

You currently use either of two acronyms for the Los Gatos. I suggest sticking with just one, preferably “LGR”, which is more intuitive.

Pg 2, Line 1 – The addition to this sentence doesn’t make sense the way it is currently phrased since labor and calibration cases are not part of the analyzer cost. Suggest: “...high-precision analyzers can cost upwards of \$100,000 per site, plus any additional costs for labor, calibration gases and installation of equipment such as inlet lines.”

Pg 2, Line 13 – Suggest for clarity: “Observing system simulation experiments (OSSE) have found that a higher spatial density of observations in these urban regions could better constrain emission estimates, even if the absolute uncertainty of the observations is higher (Turner et al., 2016; Wu et al., 2016; Lopez-Coto et al., under review), but a trade-off between total network cost and inversion constraint must be balanced, and this result depends on the assumptions of the OSSE.”

Pg 2, Line 34 – “precision”; do you mean accuracy?

Pg 3, Line 14 – Suggest: “...including the COZIR ambient sensor and Telaire T6615, which have manufacturer specified accuracies of ± 50 ppm ± 3 % and ± 75 ppm respectively.”

Pg 7, Line 5 – Suggest for clarity: “using a reference tank of breathing air connected to a Dasibi Model 5008 calibrator, which was used to schedule the input of calibration gas”

Pg 7, Line 4 – Suggest: “...for a period of one hour, initially, and later, ten minutes, to conserve...”

Pg 9, Line 4 – was → were

Pg 11, Line 23 – Suggest: “...but the coefficients are calculated using only data from the first 15 days.”

Page 12, Lines 3, 5, 7 – uniform → generalized

Figure 8 – The points used (blue) in the top panel represent the vast majority of points. Showing the extra red points at the end of the timeseries seems to add unnecessary complexity to the plot. Why not just cutoff the plot at 25 days or else use all the points in the regression?

Figure 9 – Could add a legend with K30 number so we can relate it back to Fig 4, Table 1.

Section 6.3 – To compute a generalized equation, I would have grouped the data from all sensors and fit a single regression. Does this yield the same result as averaging the coefficients from the individual fits as you did?