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Poster
The Orbiting Carbon Observatory-3 (OCO-3), a companion to OCO-2, has operated on the International Space Station since 2019. The goal is for its primary data products, XCO2 and SIF, to be able to be used together with OCO-2 products with no adjustments or special treatment required. To this end, we have recently finished the version 11 algorithms for OCO-3 in order to match its output closely to OCO-2, while also minimizing bias with respect to validation data as TCCON. This work describes the overall performance of the OCO-3 version 11 XCO2 product, as well as the similarities and differences between OCO-2 and OCO-3 version 11 processing. We find that certain aspects of OCO-3 require some special treatment as compared with OCO-2, such as pointing corrections and special calibration adjustments. OCO-3 residuals show features not present in OCO-2, such as a feature related to sub-scene inhomogeneity thought to be driven by differences in the spatial response function at different locations on the same focal plane array. We hope our findings will serve as an illuminating lesson on how to best harmonize satellite products as we move into a future with more and more greenhouse gas satellite instruments.
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