Title (en)

METHOD, ASSISTANCE SYSTEM AND 3D-PRINTER FOR COMPUTER-AIDED DESIGN OF OBJECTS FOR ADDITIVE MANUFACTURING

Title (de)

VERFAHREN, ASSISTENZSYSTEM UND 3D-DRUCKER ZUM RECHNERGESTÜTZTEN ENTWURF VON OBJEKTEN ZUR ADDITIVEN FERTIGUNG

Title (fr)

PROCÉDÉ, SYSTÈME D'ASSISTANCE ET IMPRIMANTE TRIDIMENSIONNELLE DE CONCEPTION ASSISTÉE PAR ORDINATEUR D'OBJETS POUR UNE FABRICATION ADDITIVE

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Application

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Abstract (en)

[origin: WO2017215898A1] According to the invention, design data (ED) are input for an object (OBJ) to be additively manufactured and to be optimised in terms of a physical optimisation target. A volumetric model (VM) of the object is initialised with a material distribution (D) according to the design data (ED), said volumetric model having a plurality of volume elements (VE). A respective local target property (GRD) relating to the optimisation target is then determined for volume elements (VE) of the volumetric model (VM), based on the material distribution (D). According to the invention, each volume element (VE) is checked to determine whether said volume element is supported in terms of additive manufacturing. Based on this, the target property (GRD) of this volume element (VE) is modified in such a way that it approaches the target property (GRD) if it is supported and/or moves away from the optimisation target if it is not supported. Based on the modified target properties (GRDMOD), the material distribution (D) is modified in such a way that the modified material distribution (DMOD) approaches the optimisation target. The modified material distribution (DMOD) is then output for the additive manufacturing of the object (OBJ).

IPC 8 full level

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