3D artefact for concurrent scale calibration in Computed Tomography - DTU Orbit (09/11/2017)

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A novel artefact for calibration of the scale in 3D X-ray Computed Tomography (CT) is presented. The artefact comprises a carbon fibre tubular structure on which a number of reference ruby spheres are glued. The artefact is positioned and scanned together with the workpiece inside the CT scanner providing a reference system for measurement. The artefact allows a considerable reduction of time by compressing the full process of calibration, scanning, measurement, and re-calibration, into a single process. The method allows a considerable reduction of the amount of data generated from CT scanning. A prototype was calibrated and its applicability demonstrated.

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