

Optimal Multivariable PID Regulator.

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Abstract: A continuous version of optimal LQG design under presence of Wiener disturbances is solved for MIMO controlled plant. Traditional design tools fail to solve this problem due to unstability of the augmented plant. A class of all optimality criteria, which guarantee existence of an asymptotical solution, is defined using a plant deviation model. This class is utilized in design of an optimal state and an error feedback regulator which is presented here. The resultant optimal error regulator is interpreted as an optimal multivariable matrix PID regulator.

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