Anti-windup: importancia análisis e implementación en PID analógico [

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text (article)

Analítica

The document addresses a biport approach with the application of Miller's theorems to, together with the Shockley equation, analyze the nonlinear anti-windup behavior present in the integral effect of compact PID and disaggregated PID. The obvious goodness of the anti-windup in the PID regulator prevents overcompensation, since it can be applied as a limiter of the output range of the control action. The results found allow us to highlight the goodness of the anti-windup in the compact PID, which avoids overcompensation of the integral effect and at the same time operates as a limiter of the output range of the control action with the abdication of the complex and binding parameterization regarding to the resistive and capacitive values of the topology, on the contrary the disaggregated PID, presents an ease for parameterization, however the anti-windup effect operates only on the integral effect, which requires saturation at the end to be able to establish the range of the controller's output variable, the abdication of this regulator is the presence of a slight delay in its output
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