Using the Global Modeling TestBed Single Column Model to Test a Newly Developed Convective Parameterization Scheme

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Summary

• SCM that works with an interoperable physics driver as part of a physics test harness has been developed and can be a valuable tool for physics development.
• G-F scheme seems to reduce the dry bias from operational GFS scheme in PBL.
• G-F scheme exhibits generally higher skill scores despite its “untuned” state.
• G-F scheme generates a more varied response to the forcing ensemble.
• G-F produces weaker convective tendencies, leaving grid-scale MP to do more work.
• G-F mass fluxes have different shape (and weaker) than SAS.
• G-F scheme performs better in vertical profile comparisons and computational stability.

References