**Information Performance Tradeoffs in Control**

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We focus our attention on the most common scenario in networked control systems where the measured output from the observer is transmitted via a communication channel to the controller.
Using information-theoretic results, we study the tradeoff between the performance and the accuracy of observations due to communication constraints for such a scenario. We focus on three important cases in the communication channel - the additive white Gaussian noise (AWGN), limited date rate and systems with multiplicative uncertainity in the system parameters.
Using known theoretical results for a rate limited communication channel, we show the effect of entropy of the output of quantizer on the performance. The same is done for the case of random parameters as multiplicative uncertainity in the system.
For an AWGN channel, we show the effect of channel SNR on the performance. For the analog joint source-channel coding approach (which works only for Gaussian disturbances in the system), we show that the known lower bound is tight even for non-Gaussian system disturbances.
We also compare the simulated performance of a system with known upper and lower rate-distortion bounds for all the three cases. The lower bound on the rate is closely approached by a simple uniform quanitzation scheme, hence demonstrating it's tightness.