

Interactive comment on “An Automated Method for Preparing and Calibrating Electrochemical Concentration Cell (ECC) Ozonesondes” by Francis J. Schmidlin and Bruno A. Hoegger

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Reply to Referee #1

Reply to General Comments

We acknowledge the referee's suggestion that this paper could be two parts. Our intention is to convey the idea of an automated bench and its usefulness. The data shown are examples meant to demonstrate results obtainable with the digital bench. We are removing the section discussing BESOS.

Reply to Specific comments

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Reply to specific comment #1

We intend to retain the present title since the examples given are meant to demonstrate the advantage of the bench.

Reply to Specific comment #2.

We agree. A statement will be included that addresses operational use of the bench. Note, the bench was used intermittently until 2017 when components began to fail and a resource to maintain the bench were not available.

Reply to Specific Comment #3

There are no known improvements made to the Wallops bench although it is not as sophisticated as the MeteoSwiss unit. We are aware that the MeteoSwiss unit has been updated with up-to-date components.

Reply to specific comment #4

Instrument information about the mass flow meter and UV photometer (TEI 49C) will be added.

Reply to specific comment #5.

We have changed the text to indicate the sequence used to fill the cells.

Reply to specific comment #6.

Text is wrong. Correction made, now reads 10 minutes

Reply to specific comment #7.

Agree. Text has been added.

Reply to specific comment #8.

Additional text will be added.

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Reply to specific comment #9.

Agree. Replaced 'ideal' with 'useful'.

Reply to specific comment #10.

We are endeavoring to provide additional information. Figure 3 will be updated.

Reply to specific comment #11.

We believe one example is enough with which to describe the ECC characteristic discussed. One or two more such figures are possible, but we feel adds no additional information.

Reply to specific comment #12.

The sentence will be removed.

Reply to specific comment #13.

The BESOS discussion and Fig 5 are being removed. JOSIE2000 is not discussed because there were no simultaneous measurements of SPC 6AECC's with 1.0 and 0.5 percent KI solutions prepared by the same lab. The ECC's also were prepared by different participating labs using that labs operational procedure.

Reply to specific comment #14.

We agree the statement could be argumentative and have removed it.

Reply to specific comment #15.

Unfortunately, dual flights using ECC's calibrated with the bench were not carried out.

Reply to Technical Comments

Reply to technical comment #1.

Changed nb to mPa.

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Reply to technical comment #2.

Text and figures relating to BESOS have been removed.

Reply to technical comment #3.

Done. Removed the extra 'the'.

Reply to technical comment #4.

The use of ppb is an error and should be mPa.

Reply to technical comment #5.

There is one ozone generator outlet. HI OZONE is from an independent source. The computer prompt instructs the operator to turn HI OZONE on after which the computer handles the rest. The Figure is being corrected. There is a wired connection to the mass flow meter.

Reply to technical comment #6

The earlier plot was of a single measurement. Fig contains average measurements.

Reply to technical comment #7.

Will add the correct $N=12$.

Interactive comment on Atmos. Meas. Tech. Discuss., doi:10.5194/amt-2019-168, 2019.

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