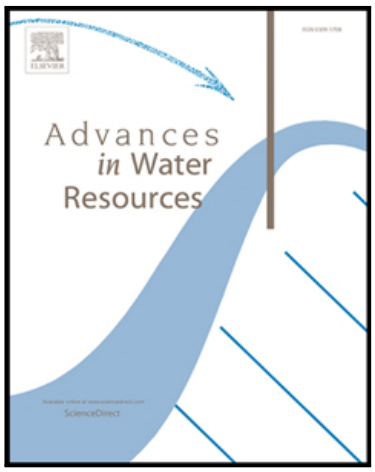
Accepted Manuscript



Multiscale Modelling of Dual-Porosity Porous Media; A Computational Pore-Scale Study for Flow and Solute Transport

Enno T. de Vries , Amir Raoof , Martinus Th. van Genuchten

PII: S0309-1708(16)30748-5
DOI: 10.1016/j.advwatres.2017.04.013
Reference: ADWR 2828

To appear in: *Advances in Water Resources*

Received date: 8 December 2016
Revised date: 18 April 2017
Accepted date: 19 April 2017

Please cite this article as: Enno T. de Vries , Amir Raoof , Martinus Th. van Genuchten , Multiscale Modelling of Dual-Porosity Porous Media; A Computational Pore-Scale Study for Flow and Solute Transport, *Advances in Water Resources* (2017), doi: 10.1016/j.advwatres.2017.04.013

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

ACCEPTED MANUSCRIPT

Highlights

- Increased aggregate porosity increased the mass transfer coefficient and resulted long tailing of BTCs.
- With decreased pore velocities in the aggregated domain, the mass transfer term decreased while long tailing was observed in the BTCs.
- The velocity ratio between the aggregated and macro domain could explain the magnitude of tailing observed in the BTCs.
- We have showed that a dual-porosity pore network generator provides the possibility to model the interaction between the macro domain (inter aggregate pores) and aggregated domain (intra aggregate pores).
- The flexibility of the developed generator provides a tool for analyzing pore scale properties, like aggregate porosity, and provides a new method for determining flow and transport parameters for dual-porosity porous media.

ACCEPTED MANUSCRIPT

Download English Version:

https://daneshyari.com/en/article/5763709

Download Persian Version:

https://daneshyari.com/article/5763709

Daneshyari.com