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## Network models of soil porous structure

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Soils sustain life on Earth. In times of increasing anthropogenic demands on soils [1] there is growing need to seek for novel approaches to understand the relationships between the soil porous structure and specific soil functions. Recently [2-4], soil pore structure was described as a complex network of pores using spatially embedded varying fitness network model [2] or heterogeneous preferential attachment scheme [3-4], both approaches revealing the apparent scale-free topology of soils. Here, we show, using a large set of soil images of structures obtained by X-ray computed tomography that both methods predict topological similar networks of soil pore structures. Furthermore, by analyzing the node-node link correlation properties of the obtained networks we suggest an approach to quantify the complexity of soil pore structure.

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