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»3D Printing Spatially Varying Color and Translucency«

PROBLEM

- Perceptually correct reproduction of material translucency for full color 3D printing
- Limitations of multi-material 3D printing systems
- Range of absorption, scattering, and refractive indices of available printing materials
- Small number of such materials that can be simultaneously combined in a single print
- Limited resolution with which they can arrange these materials
RESULT

Efficient and scalable pipeline for fabricating full-colored objects with spatially-varying translucency from practical and accessible input data

USP

This is the first approach that allows for printing full-color objects possessing almost opaque, translucent, and fully transparent parts, with both smooth and abrupt changes between these regions. This way the new method substantially enhances the degree of realism of 3D prints which is a prerequisite e.g. for the successful reproduction of digital twins. This opens up new application areas and expands existing markets for 3D printing.