

E E - 2 9 5
Statistical Signal Processing
March 24, 1993

Laboratory 5 ADDENDUM

Prediction with Lattices -using unbiased estimates.

Now try estimating an AR3 process, generated using the filter,

$$\frac{1}{1 - 2.685z^{-1} + 2.419z^{-2} - 0.7299z^{-3}}$$

Use a white noise gaussian process as input. Scale the output by 1/1000 so that the AR3 process lies between -2, +2. Save it as 'ar3process' and use that as the sink file in lpclattice3.

Calculate the expected reflection coefficients and run lpclattice3. Note that you will not have convergence to the expected value of the coefficients.

Change the adaptation to generate an unbiased estimate, as attached. (Do you see why this is an unbiased estimate?)

Run lpclattice3 now and watch the convergence.