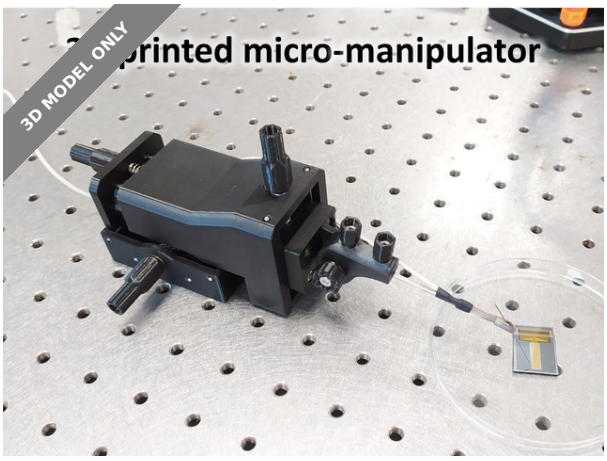

3 axis micromanipulator

RemiRafael

VIEW IN BROWSER

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Summary

This design is a micromanipulator designed to precisely handle tools at the micron scale

Hobby & Makers > Tools

Tags: precision linearmotion handler micron manipulator micromanipulator microscopic

Micromanipulators are tools designed to precisely handle objects at the micron scale. They are very important in science as they allow to interact directly with microscopic device, when direct manual handling would most likely result in destruction. However, professional quality micromanipulator can be very expensive (thousands of USD), out of reach of hobbyists and sometimes a scarce resource even for professional researchers.

This is my take at designing a high quality micromanipulator. The result is stiff, compact and moves smoothly. Not quite up to par with the commercial alternatives, but fit for most applications and accessible for a handful of USD and half an hour of your time.

The complete build process is described in detail in an instructable:

https://www.instructables.com/Build-a-3D-Printed-Micro-manipulator/

Model files

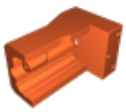
micromanipulator-z-slider.stl

micromanipulator-middle.stl

micromanipulator-base.stl

straight-holder-base.stl

straight-holder-arm.stl



micromanipulator-top.stl

straight-holder-knob.stl

knob.stl

cutting-guide-micromanipulator.stl

holder-knob.stl

90-holder.stl

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