

## ***Interactive comment on “Satellite measurements of formaldehyde from shipping emissions” by T. Marbach et al.***

### **Anonymous Referee #2**

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This paper presents satellite retrievals of formaldehyde, in particular over the shipping lanes between Sri Lanka and Sumatra. The Method section is well-written, describing the retrievals, as well as presenting some validation results. However, the modeling component of this work does not seem to add much to the analysis; many questions remain about the cause of the differences between the model and the observations.

The question of whether model resolution or emission inventories cause the lower modeled amount might be addressed by comparing the model NO/NO<sub>2</sub> with GOME NO<sub>2</sub> observed along this track. Also, some model sensitivity studies, such as where the ship emissions of HCs are turned off, would be interesting. More examination of the model results of other compounds, illustrating the perturbation to OH, etc., along the ship track would provide useful justification of the discussion on p. 10498.

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A more technical point, I found the description of the model output that was used rather confusing. It is stated that output is archived as 5-hourly instantaneous fields, and later, that the monthly mean is filtered for local time between 10 and 11 am. Does this mean the monthly mean does not include a value for each day of the month (because of the 5 hour output)? It would be much better if the output could be coincident in time with each satellite overpass. If this is the case, it should be stated more clearly.

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Interactive comment on Atmos. Chem. Phys. Discuss., 9, 10487, 2009.

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