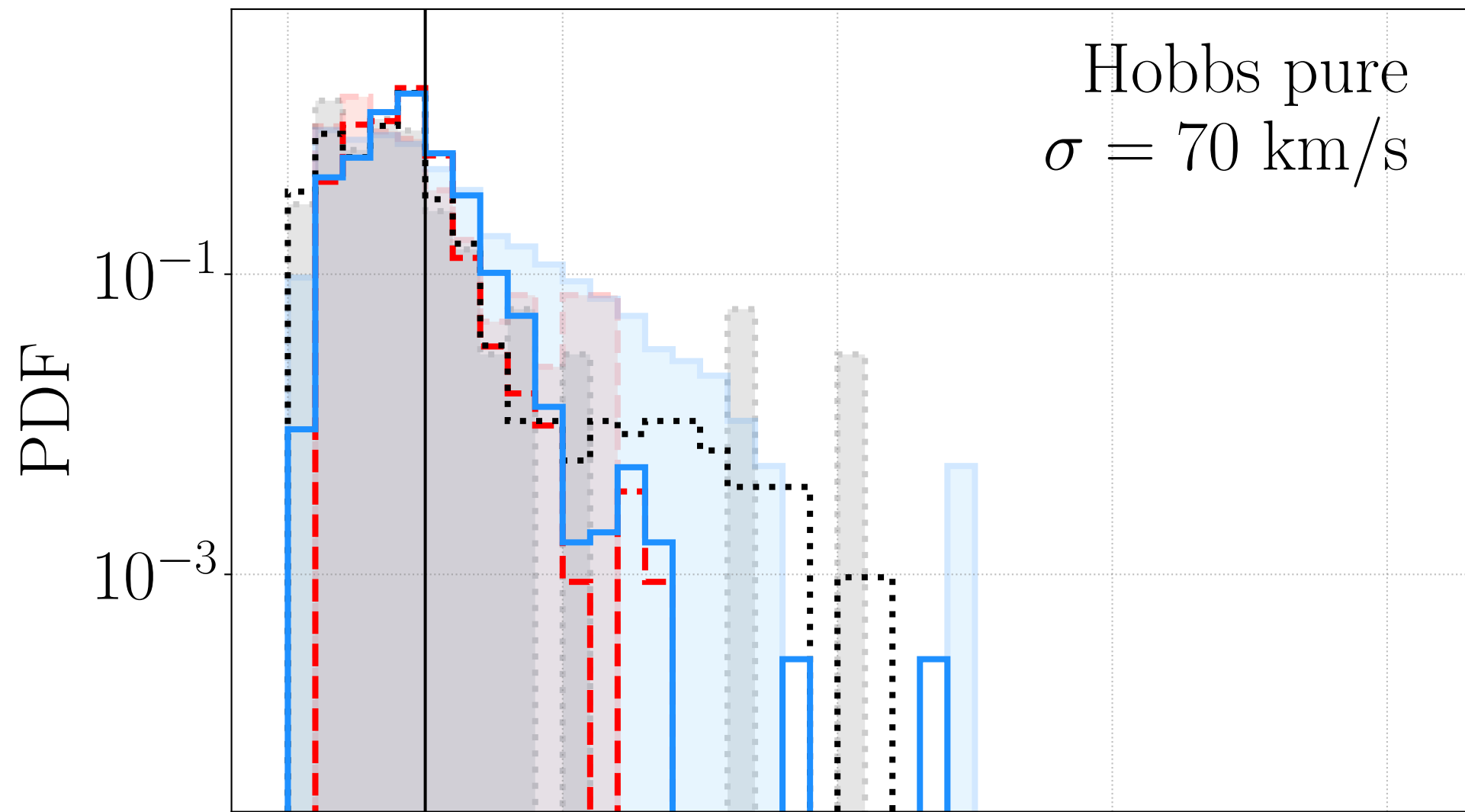
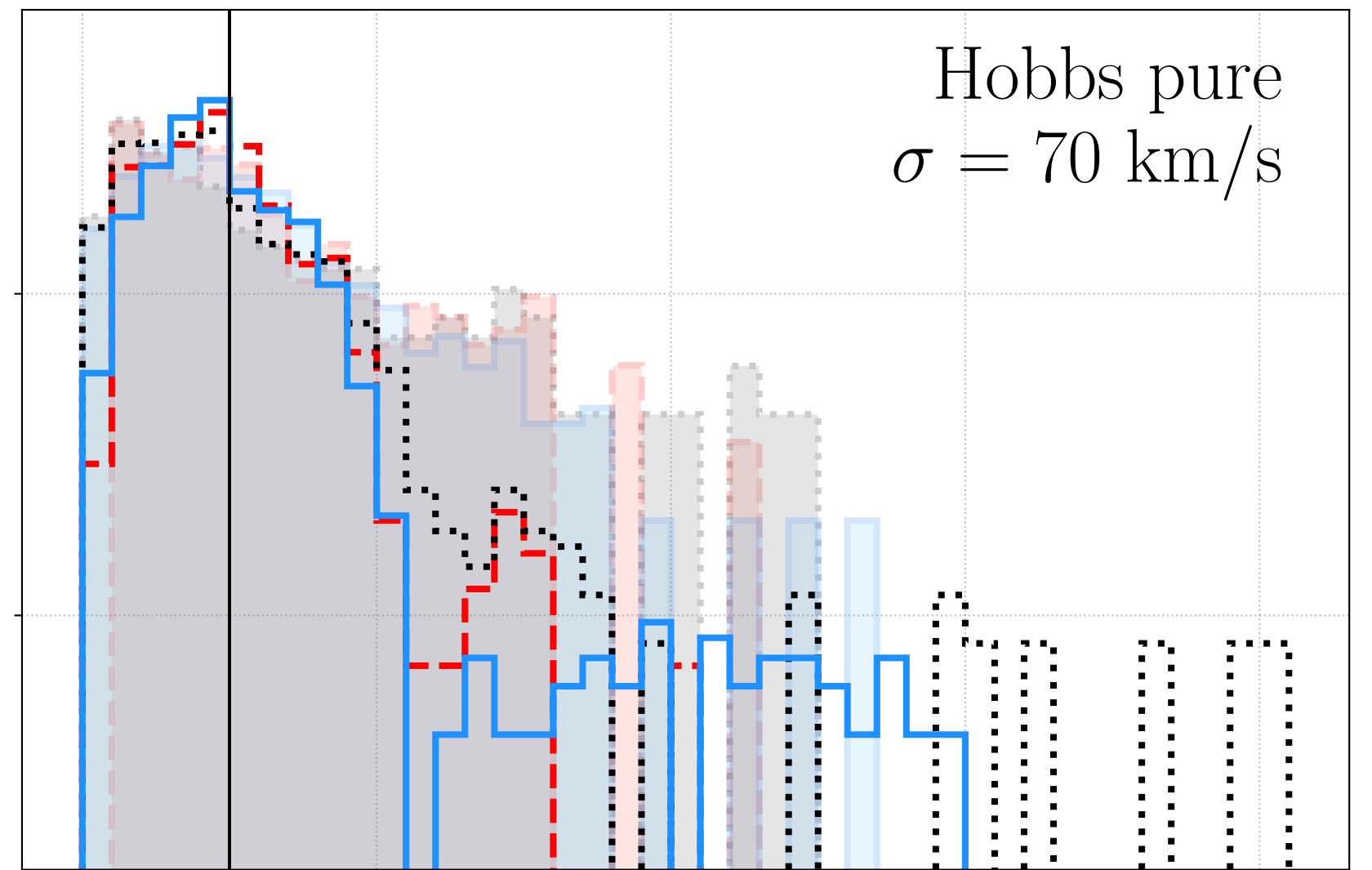
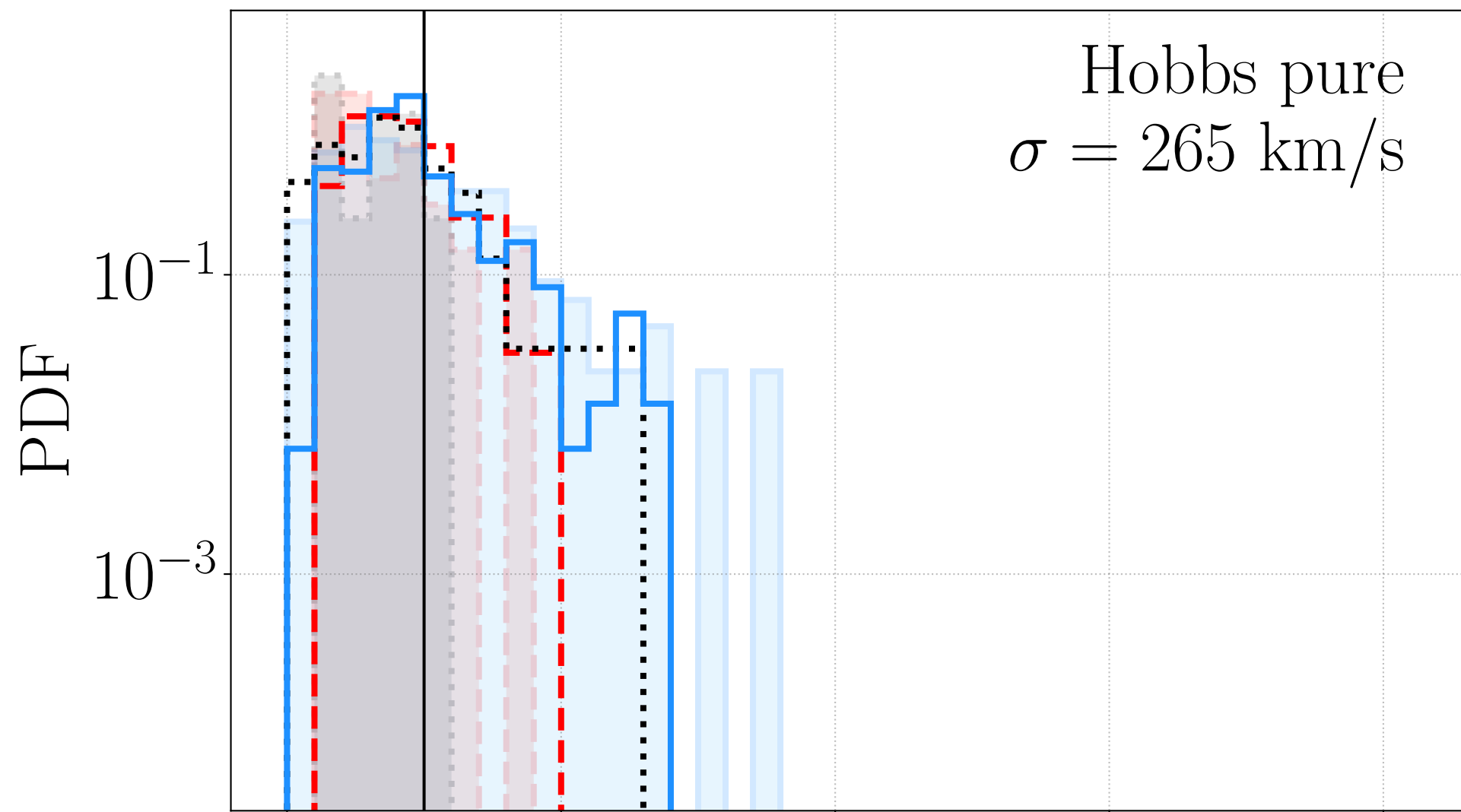
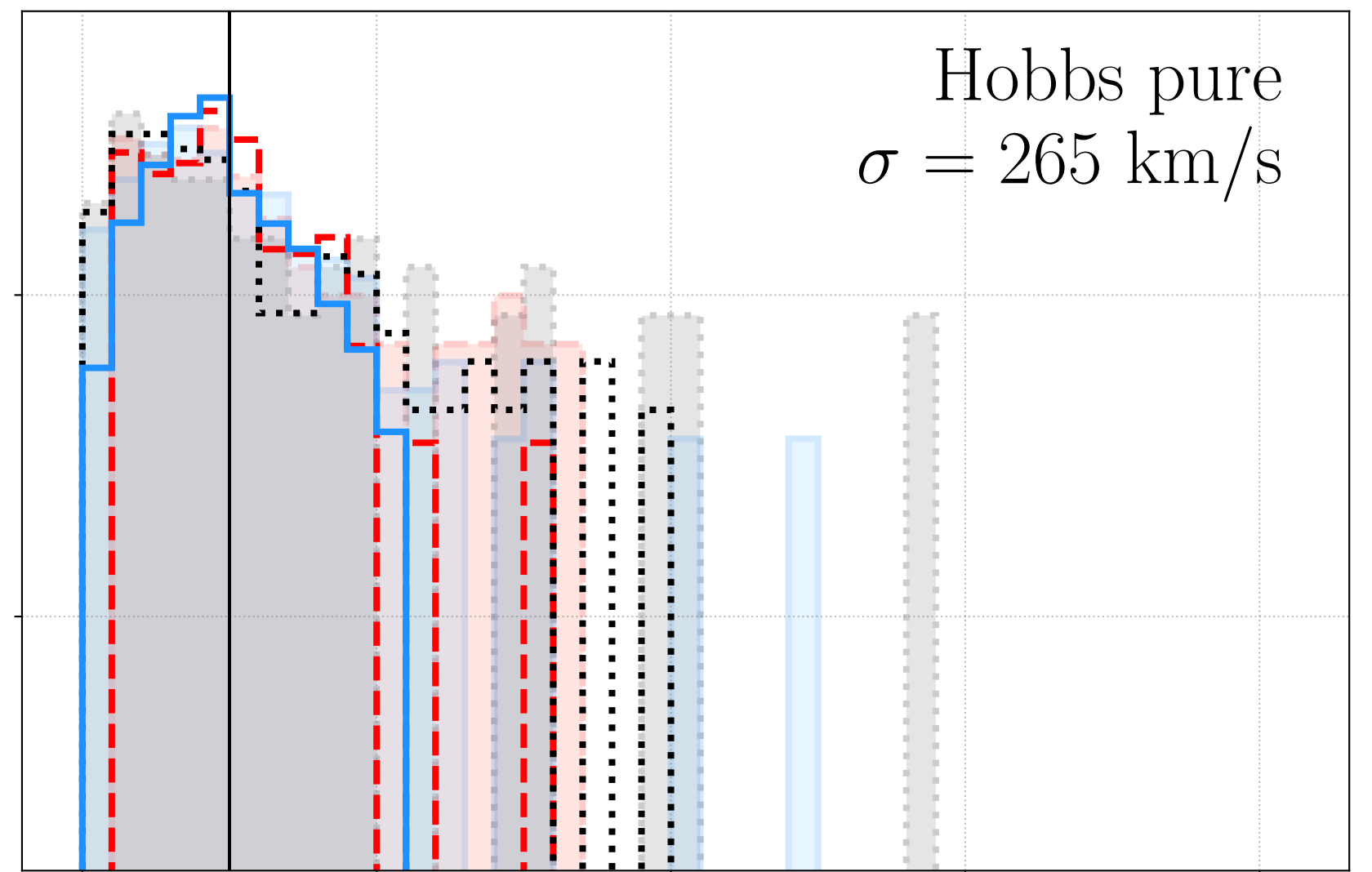


$Z = 0.02$  $Z = 0.015$ 

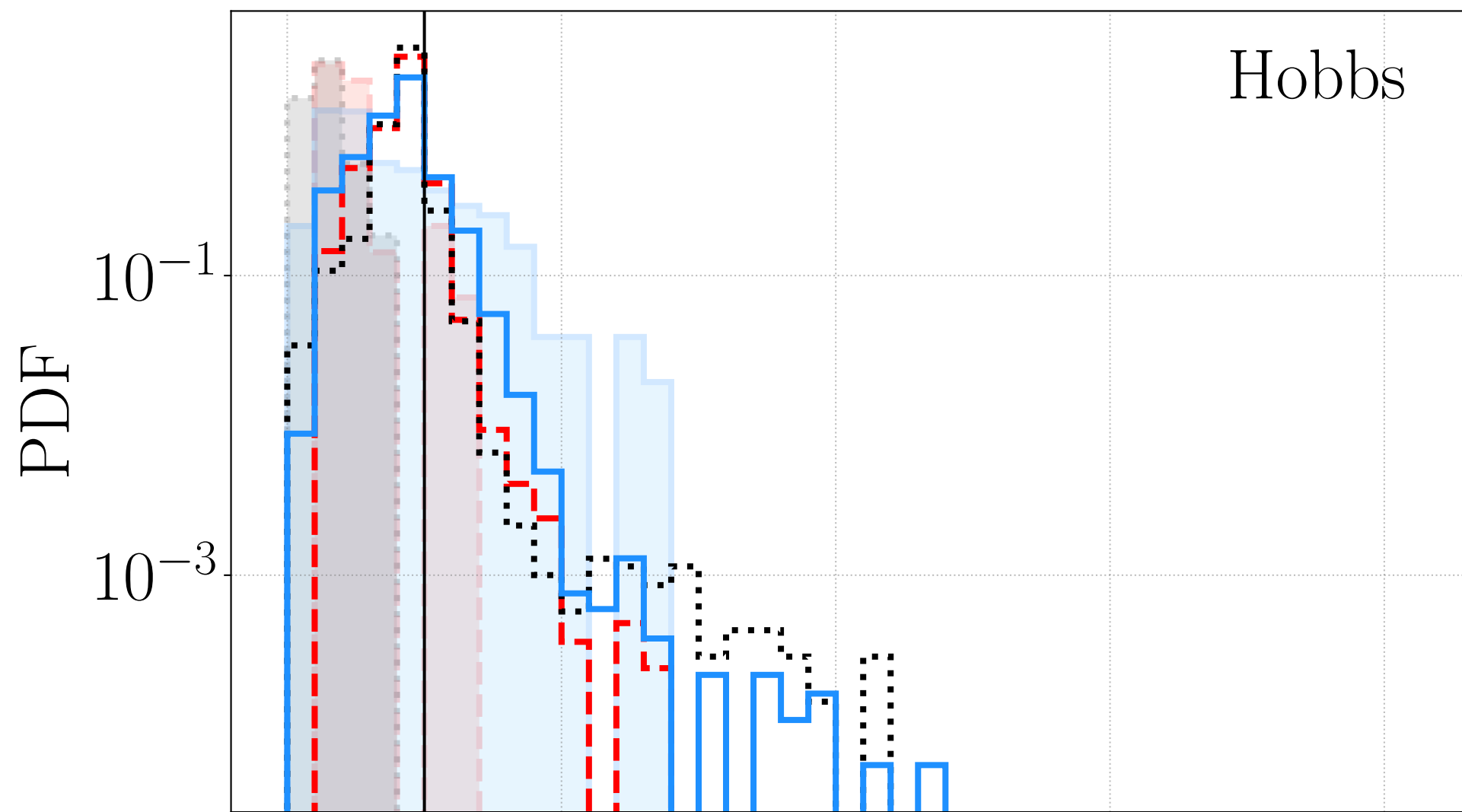
Hobbs pure
 $\sigma = 265$ km/s



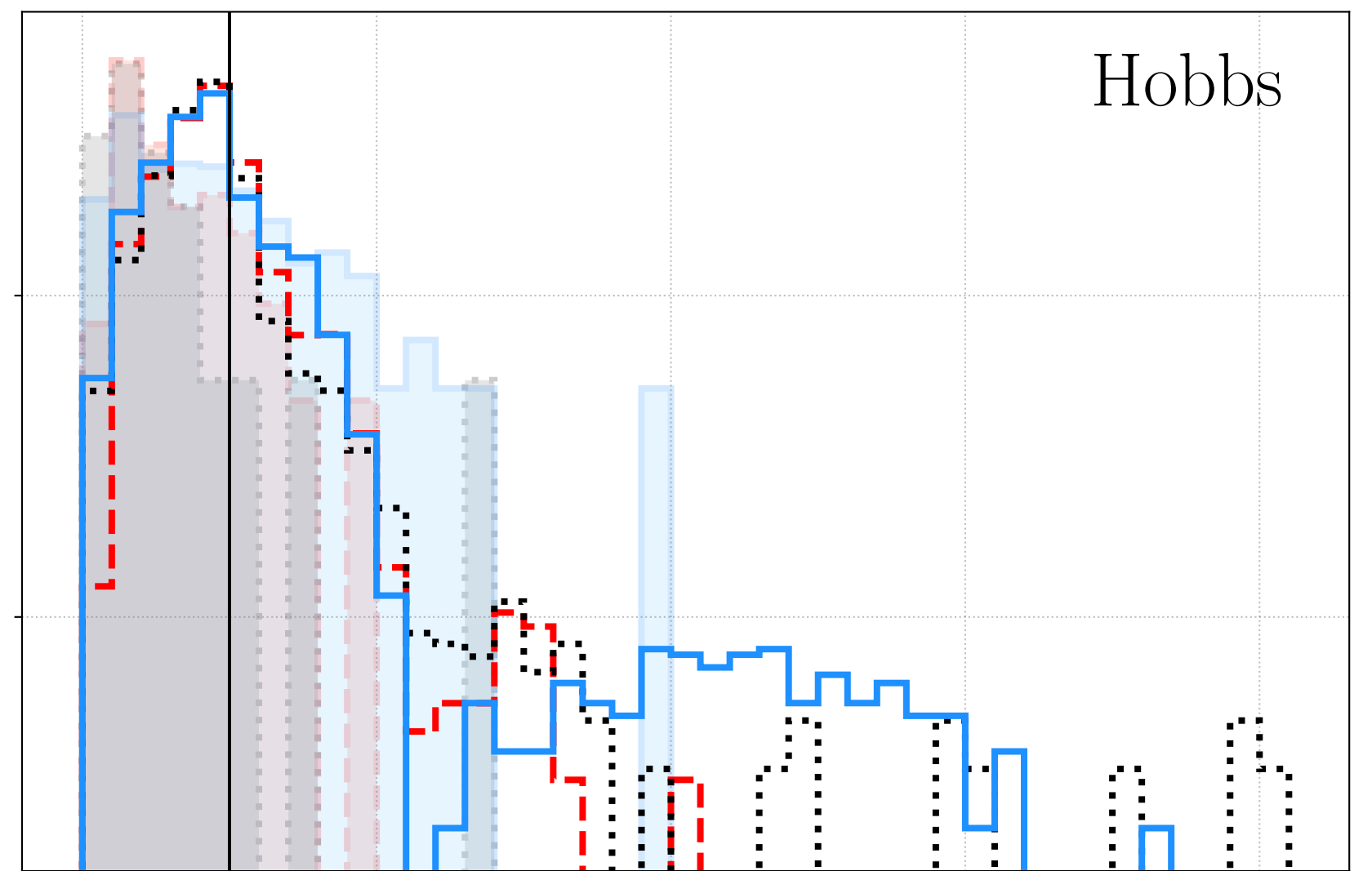
Hobbs pure
 $\sigma = 265$ km/s



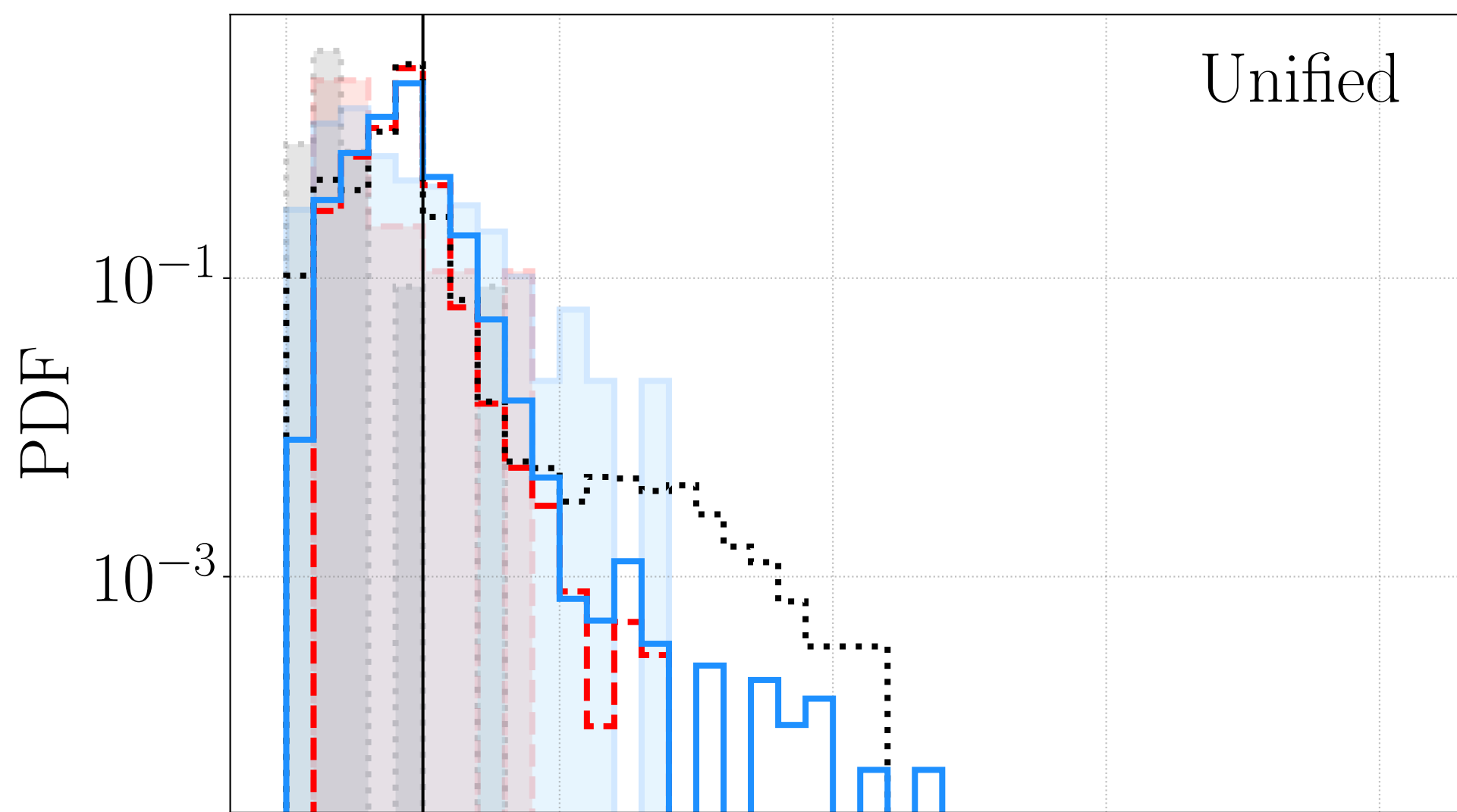
Hobbs



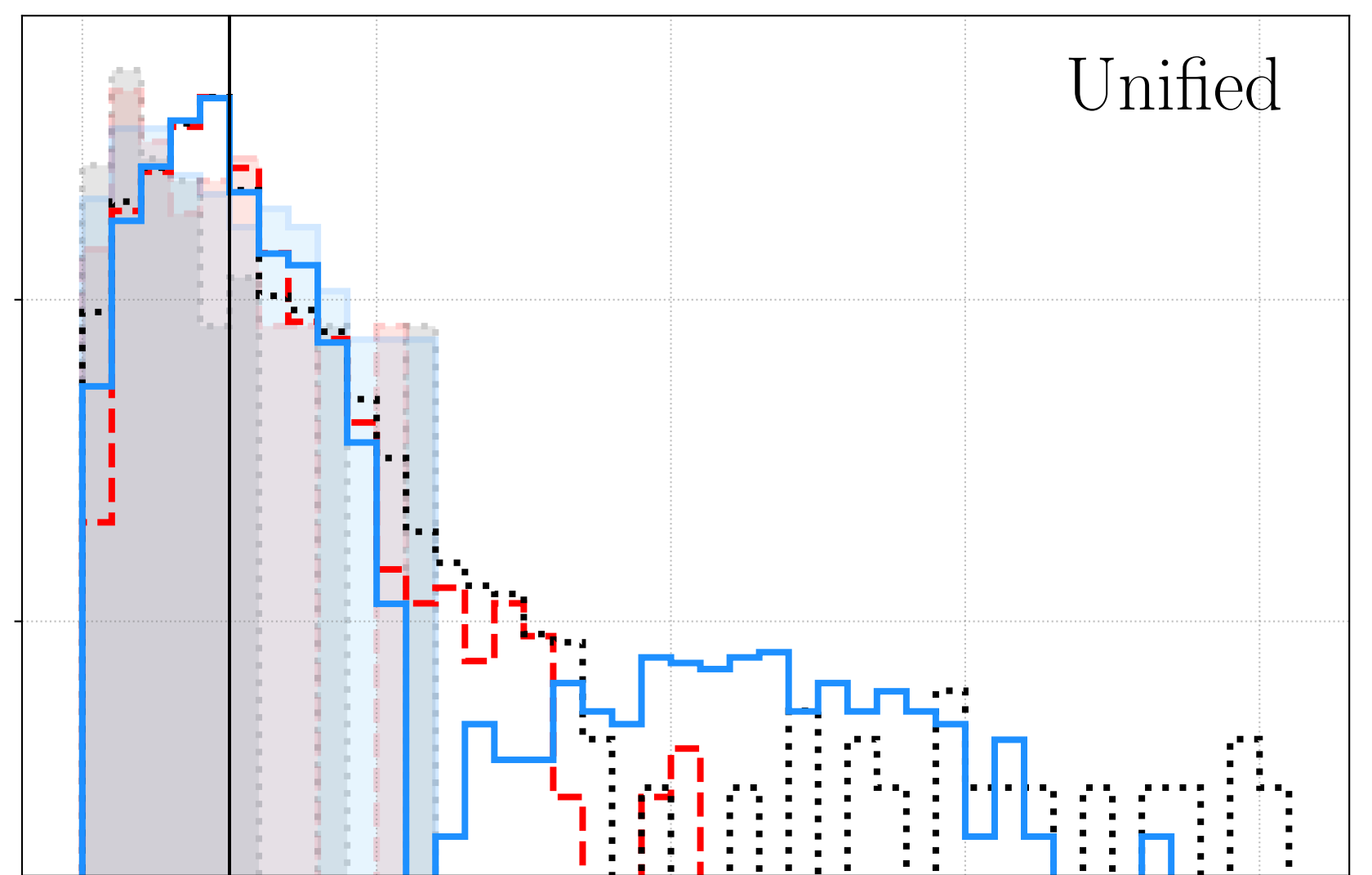
Hobbs



Unified



Unified

 $q_{\text{BBH}} = M_{2,\text{BH}}/M_{1,\text{BH}}$ $q_{\text{BBH}} = M_{2,\text{BH}}/M_{1,\text{BH}}$ 