The paper "Intercomparison of TCCON data from two Fourier transform spectrometers at Lauder, New Zealand" by Pollard et al. presents an intercomparison of two high-resolution Fourier transform spectrometer measurements to assure the continuity of the Lauder TCCON data. Pollard et al. demonstrate that the difference between the column-averaged dry-air mole fraction of carbon dioxide (X_{CO_2}) data obtained from the two instruments is well below the uncertainty of the TCCON product.

The Lauder TCCON data have been widely used for carbon cycle studies and validation of satellite-based greenhouse gas and carbon monoxide measurements. The topic of this paper is significant for those research fields and well suited to *Atmospheric Measurement Techniques*. This paper is concisely written and contains a full description of the instrumental intercomparison. I therefore recommend publication of this paper after correcting and addressing several minor concerns below.

Specific comments

L80-81: X_{air} is scaled by the O_2 column because Equation (2) can be rewritten as follows:
$$X_{air} = \left(VC_{air} - VC_{H_2O} \frac{m_{H_2O}}{m_{air}} \right) \frac{0.2095}{VC_{O_2}}$$

The reason X_{air} is used as a diagnostic of the measurement system is that the ratio between the retrieved columns is not taken for X_{air}.

L146: The median shift relative to the central wavenumber $\Delta v/v$ is -0.469×10^6 ($-0.469 \Delta v/v \times 10^6$ is not the median shift). In addition, please define the variables Δv and v or $\Delta v/v$.

L154: Please clarify what the solar gas shift (SGS) means, in relation to just above sentence [GFIT accounts for …].

L184: It is unclear why "a small difference in the computed airmass for forward and reverse scans" induces the difference between the X_{gas} data from the two instruments. Do the authors mean "a small error in the computed airmass (i.e., an error in zero path difference time)"?

L186-187: Please cite references for the values of the expected uncertainty of the retrieval scheme (0.25%) and the target site-to-site bias (0.2%). Provided that there are expected uncertainties of the retrieval scheme and target site-to-site bias for X_{CH_4} and X_{CO}, I recommend specifying a similar evaluation here.

L197: October 2018 -> October and November 2018 (to be consistent with Abstract and Introduction)

Caption of Table 1: Transform -> transform