



Quanser Flexible Joint

This experiment models the behaviour of an actual joint, e.g., a robotic arm. This additional module can be mounted on the Rotary Servo Base Unit. It consists of a head with a beam fitted with springs. The goal of the exercise is to control the engine in the base in such a way that after the movement the tip of the beam stops in a fixed position as quickly as possible. Students model this object mathematically and then design algorithms necessary to control it. Thanks to different types of sprin...

Basic technical parameters:

- Base parameters:
 - High quality servo motor (6V,1A, 6000 RPM)
 - Potentiometer for measuring the position ($\pm 5V$)
 - Quadrature encoder (4096 pulses / revolution)
 - Gears with the possibility of changing the gear ratio
 - Comprehensive educational materials compatible with NI LabVIEW and Matlab / Simulink included
 - Open architecture allows students to create their own control algorithms

- Module parameters
 - Beam length: 298 mm
 - Encoder resolution: 4096 pulses per revolution
 - Spring parameters: 187 N / m, 313 N / m, 565 N / m