

## Grain-scale simulations of the formation factors of sandy sediments containing conductive iron oxides

Yoshito Nakashima<sup>1\*</sup>

<sup>1</sup>AIST

The formation factors of geo-samples are important when interpreting data obtained by geophysical exploration. Geo-samples often contain conductive solid minerals such as iron oxide (sandy sediment from Niijima Island, Fig. 1). The formation factor value depends on the two quantities: volume fraction and three-dimensional connectivity of the conductive mineral. The computer simulations were performed according to Nakashima and Nakano (2012) for the synthetic grain-scale images of sandy sediments (mixture of quartz and iron oxide saturated with seawater) to show the dependence of the two quantities on the formation factors. This study was partly supported by JSPS KAKENHI (No. 23241012).

Ref: Nakashima and Nakano (2012) *Transport in Porous Media*, 93, 657-673. <http://dx.doi.org/10.1007/s11242-012-9976-1>

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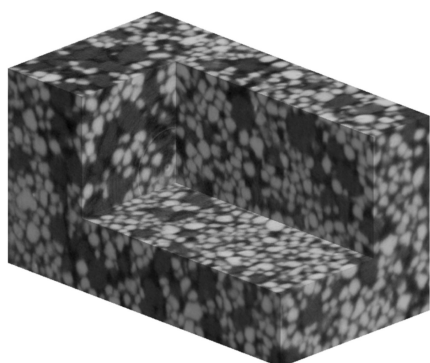


Fig. 1 X-ray microtomographic image of a sandy sediment sample, mixture of quartz (dark) and iron oxide (bright). The image dimension is 400x400x732 voxels = 3.7x3.7x6.8 mm<sup>3</sup>.