

Point-by-point response to the reviews can be found in the interactive discussion under the referee's comment (files gmdd-7-C1478-2014.pdf and gmdd-7-C1482-2014.pdf).

The review process lead us to modify the original paper substantially. Here is a list of “relevant changes made”.

1. Abstract modified according to the new findings (see below)
2. derivation of equation 9 (formerly 8) refined (also added an extra step)
3. equation 12 (formerly 11) rewritten correctly (however it was already was correct in the numerical code)
4. section 3.2 “Discretization and interpolation” completely revised (different method added according to suggestion of ref#1 and one method because redundant)
5. in section 3.3 “Integration scheme and time-step selection” added additional constraint to the method described in the previous version.
6. As a consequence of the changes made (see point 4 and 5 above), the section 4 “Model verification: the well-mixed condition” was deeply revised and modified:
  1. Different selection of tested profiles
  2. addition of an extra test and, consequently a figure in subsection 4.1
  3. different organization (because of different schemes and results) of subsection 4.2
  4. added subsection 4.3 with two figures.
7. Conclusions revised accordingly