

TECHNISCHE UNIVERSITÄT DRESDEN

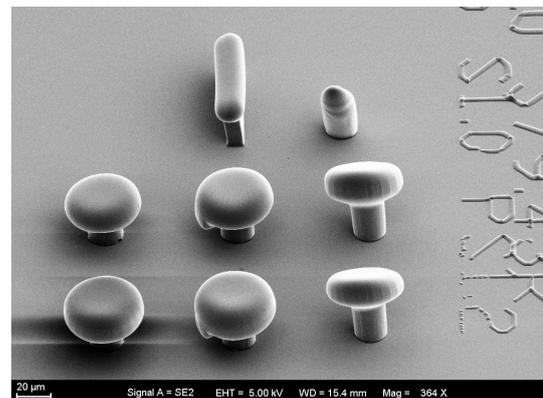
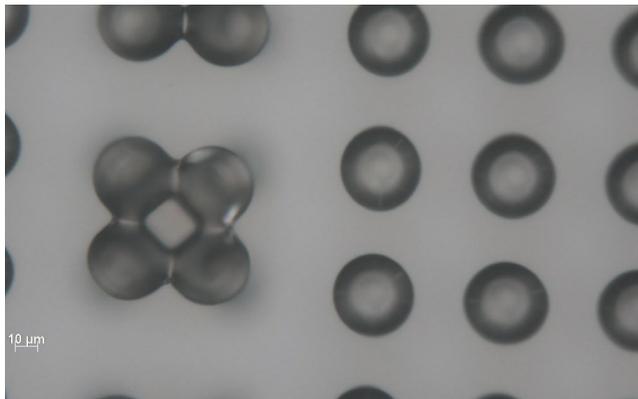
FAKULTÄT ELEKTROTECHNIK UND INFORMATIONSTECHNIK

3D printing task

Topic: „Soft Gripper“

Goal:

Various assembly tasks require so called soft grippers, that allow to pick up delicate samples. Very often rubber materials such as PDMS with good adhesion are used. However, release force is equal to holding force and can be difficult to overcome. Often nature (gecko) inspired microstructured surfaces as shown in the pictures are utilized. They can be printed using 3D-techniques and release can be achieved by sheering or sheering and pressing.



The following sub tasks will be due:

- Research on soft grippers
- Defining the functionality and physical requirements
- Creating a 3D model using CAD software (Autodesk Inventor, Blender, SolidWorks, ...)
- Selecting appropriate 3D printing methods and materials
- Printing and testing different designs, measuring holding and release forces

Responsible

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