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Atmospheric Measurement Techniques

Corrigendum to

"Broadband Cavity Enhanced Differential Optical Absorption Spectroscopy (CE-DOAS) – applicability and corrections" published in Atmos. Meas. Tech., 2, 713–723, 2009

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In the manuscript published in Atmospheric Measurement Techniques:

"Broadband Cavity Enhanced Differential Optical Absorption Spectroscopy (CE-DOAS) – applicability and corrections" published in Atmos. Meas. Tech., 2, 713–723, 2009 by U. Platt et al., due to a communication problem the captions of the first three figures are permutated:

– Caption printed under Fig. 1 should be under Fig. 3

– Caption printed under Fig. 2 should be under Fig. 1

– Caption printed under Fig. 3 should be under Fig. 2

In the following the Figs. 1–3 of the above paper are reproduced with the correct captions:

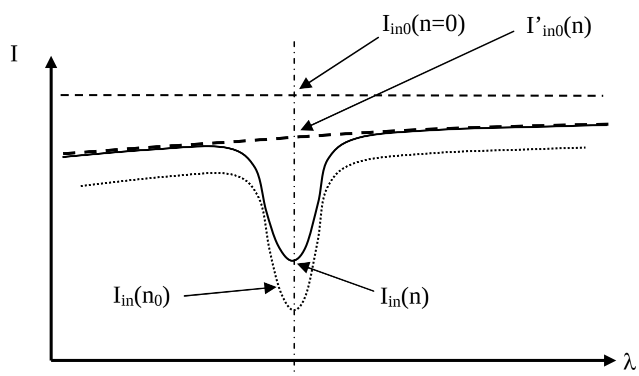

Fig. 1. Sketch of intensities vs. wavelength: $I_{\mathrm{in0}}(n_0)$: intensity (after n_0 passes through the cavity) in the pure air filled cavity without any absorbers, $I'_{\mathrm{in0}}(n)$: intensity (after n passes through the cavity) after any continuous absorption (due to gases or aerosol) has taken place. $I_{\mathrm{in}}(n)$: Intensity after n passes through the cavity including also differential absorptions (note that n varies with wavelength since the trace gas absorption cross section varies with wavelength). $I_{\mathrm{in}}(n_0)$: Theoretical intensity for the same absorptions if the number of traverses were not reduced.

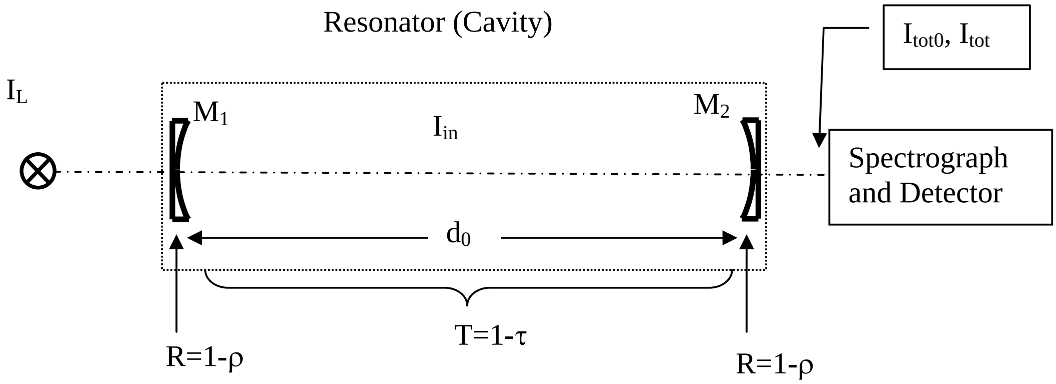

Fig. 2. Sketch of CEAS set-up. The optical resonator is formed by two concave mirrors M_1 and M_2, both with the same reflectivity $R = 1-\rho$. The transmission factor for one traverse through the cavity is $T = 1-\tau$=$1-\varepsilon d_0$. The intensity of the radiation emitted by the source is I_L (transfer optics between light source and resonator is not shown).

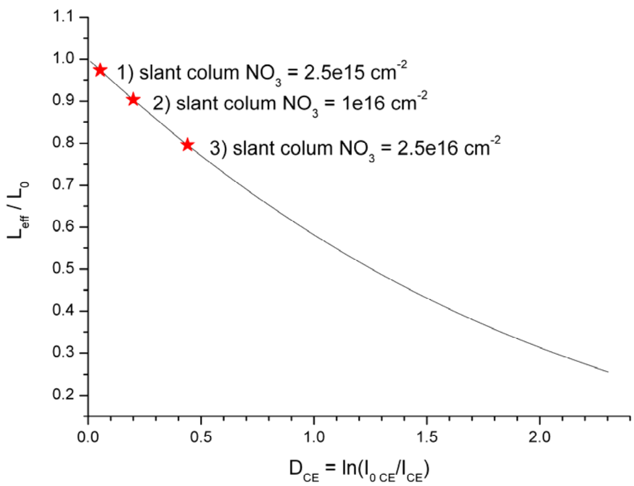

Fig. 3. Reduction of the light path L_{eff} in a cavity due to extinction in the cavity (expressed as optical density D_{CE}). Plotted is the ratio L_{eff}/L_0, where L_0 denotes the average light path in an empty (air filled) cavity as described in the text. For illustration the effective light paths at 662 nm (peak of the NO_3 absorption band) for three realistic NO_3 total column densities (in cm^{-2}) in the cavity are also shown (see Meinen et al., 2009).