Circular Double Inverted Pendulum Acrobatic Robot

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GOOGOL TECHNOLOGY

The circular double pendulum acrobatic robot is a new product of the inverted pendulum family. Based on the control of multiple-stage inverted pendulum swing up, the acrobatic robot controls the pendulum rod in different equilibrium states and interchange states so that the rod can erect when it is in motion. It can be applied in simulation of artificial intelligent control and other automatic control research and experiments.

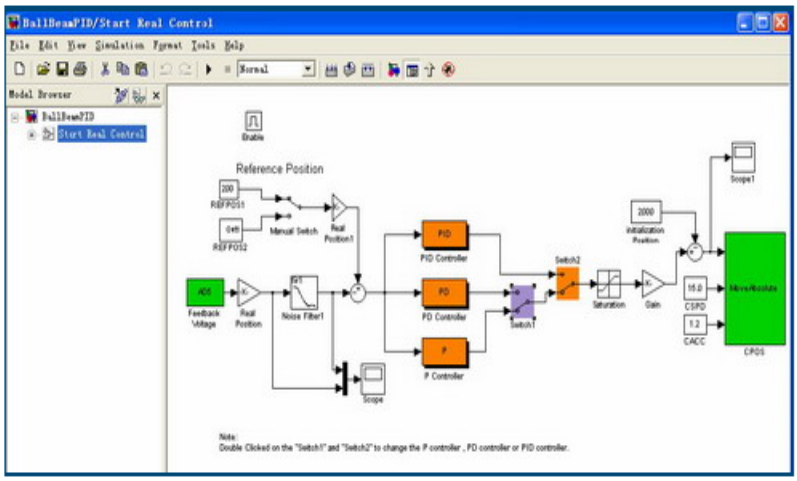
The robotic system adopts a large base to enhance its stability. Planetary gear and belt pulley are used for deceleration. Noise is thus reduced when the system is in motion. The length of the arm is adjustable; the electrical system uses industrial standard AC servo drive system and encoder to ensure its reliability when it is in motion. The electrical wiring of the rotation part adopts slip ring connection.

Besides Googol's PC plug-in motion controller, MATLAB® or C Language can be used as control module and thus facilitate users to carry out experiments and research works.

System Model and Characteristics:

- Open architecture system structure
- Unlimited revolutions of the arm
- Encoder signal is fed via the slip ring, no limitation on number of revolutions
- Systems input: acceleration of the motor; system output: motor position and speed, angular speed, angle of the pendulum rods
- A typical single-input, multi-outputs, coupled with non-linear system

Matlab Control Interface



Technical Specifications

AC servo motor power	200W
Motor encoder	2500P/R
Pendulum rod encoder	600P/R
Deceleration ratio	1:15
Arm length	270-450mm
Dimensions (L x W x H)	700 x 700 x 1725mm
Weight	50Kg

Ordering Guide

Model Number	Model Name	Package
GRIP3002	Circular double Inverted Pendulum Acrobatic Robot	• Main body • Series 2-stage inverted pendulum components • GT-400-SV motion controller • Acrobatic robot 1-stage inverted pendulum DOS version experiment software (source code included) • Acrobatic robot 2-stage inverted pendulum DOS version experiment software (include source code) • Googol Simulink software experiment platform

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