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Quantification of printed silicon aggregates using Ultra-small angle X-ray scattering

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Abstract content
 (Max 300 words)

Nanomaterials are being investigated to drive the production of low cost electronic devices. An example is the use of silicon nanoparticles and other semi conducting nanopaticles in printed electronics. The electrical property of the printed layers depends on some of the physical properties of the nanoparticles such as, the aggregate and cluster size of the particles, the connection in these aggregates, etc. In this work, an attempt to quantify aggregates of printed silicon nanoparticles and the branch properties is presented. Using Ultra-small Angle X-ray Scattering (USAXS) and a scaling model originally proposed for polymer structures, results are obtained which shows the model's applicability to nanoparticulate structures.

Apply to be
 consider for a student
 award (Yes / No)?

Yes

Level for award
 (Hons, MSc,
 PhD)?

PhD

Main supervisor (name and email)
and his / her institution

Prof. D.T. Britton, NanoSciences Innovation Centre, Department of Physics, University of Cape Town,

Would you like to
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Yes

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