The Impact of the Fiducial Cosmology Assumption on BAO Cosmological Parameter Inference, arXiv:1906.03035

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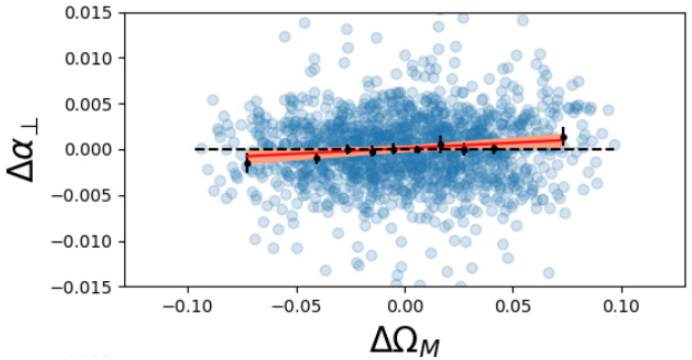

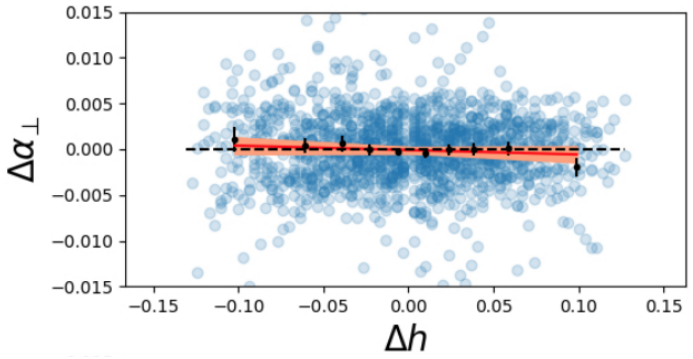

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- We used the Aemulus suite (40 wCDM N-body simulations, DeRose et al 2019, https://aemulusproject.github.io) to test for BAO systematics (incorrect fiducial cosmology during reconstruction and BAO fitting).
- We have no evidence for a systematic bias in $\Delta\alpha_\perp$ and $\Delta\alpha_\parallel$ against the wCDM cosmology.
- Additional systematic error budget for $\alpha_\perp$ and $\alpha_\parallel$ due to a wrong fiducial cosmology is $< 0.1\%$.

$\rightarrow$ **Deviations in the fiducial cosmology results in unbiased values of $\alpha_\perp$ and $\alpha_\parallel$ but can increase the uncertainty by a factor of $0.1 - 0.2\%$**