

***Interactive comment on “Synchrotron
microtomographic quantification of geometrical
soil pore characteristics affected by compaction”
by R. P. Udawatta et al.***

Anonymous Referee #1

Received and published: 4 August 2015

The paper addresses questions that both Agronomists and GeoTech Engineers have about soil behavior. Using the Synchrotron for micro computed tomography is novel. It will not likely become a routine test tool but in this case sheds light on how soils compact. I cannot imagine this work not being of interest to many Agronomists and GeoTech Engineers alike around the world.

I found the analysis protocol easy to follow. The image analysis followed the usual steps and approaches for addressing problems. The literature review was thorough and appropriate. The paper was well written. The authors demonstrated that aggregate size, pore radii, path length, and coordination number of paths could be measured

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directly. The significance of these direct measurements is that now a technique has been demonstrated that enables forensic investigations of soils in situations where contaminants have been transported.

Some specific suggestions follow:

In section 2.3, last sentence, remove the comma. In the introduction, more clearly state the hypothesis of the work. In the literature review, more clearly state why this work is needed and what benefits it offers. In the conclusion, tighten up the conclusion statement in the light of the more clearly stated hypothesis and significance.

Interactive comment on SOIL Discuss., 2, 825, 2015.