

## A Deterministic LQ Tracking Problem: Parametrisation of the Controller.

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*Abstract:* The article discusses an optimal Linear Quadratic (LQ) deterministic control problem when the Youla–Kučera parametrisation of controller is used. We provide a computational procedure for computing a deterministic optimal single-input single-output (SISO) controller from any stabilising controller. This approach allows us to calculate a new optimal LQ deterministic controller from a previous one when the plant has changed. The design based on the Youla–Kučera parametrisation approach is compared to the classical LQ design.

*Keywords:*

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