

Light Actuated Materials for Robotics

Project Group “Praxis der Forschung” – Winter Term 2021/22

Project

Many applications in medical robotics require small scale systems. An approach for highly miniaturizable robotic kinematics is to implement materials as actuators. Specialized materials provide moving capabilities under external stimuli such as current heat or also light. In this project the latter is of special interest as light mediated actuation could provide MRT compliant robots for medical purposes. Research in this field is still quite young. We will look into characterizing samples of light actuated materials on their capabilities as robotic actuators. In this project these materials should be fabricated, a control system is to be developed and to be tested and optimized (e.g. for actuation speed, workspace or force). Finally a minimal robot demonstrator of multiple joints should be set up.

Contact / Supervision

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