

# ***Interactive comment on “Retrieval of absolute SO<sub>2</sub> column amounts from scattered-light spectra – Implications for the evaluation of data from automated DOAS Networks” by Peter Lübcke et al.***

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Thank you for the opportunity to review for AMT.

I am recommending minor revisions here.

This article concerns an important area of interest in terms of scanning DOAS measurements of volcanic sulphur dioxide emissions. These data are now routinely collected at a number of volcanoes worldwide, in particular via the NOVAC project, which this article pertains to. The data are a significant component of the work of volcano observatories in terms of monitoring and this article describes an important contribution to ensuring data integrity in respect of spectral processing methodologies. In partic-

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ular the paper details an approach concerning use of modeled rather than measured Fraunhofer spectra in the retrievals.

In my opinion the paper is very well written with excellent structure throughout, strong demonstration of the key points and scientific integrity.

The only point which I would recommend that the authors consider, is regarding the operational utility of this approach. There is no doubt that could be a useful refinement of currently adopted protocols in terms of scanning DOAS measurements. However, the transference of this approach into routine application in volcano observatories internationally, in particular by staff who are not necessarily expert in remote sensing, could be another matter. Perhaps the authors could comment on how transferable this approach could be into operational utilisation e.g., would it require spectroscopic knowledge from the user community, or could user-friendly programs be written to enable non-experts to benefit from these developments. Some more text anticipating how this approach could be transitioned into operational usage could really help with uptake from the end user community.

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