Interactive comment on “Assessment of recent advances in measurement techniques for atmospheric carbon dioxide and methane observations” by Christoph Zellweger et al.

Anonymous Referee #2

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This paper compares historic, established techniques for measuring atmospheric methane and carbon dioxide (GC/FID and NDIR) with a suite of spectroscopic techniques (in particular cavity ringdown spectroscopy (CRDS)), rapidly being taken up by researchers measuring greenhouse gases. The work assesses the suitability of the new methods for delivering a seamless continuation of the CO2 & CH4 timeseries within the WMO/GAW network. Through a series of extensive ‘audits’ (intercomparisons between instruments) at four sites, along with a set of measurements of circulating standards, the authors conclude that spectroscopic techniques are not only suitable for replacing traditional methods, but in fact offer a considerable improvement over traditional methods, improving accuracy and reducing bias.
This paper describes some and interesting and highly relevant work for the atmospheric greenhouse gas measurement community and the reviewer recommends publication int AMT.