



## **Visualisation of intra-aggregate pore space in 3-D and effects of perimeter fractal dimension on pore network stability**

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The visualisation and quantification of the porous architecture in 2-D and 3-D is of great importance for our understanding of many soil functions. This paper deals with the effects of pore morphology on soil aggregate stability and discusses the concerns of using the perimeter-area relationship to characterise pore roughness (perimeter fractal dimension). Soil intra-aggregate porosity was measured using X-ray Computed Tomography (CT) (3-D) at both the macro and microscale and soil thin sections (2-D) and the perimeter fractal dimension used to describe pore roughness, an important measure for assessing pore network stability when modelling hydraulic processes. A comparison of the effectiveness of X-ray CT compared to soil thin sections to represent pore space was also performed. New concepts for linking measurements of pore architecture obtained using different techniques are also proposed.