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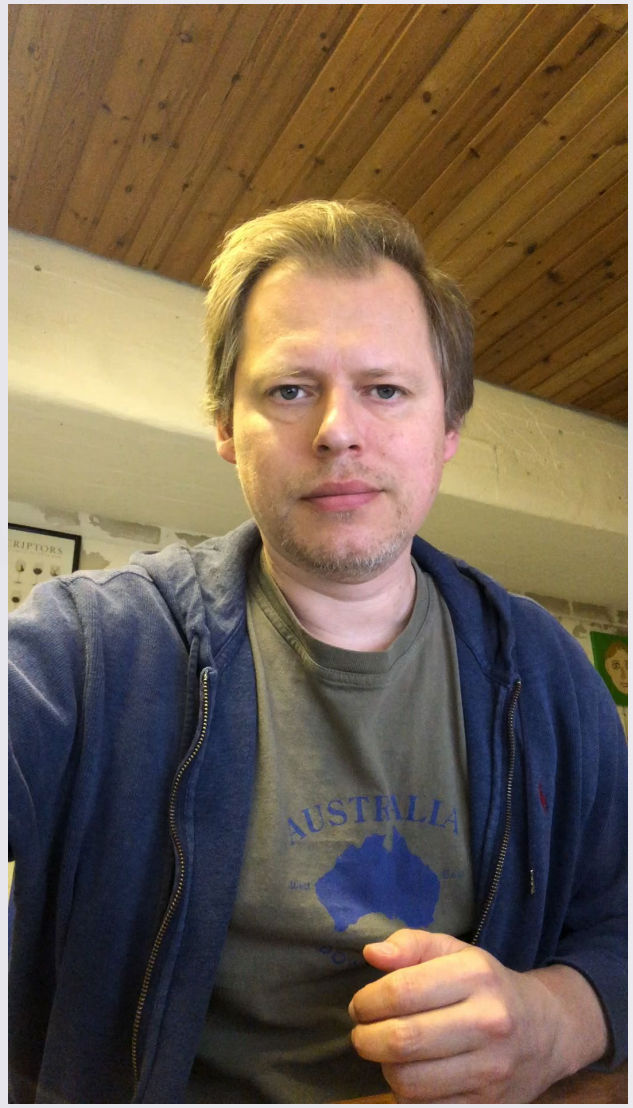

»Redefining A in RGBA: Towards a Standard for Graphical 3D Printing«

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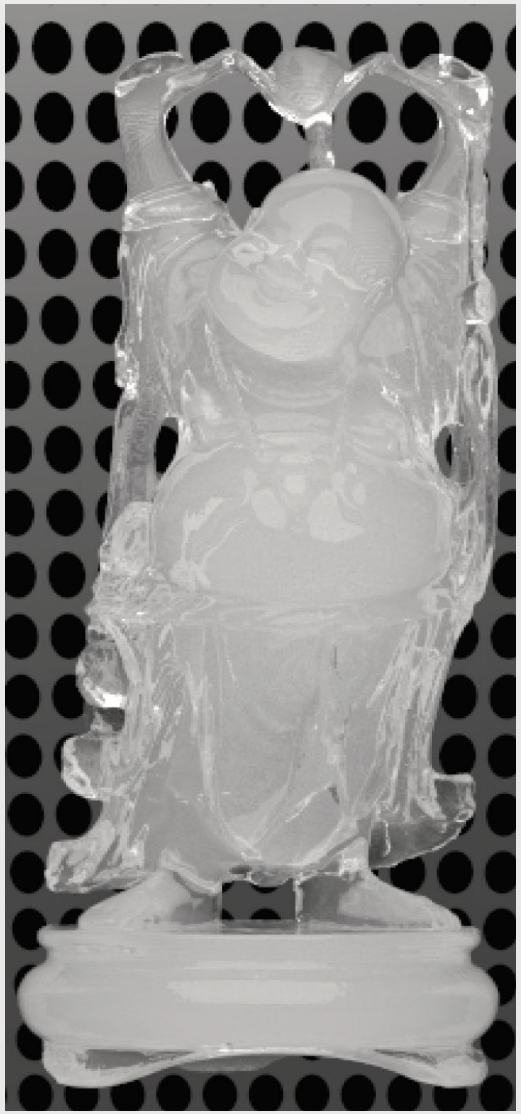
PROBLEM

- A in RGBA is not a physical of perceptual quantity
- Rescaling of objects for printing changes the appearance
- Physically correct interpretation and definition of A is urgently required
- Perceptually uniform scale of translucency needed for printing



How does rescaling for printing influence translucency?

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RESULT

- Redefinition of A designed for 3D printing
- Measurement setup for A
- Perceptually uniform translucency scale for A
- Device independence for measurement and reproduction

USP

This is the first redefinition of the A channel in RGBA that links A to physical material measurements. A is embedded in a nearly perceptually uniform translucency scale for a set of virtual reference materials. The new definition allows easy adjustment of A to preserve the appearance of translucent objects even at the scale commonly used for 3D printing.