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Atmospheric Measurement Techniques Discussions

Interactive comment on "A cavity ring down/cavity enhanced absorption device for measurement of ambient NO_3 and N_2O_5" *by* G. Schuster et al.

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Dear Authors,

Very interesting and comprehensive work!

I have just a few comments.

1. It is unclear from your description of an optical set-up how an off-axis alignment is arranged. Moreover, your conclusions on necessity of an optical isolator give some doubts that it is truly off-axis alignment as 2nd reviewer has already pointed out. Typically, there is no need for any optical isolator in off-axis CEAS. However, when there are excitations of TEM11, TEM22 and some high order TEM cavity modes (on-axis alignment) than an optical isolation between a laser and a cavity is necessary. It would

be much clear for a reader if you would report what an approximate dimension of output light spot was observed on a cavity output mirror in a way as, for example, it was described in Ayers, J. D. et al publication.

2. It is still unclear about origin of discrepancy between CRD and CEAS concentrations. Are these errors due to amplified spontaneous emission coming through the interference filter (in this case the equation (2) should include an amplified spontaneous emission intensity) or due to PMT output drift. Could you report on bandwidths of 662 nm interference filter and high reflectivity mirrors?

3. The same letter "I" was used for light intensity (page 74, line 13), optical path length (p.74, line 18) and length of glass T-piece (page 75, line 11).

Best regards,

V. Kasyutich

Interactive comment on Atmos. Meas. Tech. Discuss., 1, 67, 2008.