

Interactive comment on “Performance of a low-cost methane sensor for ambient concentration measurements in preliminary studies” by W. Eugster and G. W. Kling

H. Adam (Referee)

hadam@boreal-laser.com

Received and published: 7 June 2012

General comments: A strategy of deploying low cost gas sensors for screening studies of Greenhouse Gases in remote locations is obviously desirable. It's impressive that the authors were able to demonstrate good correlation between the TGS 2600 and the LGR reference analyzer – even if only for a limited sample of the acquired data set.

Specific comments:

1. The significant amount of data manipulation and resulting corrections seem limited in their utility to temperature and humidity ranges which exist during only a minority of
C1211

the time at the high latitudes of the field location. Perhaps these are the only times of the year during which CH₄ variations are important and require to be monitored; but this point is not emphasized in the discussion.

2. The cost-benefit of deploying the specific TGS 2600 gas sensor is neither discussed nor obvious. The balance of equipment and logistics costs associated with such screening studies at locations like Toolik Lake is considerable. Are the incremental savings produced by using the low cost gas sensors, with the associated data corrections and resulting limited data availability worth the effort compared with using admittedly more expensive CH₄ sensors that would require less data manipulation and provide greater data availability (including over greater range of temperature and humidity)? Quantitative analysis of such economics would be desirable.

Interactive comment on Atmos. Meas. Tech. Discuss., 5, 2567, 2012.