

Interactive comment on “A remote sensing technique for global monitoring of power plant CO₂ emissions from space and related applications” by H. Bovensmann et al.

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Answers to the comments of S. Kulawik to Bovensmann et al., "A remote sensing technique for global monitoring of power plant CO₂ emissions from space and related applications".

In the revised version of the paper we will cite the Kulawik et al. paper on TES CO₂.

Answer to comment on Table 5: For the revised version of the paper we will add additional information such as XCO₂ relative enhancement due to the plume (the 3 percent enhancement is only valid for a given emission and wind speed) and number of ground pixels where the enhancement is larger than the assumed retrieval precision, for exam-

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ple. This will allow to obtain other quantities such as the "uncertainty in the plume" as requested. To infer the CO₂ emission from the retrieved XCO₂ it has to be assumed that the CO₂ profile above the power plant plume is not correlated with the (horizontal dependence) of the power plant plume which is a reasonable assumption. The XCO₂ background field is assumed to vary only smoothly around the power plant. This is a good assumption if there are no strong CO₂ sources and sinks near the power plant. There may however be cases where this assumption is not valid. In any case the surrounding area of the power plant needs to be considered in the analysis.

Interactive comment on Atmos. Meas. Tech. Discuss., 3, 55, 2010.

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