Biogeosciences Open Access
Discussions

Interactive comment on "Technical Note: Simple formulations and solutions of the dual-phase diffusive transport for biogeochemical modeling" by J. Y. Tang and W. J. Riley

Anonymous Referee #2

Received and published: 10 June 2014

This is a solid paper presenting a good numerical method for 1D soil gaseous diffusion problems. The manuscript is well written, and the ideas are clearly demonstrated. Given the popularity of finite volume methods in numerical fluid simulations in recent years, this is a timely paper that transfers the knowledge to the biogeochemical modeling community.

Minor comments:

Line 11, Page 1588: Should the second mention of steady-state soil CO_2 dynamics be for soil CH_4 dynamics?

Line 14, Page 1588: results?

Equations 17a/b/c, Page 1597: Please use either commas or spaces before each "j = "

Table 2: Provide Ca in units of mol m-3? (as listed in Table A1)

Figure 3: The N100 numerical solution deviates a bit from the analytical solution, is this because of the discontinuity in the source profile?

Interactive comment on Biogeosciences Discuss., 11, 1587, 2014.