Interactive comment on “Remotely operable compact instruments for measuring atmospheric CO$_2$ and CH$_4$ column densities at surface monitoring sites” by N. Kobayashi et al.

N. Kobayashi et al.
kawasaki@moleng.kyoto-u.ac.jp

Received and published: 27 April 2010

#1 We have added the following descriptions and one figure to the text in the beginning of Section 2 “Instrumental design”.

A block diagram for data acquisition is shown in Fig. 1: two small telescopes for the FFPI and OSA are installed on a sun tracker attached with a GPS. Photoabsorption intensity by FFPI, solar intensity reference signal by a near infrared detector, geophysical data from GPS and metrological data are accumulated in a laptop computer PC1 that controls also the temperature of the FFPI optical element. OSA spectra and reference solar intensity signals are recorded by another laptop computer PC2. This grating-operated OSA is commercially available and has an automatic self-alignment function for optics as well as wavelength calibration.

#2 These instruments can be used in some special areas require validation.

Sun Tracker with GPS & Two Telescopes

Pressure, temperature & humidity
latitude, longitude, elevation, a.s.l., azimuth, sunlight intensity

Temp. Controller

FFPI
Optical Fibers
Signals

OSA

Ref

Laptop PC1

Ref

Laptop PC2

Fig. 1

Fig. 1.