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Hongwei Mei* (hongwei.mei@ku.edu), 405 Snow Hall, 1460 Jayhawk Blvd, Lawrence, KS 66045, and **Jiongmin Yong**. *Ergodic Control of Linear-Quadratic Stochastic Systems*.

This paper is devoted to investigate the relationship between an L^2 open-loop control problem on finite horizon and the ergodic control problem for linear-quadratic systems. In our paper it is not required that the diffusion term is degenerate or independent of the control process. We prove that the feedback control on finite horizon will converge to an optimal ergodic control as time horizon tends to infinity. As a byproduct, we also can find the explicit forms of the optimal ergodic cost and one optimal control under what the optimal ergodic cost is achieved. (Received September 26, 2017)