

EE311 - Matlab Assignment II

In this assignment, you will design an adaptive noise cancellation system in simulink. Adaptive filters change the coefficients of the filter continuously while operating. You do not have to use the same model page for all of them. Submit your models and report to sucourse

- a) Create a pink noise and analyze its frequency spectrum in simulink. How is it distributed across all frequencies?
- b) Use the LSM filter from the dsp system toolbox in the simulink. Change the filter type to normalized LSM, connect your noise source to the LSM filter, enter the appropriate parameters and listen to the resulting signal. Explain your observation shortly. (For more information about LSM filter in simulink:
<https://www.mathworks.com/help/dsp/ref/lmsfilter.html>)
- c) Add a real sound feed to the system that is added to the noise before the filter. How the noise cancelling system performs. Explain your observation briefly.
- d) Repeat a, b and c for another color of noise of your choice. Compare it with the pink noise as possible.