METHOD AND SYSTEM FOR ADDITIVE GENERATION OF OBJECTS

PRIORITY NUMBER:

102016000082653

KEYWORDS:

3D printing

Slicing

Parametric-adaptive surfaces

The slicing procedure covered by the patent is based on the definition of a family of parametric-adaptive surfaces which, therefore, can be modified in order to obtain, for each object, not only the desired aesthetic and finishing characteristics, but also techniques, ensuring for example, the possibility to generate layers with variable thickness.

Interreg
Fondo Europeo di Sviluppo Regionale
UNIONE EUROPEA
ITALIA SVIZZERA - ITALIE SUISSE - ITALIEN SCHWEIZ
PMI NETWORK

www.pmi-network.eu

METHOD AND SYSTEM FOR ADDITIVE GENERATION OF OBJECTS

DESCRIPTION:

The method allows to generate the surfaces of the curved layers in a parametric-adaptive way, ensuring a continuous transition from one surface to another. Furthermore, the method allows local control of the geometry of each layer, allowing, for example, to locally manage the deposition direction and therefore the properties of the material. Since the slicing techniques according to planar trajectories constitute a particular case of the method object of the patent, it is possible, for the same object, to use more slicing strategies in order to optimize production times and costs. The method can also be used both for the generation and slicing of supports, and for lattice structures (latex), also allowing them to be oriented in order to achieve specific design objectives. Finally, the method can be applied to any type of geometry, that is, even if the latter is present, for example, holes and / or discontinuities, or it can be decomposed into several disjointed zones.

ADVANTAGES:

- Improvement of the surface finish;
- Reduction of finishing operations;
- Increase of cohesion between the different layers;
- Generation of layers with variable thickness.

APPLICATIONS:

- 3D printing software