

Nanomaterials for 2, 3, 4D printing

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Abstract

Additive manufacturing brings new opportunities in fabrication processes, which are based on printing. Nanomaterials such as metal nanoparticles and carbon nanotubes enable printing beyond color, towards fabrication of functional devices. The synthesis and formulations of nanoparticles and inks will be presented, along with their utilization in printed devices, responsive and 3D objects. New approaches for electrical circuits for printed electronics will be presented, as well as new materials and processes for 3D and 4D printing. Utilization of 3D and 4D printing technologies for fabrication of objects composed of ceramics, MOFs, shape memory polymers, elastomers and hydrogels will be demonstrated, for applications such as soft robotics, drug delivery systems and Internet of Things (IoT).

References

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