

Safe manipulation and assembly for flexible and fragile objects for laboratory automation

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Motivation

How can we guarantee the safety for manipulation?

- As robots are increasingly employed in many different task, concerns about their safety are becoming more pronounced
- The necessary safety conditions vary depending on the object and environment in which manipulation occurs. Task for the laboratory automation requires strict safety conditions which makes manipulation much complicate.

Project Description

- As robots are increasingly employed in various tasks, concerns about their safety are becoming more pronounced

Objectives

- Guarantee restrictive safety and performance by constructing closed loop system with high level and low level controller
- Design a robust controller that can manipulate rigid, deformable objects safely.
- Use the designed controller for the various task automation with manipulator that need to handle rigid and deformable objects and verify the safety during the process.

