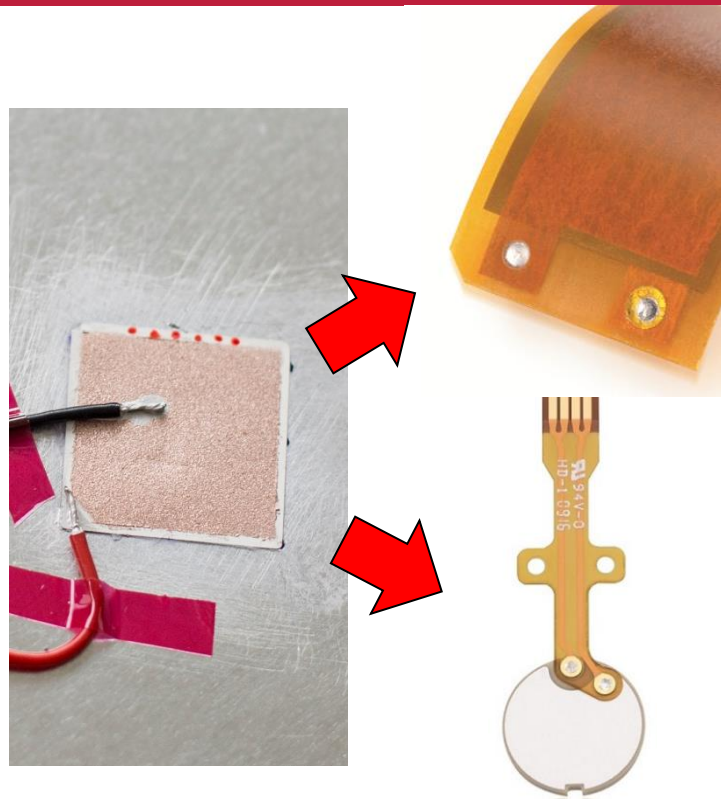
Insulation and protection of piezoelectric materials

✓ **Bachelor- / Studien- / Masterarbeit**

This work aims to develop a method to insulate complex geometry piezoelectric ceramic actuators and sensors, while protecting them from environmental influences, e.g. chemicals, but providing high actuation and sensing capabilities in wide temperature range.

Main interest is on high-performance plastics, available in various formats (liquids, foils, epoxies). The exact approach of insulation application must be developed, experimentally investigated and compared to other techniques. Some possible methods are already known and will be used for comparison as well.



Picture source: PI Ceramic

Tasks:

- State of the art of sensor insulation methods
- Selection of most promising insulation methods
- 3D printing of actuators and their preparation/insulation
- Experimental investigation of insulation method suitability

Additional information:

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

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