

## ***Interactive comment on “A remote sensing technique for global monitoring of power plant CO<sub>2</sub> emissions from space and related applications” by H. Bovensmann et al.***

**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 CO<sub>2</sub> emissions from space and related applications".

In the revised version of the paper we will cite the Kulawik et al. paper on TES CO<sub>2</sub>.

Answer to comment on Table 5: For the revised version of the paper we will add additional information such as XCO<sub>2</sub> 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 example

ple. This will allow to obtain other quantities such as the "uncertainty in the plume" as requested. To infer the CO<sub>2</sub> emission from the retrieved XCO<sub>2</sub> it has to be assumed that the CO<sub>2</sub> profile above the power plant plume is not correlated with the (horizontal dependence) of the power plant plume which is a reasonable assumption. The XCO<sub>2</sub> background field is assumed to vary only smoothly around the power plant. This is a good assumption if there are no strong CO<sub>2</sub> 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.

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