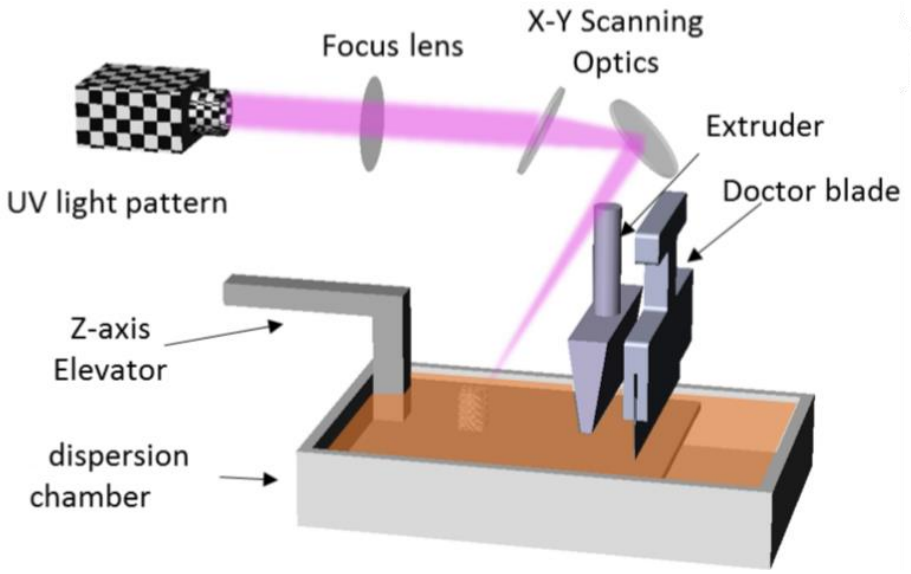
3D Printing Process Development for High-viscosity Piezoelectric Materials

✓ Bachelor- / Studien- / Masterarbeit

Piezoelectric composites, made of photopolymer and piezoelectric particles are 3D printable. They offer high flexibility, tailorable properties and high piezoelectric output while at the same time can have almost any geometry.

Increased piezoelectric ceramic content increases viscosity of the main building material and standard printing process does not work anymore. The prototype of tape-casting system is planned to be constructed as a part of 3D Printer.

However, the applicability of tape-casting for 3D printing purposes must be systematically investigated and evaluated.



Tasks:

- Proof of concept of tape-casting process for 3D printing of piezoelectric composites
- Construction of the prototype device
- Systematical investigation of the suitability of the device for high-viscosity material printing

Additional information:

- Part of experimental work will take place at DLR Braunschweig
- Multiple works on same topic possible (e.g. Studienarbeit + Masterarbeit)

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