

This manuscript presents a highly innovative method of correcting stray light derived errors in total column amounts of ozone and sulfur dioxide measured by the single Brewer spectrophotometers. Different from the certain correction methods, the presented has very clear basis of physics consideration and more feasible application for the Brewer ozone spectrophotometer community. Furthermore, this physics-based method is also validated by theoretical simulations. The manuscript has a very significant application value for the single Brewer spectrophotometer. All the authors of the manuscript are well-known scientists who have long been engaged in works of Brewer spectrophotometer. This manuscript is recommended to be published with small revisions. There are following two comments:

We thank the reviewer for taking the time to revise our manuscript and for their constructive comments.

Our point-to-point reply is given hereafter.

1)Line # 278, "The ozone ETC, in simulation S3, strictly agree with the one observed without stray light in the model (2583) “---What is the meaning of ‘model (2853)’?”

Thank you for pointing this out. The text has been modified: "The value of the ozone ETC in simulation S3, i.e. 2583, matches the one obtained without stray light in the model".

2)Given the significant role of travelling standard # 017 in history, a recommendation of reprocessing the historical data measured by those single Brewer spectrophotometers which had been periodically calibrated by #017 had better been added in "3.2.5 Changes in stray light with time" when Table IV is shown.

We appreciate this important comment. Added the following text to the discussion section: “5. Past calibrations when either the reference or the field Brewer, or both, were instruments affected by stray light, need to be reprocessed using PHYCS and then the data from the field Brewers reanalyzed. ”