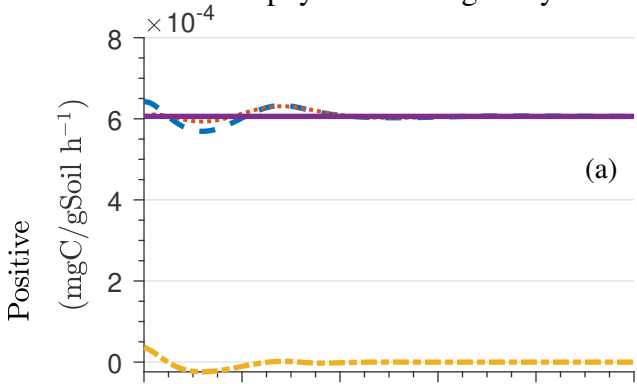
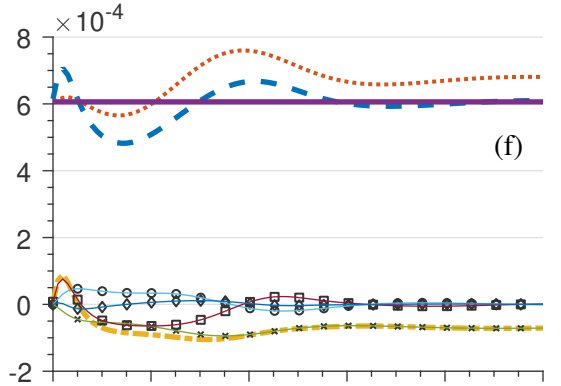
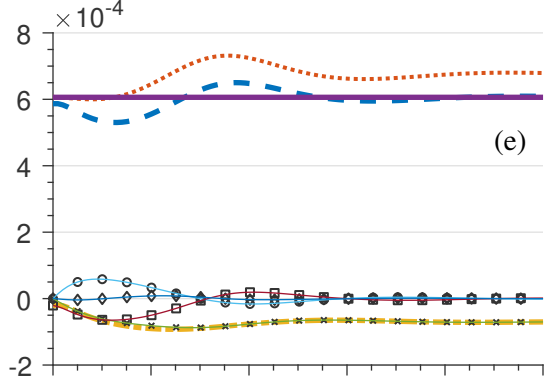
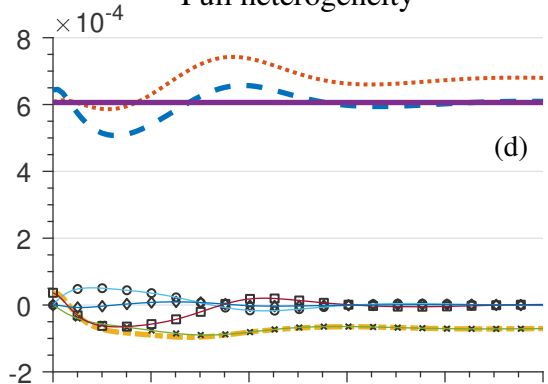


### Biophysical heterogeneity



### Full heterogeneity



Time (yr)

---  $\bar{R}_{het}$   
--- MFA  
---  $\sum$  HOT  
---  $\bar{R}_{hom}$

x  $(1-Y)\bar{C}_b \frac{k'_M C'_s}{k'_M C'_s}$   
o  $(1-Y)\bar{C}_s \frac{k'_M C'_b}{k'_M C'_b}$   
□  $(1-Y)\bar{k}_M \frac{C'_s C'_b}{C'_s C'_b}$   
◇  $(1-Y)\bar{k}'_M \frac{C'_s C'_b}{C'_s C'_b}$