

Interactive comment on “Aluminium and base cation chemistry in dynamic acidification models – need for a reappraisal?” by Jon Petter Gustafsson et al.

Anonymous Referee #2

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Major remark This paper addresses a very relevant topic related to the role of organic complexation in view of soil acidification modelling. This has been discussed for more than several decades, but still not commonly used.

This paper clearly fits within the scope of SOIL. However, it is a pity that it only includes hypothetical scenario analysis illustrating the differences between the two concepts (ion exchange' versus 'organic complexation' models). Overall, the paper is a rather technical description various types of modelling approaches. This makes the paper less relevant for a broader audience. More important, however, a comparison with observations (such as pH, Al concentration and base saturation) is missing. Such a

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comparison is absolutely needed to judge the performance of both concepts. I realize that this is not an easy task, but a validation/application of the presented modelling concept by using e.g. the Gårdsjön observations or observations from Wesselink and Mulder (1995) and/or Bonten et al. (2001) must be doable.

I therefore conclude that, although the current manuscript addresses a relevant issue and is well written, a major revision is required because a comparison with observations is missing.

Please also note the supplement to this comment:
<https://www.soil-discuss.net/soil-2018-19/soil-2018-19-RC2-supplement.pdf>

Interactive comment on SOIL Discuss., <https://doi.org/10.5194/soil-2018-19>, 2018.

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