

## ***Interactive comment on “The two-way nested global chemistry-transport zoom model TM5: algorithm and applications” by M. Krol et al.***

**M. Krol et al.**

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First, the reviewer remarks that the title of the article should change in order to precise that we do not present a full validation of the TM5 model. Second, a more complete analysis of continuous  $^{222}\text{Rn}$  measurements over Europe is called for. Concerning the title, we were already quite cautious not to mention the word validation, because we are well aware that a validation, especially of the chemistry, requires much more work. Therefore we think that the title as it stands is appropriate for the article. We explain in detail the zoom algorithm and we show a couple of applications. First, a detailed analysis of the Finokalia  $^{222}\text{Rn}$  measurements. Second, the effects of resolution on transport and budgets of artificial tracers. The title suggested by the reviewer does not add much in our opinion.

Using more stations in the  $^{222}\text{Rn}$  study is a good suggestion. Also, we must admit that we missed the Chevillard (2002) reference. We will correct this and also add a

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comparison with  $^{222}\text{Rn}$  measurements.

Minor technical remarks are about the role of the intermediate (3x2) grid and the break in symmetrical splitting. We will investigate the first issue, but do not know how to investigate the second issue. Given the zoom algorithm, a perfect symmetrical operator splitting is not possible. So we cannot investigate how much accuracy is lost. In the final version, we will be more clear about this issue.

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Interactive comment on Atmos. Chem. Phys. Discuss., 4, 3975, 2004.

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