Hydrology and
Earth System
Sciences

Open Access

Discussions

EGU

Interactive comment on "Governing equations of transient soil water flow and soil water flux in multi – dimensional fractional anisotropic media and fractional time" *by* M. L. Kavvas et al.

Anonymous Referee #1

Received and published: 9 November 2016

This study derived the multi-dimensional fractional governing equation for soil water flow (Richards equation). The consistency check of dimension in the fractional governing equation is useful for application of this theory. I appreciate the effort on new mathematical techniques applied to hydrological governing equations. Therefore, I believe that this study is worth to be published in this journal. Followings are my additional questions/requests to the authors: It is interesting to see the some solutions of this equation, which might characterize some peculiar water flow patterns in soil matrix, if you have any. I am also curious that the physical meanings of the fractional governing equation. If the authors have any idea or even speculation about them, it would be very interesting to hear.