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Interactive comment on "Technical note: The Lagrangian particle dispersion model FLEXPART version 6.2" *by* A. Stohl et al.

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We thank the reviewer for her/his positive review of our paper.

On the issue of length, we have indicated already in our submission that the appendix of the paper could be removed, or moved to an electronic supplement. An argument for keeping it is that it would be most convenient for the users of FLEXPART to have everything in one document. However, we do not have a strong opinion on this issue and, thus, we will ask the editor for guidance. Perhaps the other reviewers could express their opinion, too, in order to help decide.

Regarding parallelization of the code, it is absolutely true that a parallelized version would run faster than a single run of the non-parallelized FLEXPART. However, as par-

ticles are advected truly independently from each other, one can also submit several independent FLEXPART simulations to the different processors. We do this, for instance, by splitting a period for which backward simulations from a receptor site are to be made into several parts and do backward simulations for sub-periods on different processors. As normally parallelization is not 100% effective, this strategy is likely more efficient than submitting a single parallelized FLEXPART version for the whole period to all processors. However, we admit that if simulation periods overlap, some overhead (e.g., calculation of boundary layer heights, etc.) that is independent from the actual particle advection would not need to be duplicated in a parallelized code. But normally this contributes only marginally to a FLEXPART simulation.

Regarding the re-compilation, as maxpointspec is a Fortran parameter, the code must be re-compiled in order to make the change effective in the executable code.

Regarding the 15-m reference height for dry deposition, the results are not sensitive to the exact choice of this value, as long as this height is located in the constant-flux layer. In order to ensure that this is always the case, a lower height would be better, however, this would have the disadvantage that particle statistics get worse, as fewer particles would be located beneath twice the reference height (only for these particles, dry deposition is calculated). Several years ago, we did sensitivity simulations with various reference heights and with a large number of particles and found only minimal sensitivity in a variety of meteorological situations.

Interactive comment on Atmos. Chem. Phys. Discuss., 5, 4739, 2005.