

The proposed device is designed for controlling an object consisting of  $n$  series-connected inertial links. The control device contains the controlled object model, two summing/subtracting units, the reverse controlled object model, a relay element, two amplifiers, and a setup adjuster. The summing input of the first summing/subtracting unit is connected to the output of the controlled object model, and the subtracting input is connected to the output of the controlled object. Additionally, the control unit contains  $n + 1$  squarer, an integrator, and a multiplier unit. The noninverting input of the first amplifier is connected to the output of the setup adjuster, and  $n$  inverting inputs are connected to the corresponding  $n$  outputs of the controlled object model. The input of the controlled object model is connected to the input of the first amplifier that is connected to the first input of the second summing/subtracting unit. The second input of the second summing/subtracting units is connected to the output of the integrator. The input of the integrator is connected to the output of the multiplier unit. The inputs of the multiplier unit are connected accordingly to the output of the relay element and the output of the second amplifier. The outputs of the squarer are connected accordingly to  $n + 1$  noninverting inputs of the second amplifier. The inputs of the squarer are connected accordingly to  $n$  outputs of the reverse controlled object model and the output of the first summing/subtracting unit. The output of the first summing/subtracting unit is connected to the input of the relay element and the input of the reverse controlled object model. The output of the second summing/subtracting unit is connected to the input of the controlled object.