ANTON JANSSON received his M.Sc. in Engineering Physics from Karlstad University, Sweden, in 2014. During 2014 to 2019 he was enrolled as a Ph.D. student at the School of Science and Technology, Mechanical Engineering department, at Örebro University, Sweden. In 2017 he achieved the title of Licentiate of Technology. Anton's main research interest lies in Computed Tomography and Additive Manufacturing.

Computed tomography is a non-destructive testing method that relies on X-ray light to build 3D volumes of samples and components. The volumes can be used to study, for example, material integrity and dimensions. Computed tomography stands apart from other non-destructive testing methods in that it can measure internal features in samples without damaging the samples. The ability of computed tomography to perform such measurements makes it an ideal tool for investigation of additive manufactured parts, who can contain controlled internal features. This thesis contains method development of computed tomography concerning measurability and detectability. The new methods were applied to industrial examples. In the thesis, investigations of complex lattice structures are also included where truss and surface lattices are compared in several aspects.

The contributions of this thesis are increased knowledge about complex material systems fabricated using additive manufacturing. Both concerning mechanical behaviour and internal features. A dual-energy tool for computed tomography was developed and successfully employed to increase the measurement consistency and measurability of complex material systems. The thesis also contributes to an increased understanding of lattice structures behaviour.

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ANTON JANSSON More Than a Shadow

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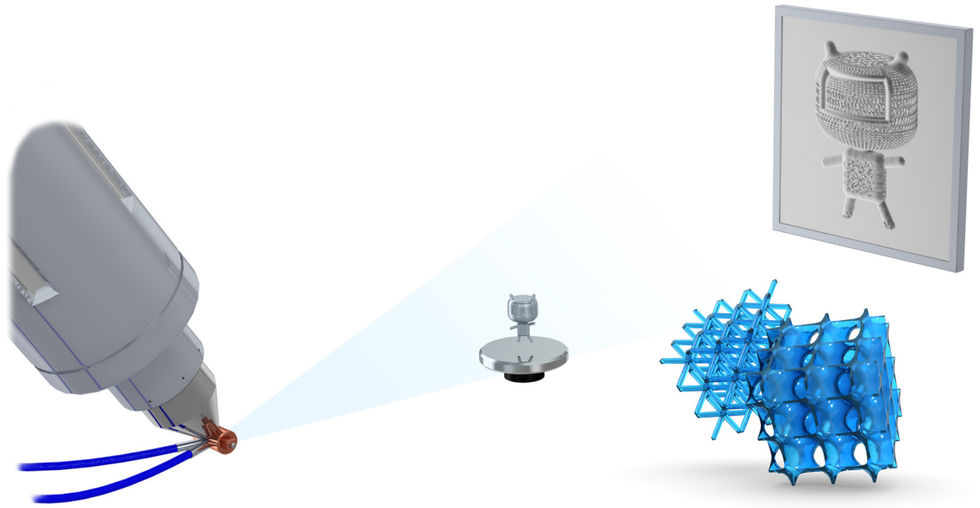
Doctoral Dissertation

More Than a Shadow
Computed Tomography Method Development and Applications Concerning Complex Material Systems

ANTON JANSSON
Mechanical Engineering



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