

# **Robust Damping Controller Design For A Static Compensator**

Rahim, A.H.M.A. Al-Baiyat, S.A. Al-Maghrabi, H.M.;Dept. of Electr. Eng., King Fahd Univ. of Pet.Miner., Dhahran;

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King Fahd University of Petroleum & Minerals

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## **Summary**

A robust controller for providing damping to power system transients through static compensator (STATCOM) devices is presented. The method of multiplicative uncertainty has been employed to model the variations of the operating points in the system. A loop-shaping method has been employed to select a suitable open-loop transfer function, from which the robust controller is constructed. The design is carried out applying robustness criteria for stability and performance. The proposed controller has been tested through a number of disturbances including three-phase faults. The robust controller designed has been demonstrated to provide extremely good damping characteristics over a range of operating conditions

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