Calculation of the Desired Coefficients of the Characteristic Equation of the Locked Control System

V.A. Zhmud, L.V. Dimitrov

Abstract: The choice of the desired polynomial is very relevant in the design of regulators. In the literature devoted to this problem are very few publications tend to this problem is solved at a primitive level, i.e. the selected polynomial having set equal multiple negative roots (binomial theorem), or the roots of the polynomial are set in a certain region of the negative half-plane (trapezoid, sphere, rectangle) . This choice is not only justified, but also far from optimal. The paper solves the problem of the selection on the basis of the requirements for dynamic and static properties of the control loop. For the first time in the solution of this problem among the criteria it effectiveness introduced in consideration of the reverse overshoot.

Key words: control, regulation, dynamic accuracy, the static accuracy of the characteristic polynomial of the system, the polynomial of desired dynamics

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Vadim Zhmud

E-mail: oao_nips@bk.ru

Lubomir Vankov Dimitrov

E-mail: lubomir_dimitrov@tu-sofia.bg