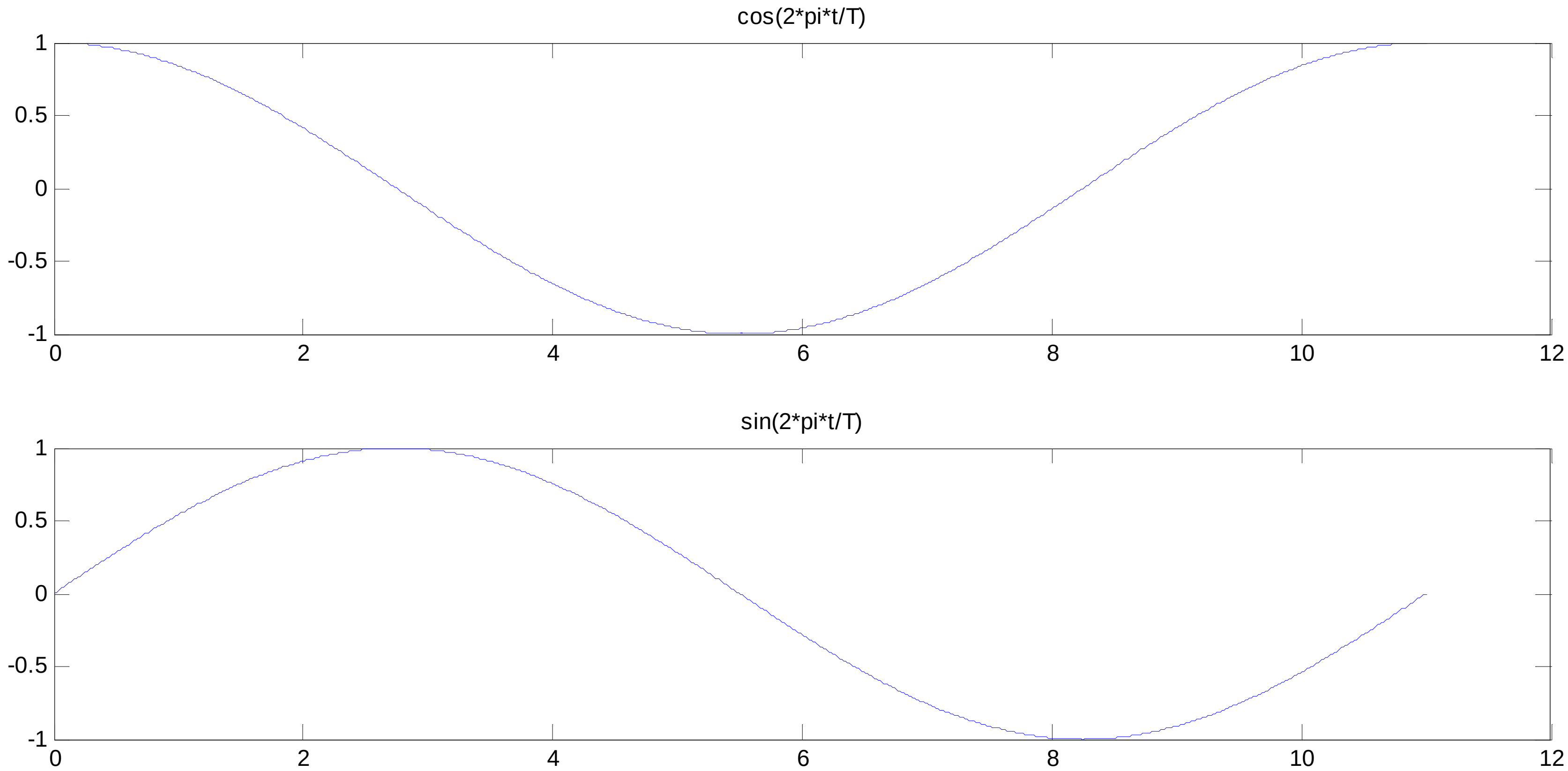
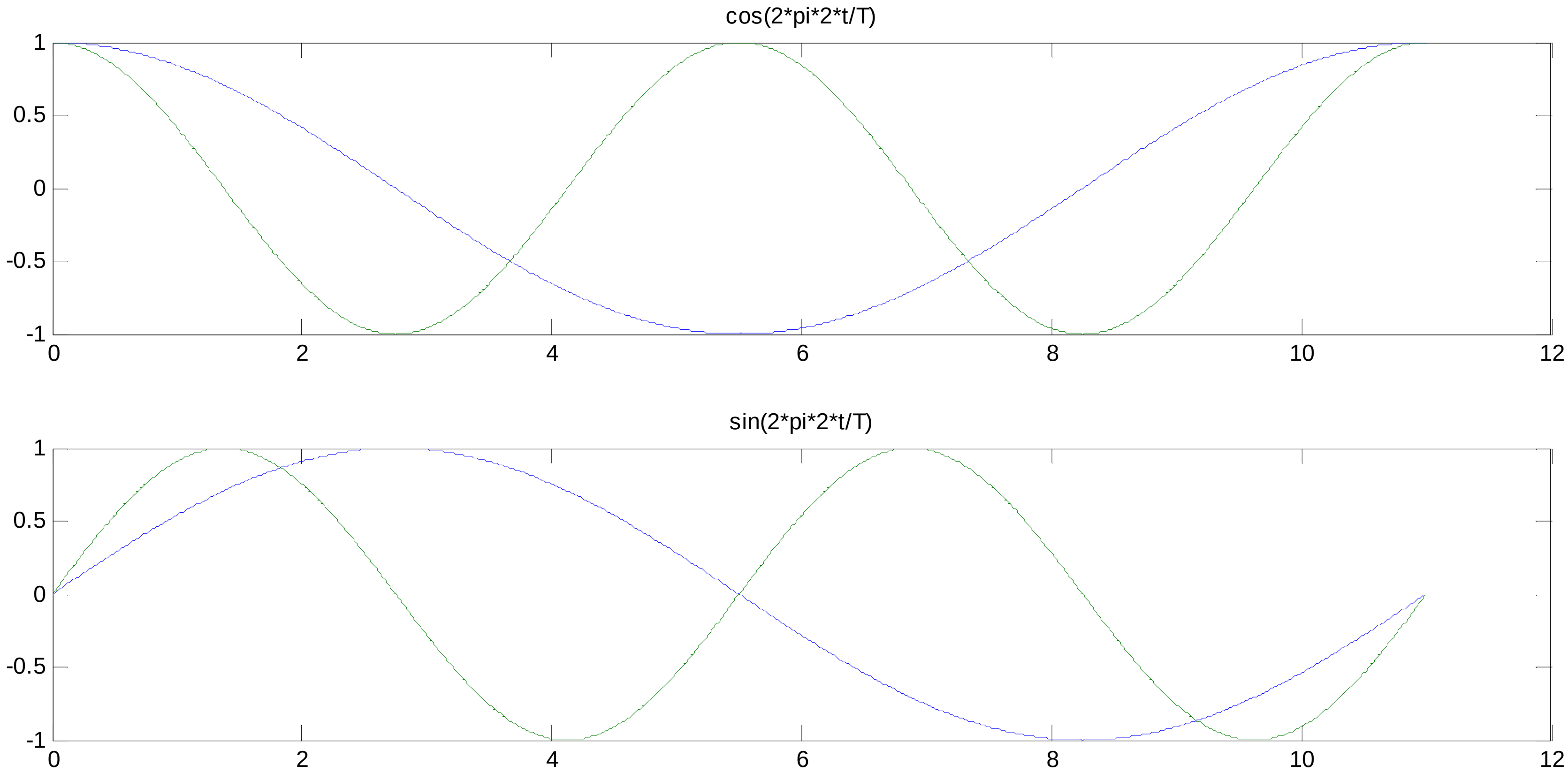
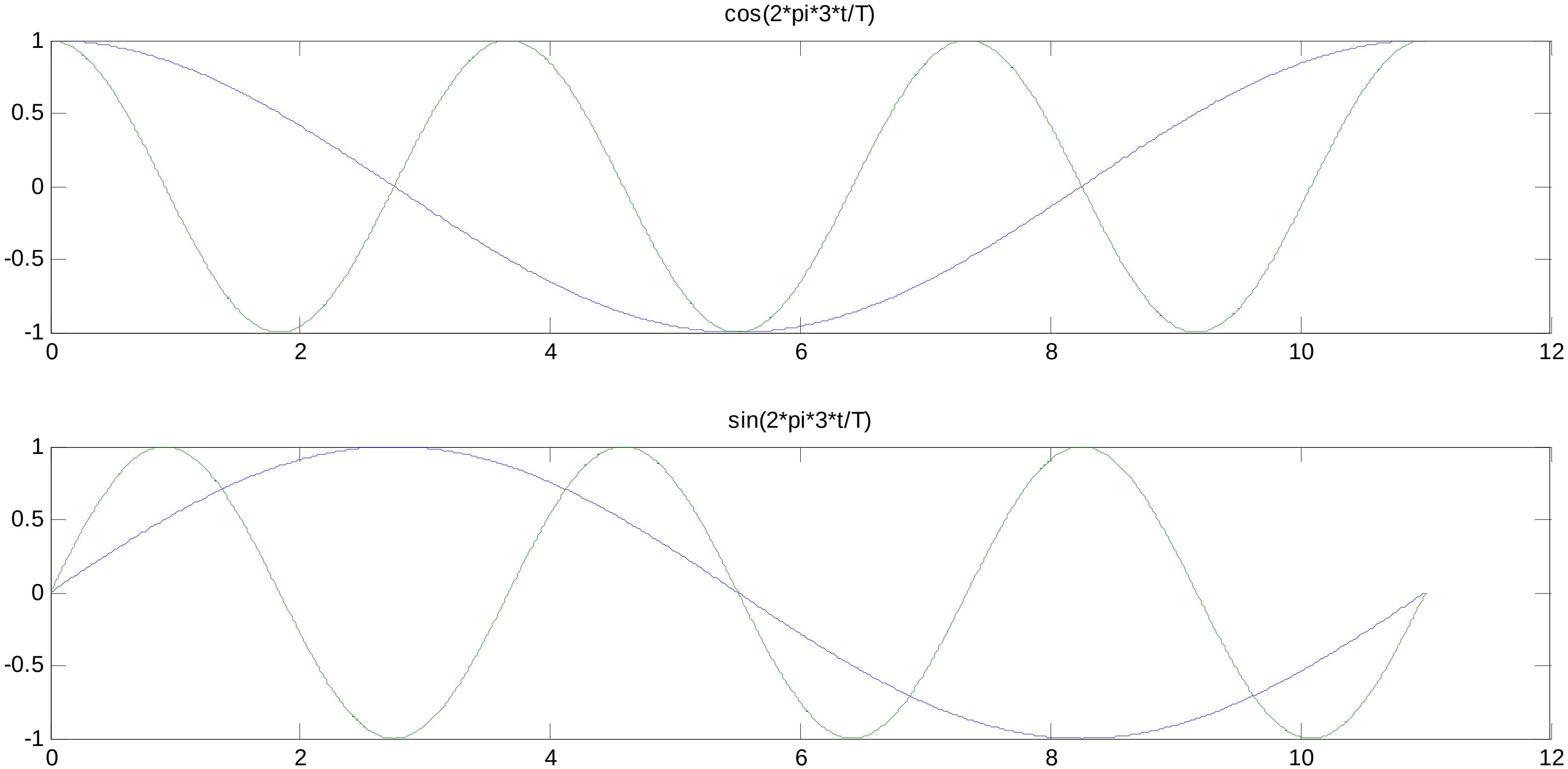
Figures for spectral lecture

James D. Hamilton

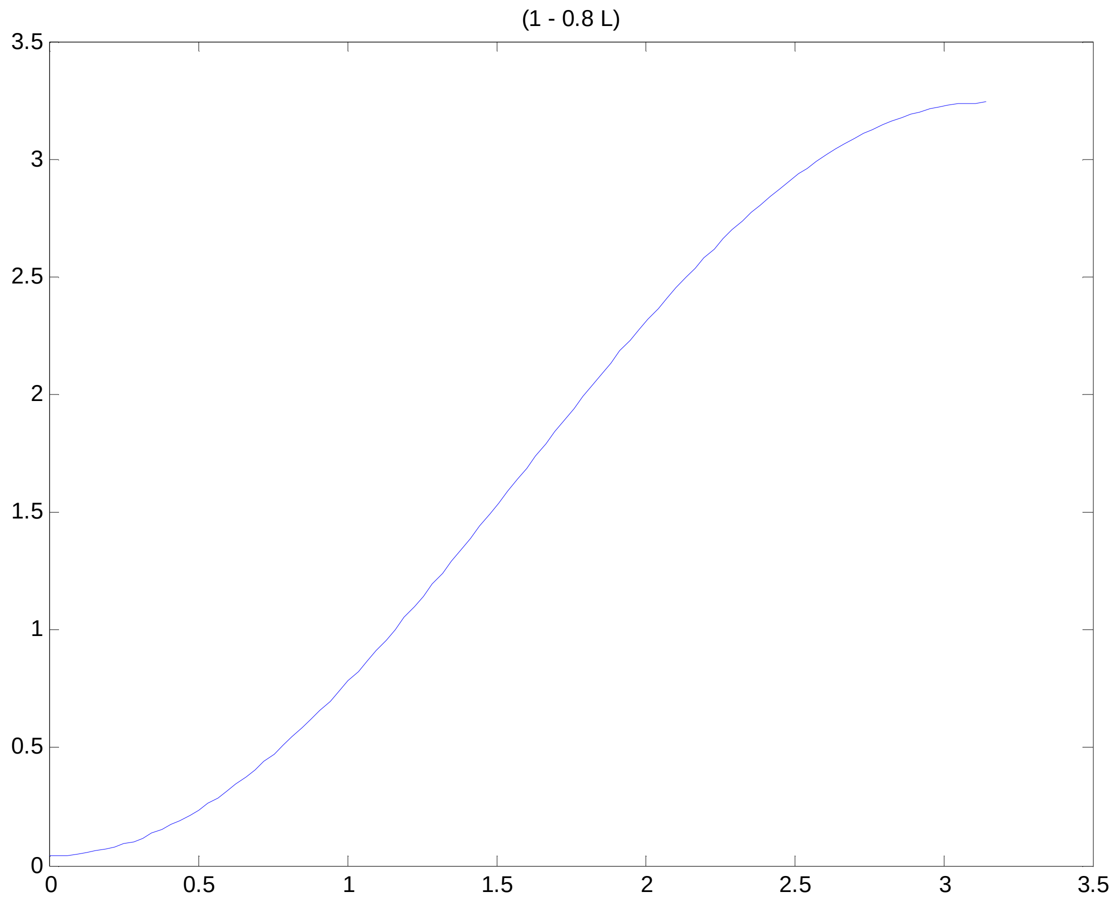


cos(2*pi*t/T)
1
0.5
0
-0.5
-1
0
2
4
6
8
10
12
sin(2*pi*t/T)
1
0.5
0
-0.5
-1
0
2
4
6
8
10
12

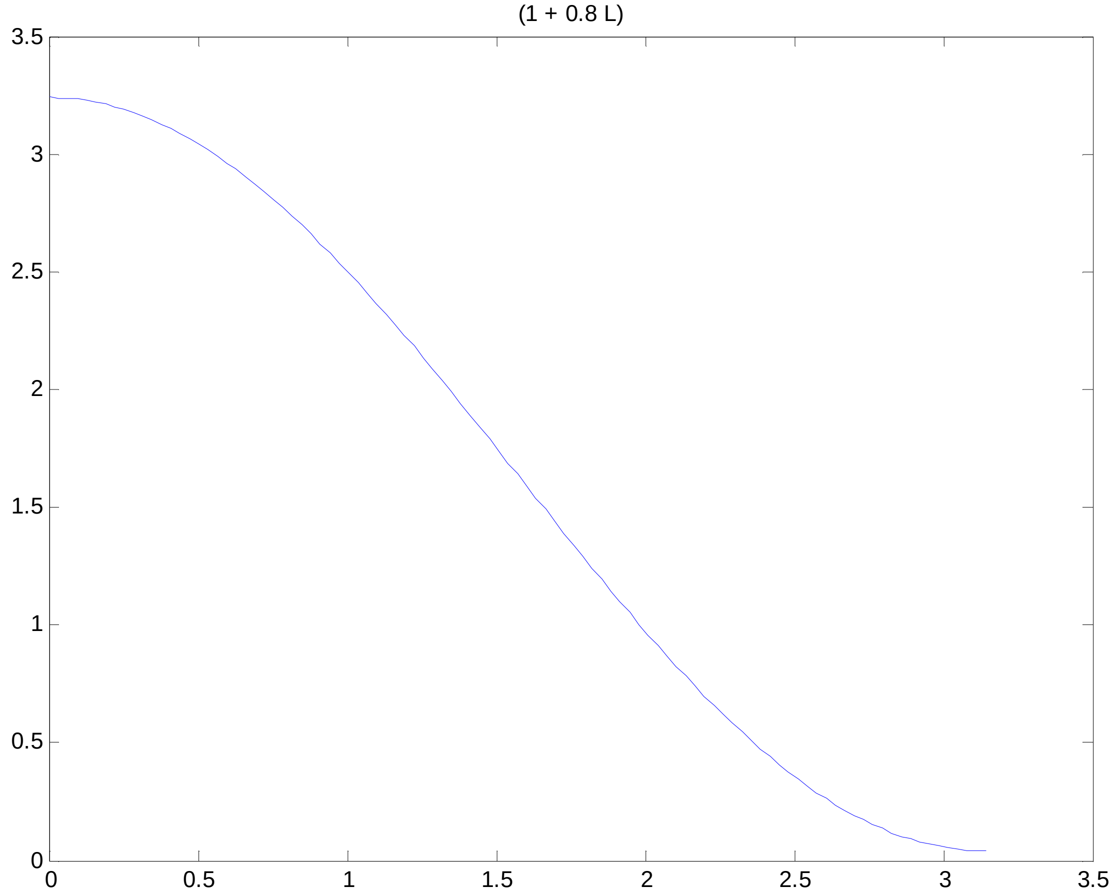

cos(2*pi*2*t/T)
1
0.5
0
-0.5
-1
0
2
4
6
8
10
12
sin(2*pi*2*t/T)
1
0.5
0
-0.5
-1
0
2
4
6
8
10
12


cos(2*pi*3*t/T)
1
0.5
0
-0.5
-1
0
2
4
6
8
10
12
sin(2*pi*3*t/T)
1
0.5
0
-0.5
-1
0
2
4
6
8
10
12

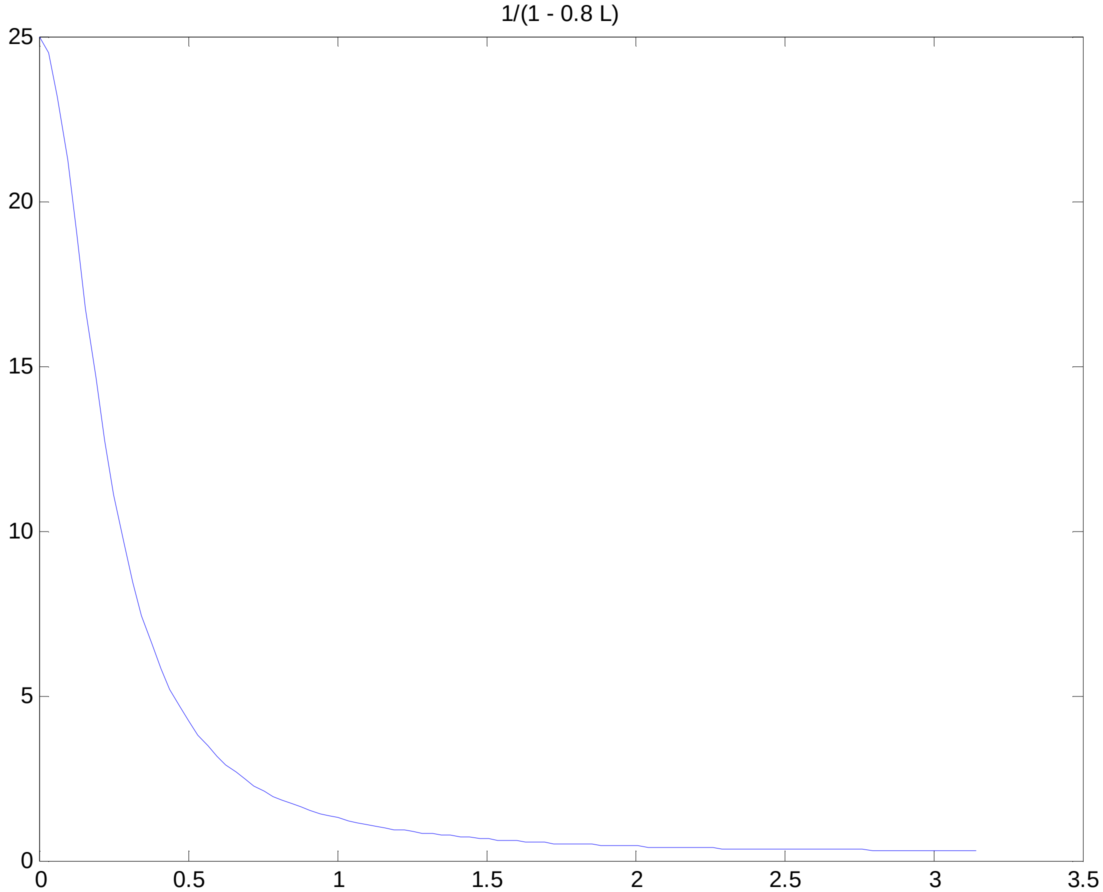
Squared gain of 1 – 0.8 L



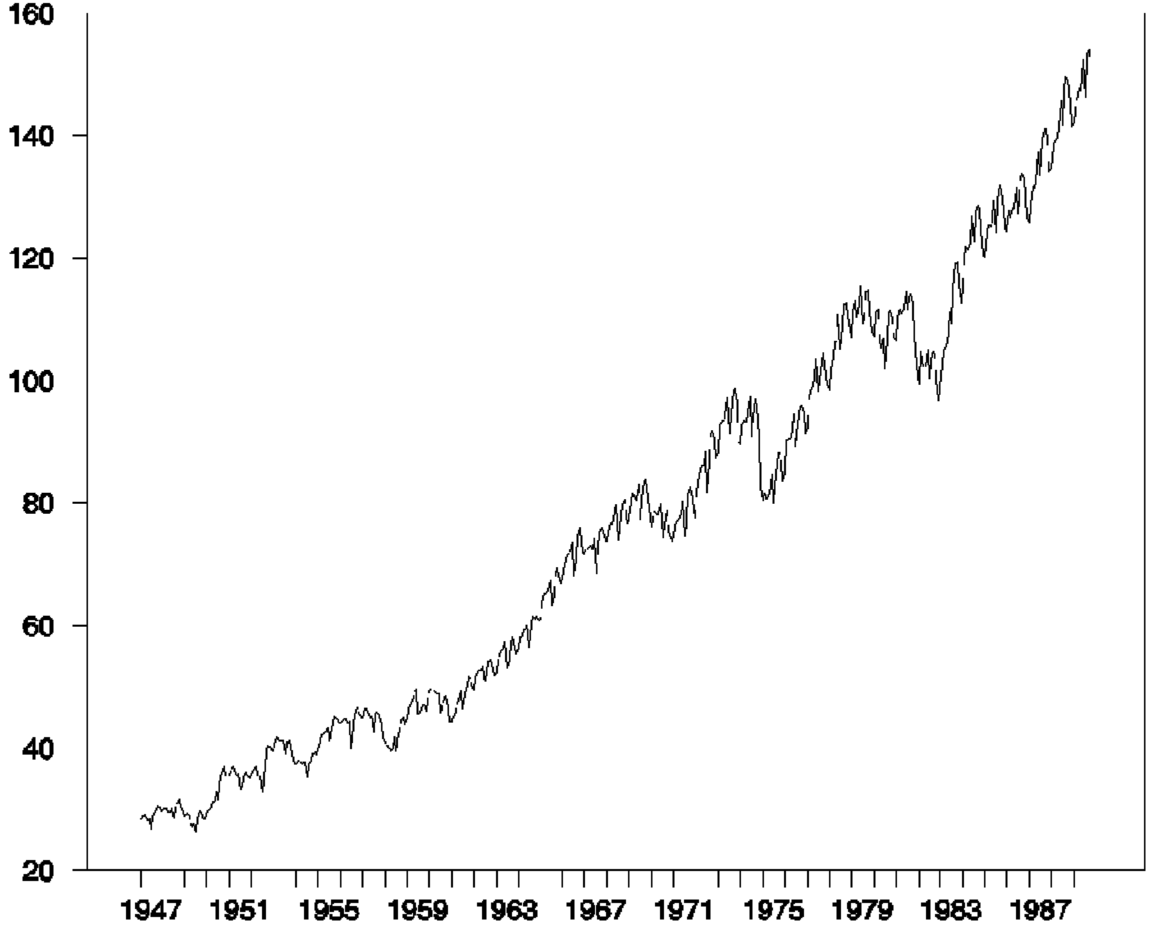
Squared gain of 1 + 0.8 L



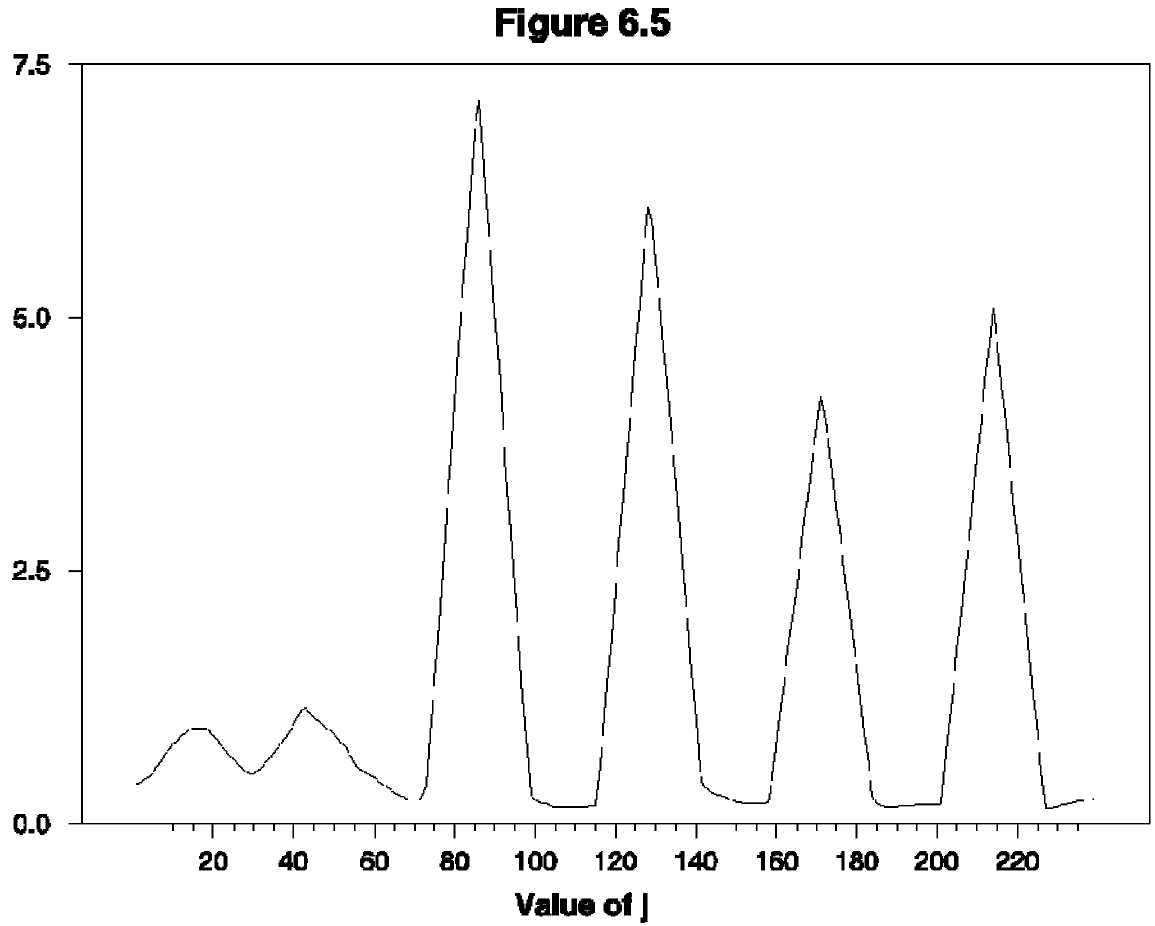
Squared gain of 1/(1 – 0.8 L)



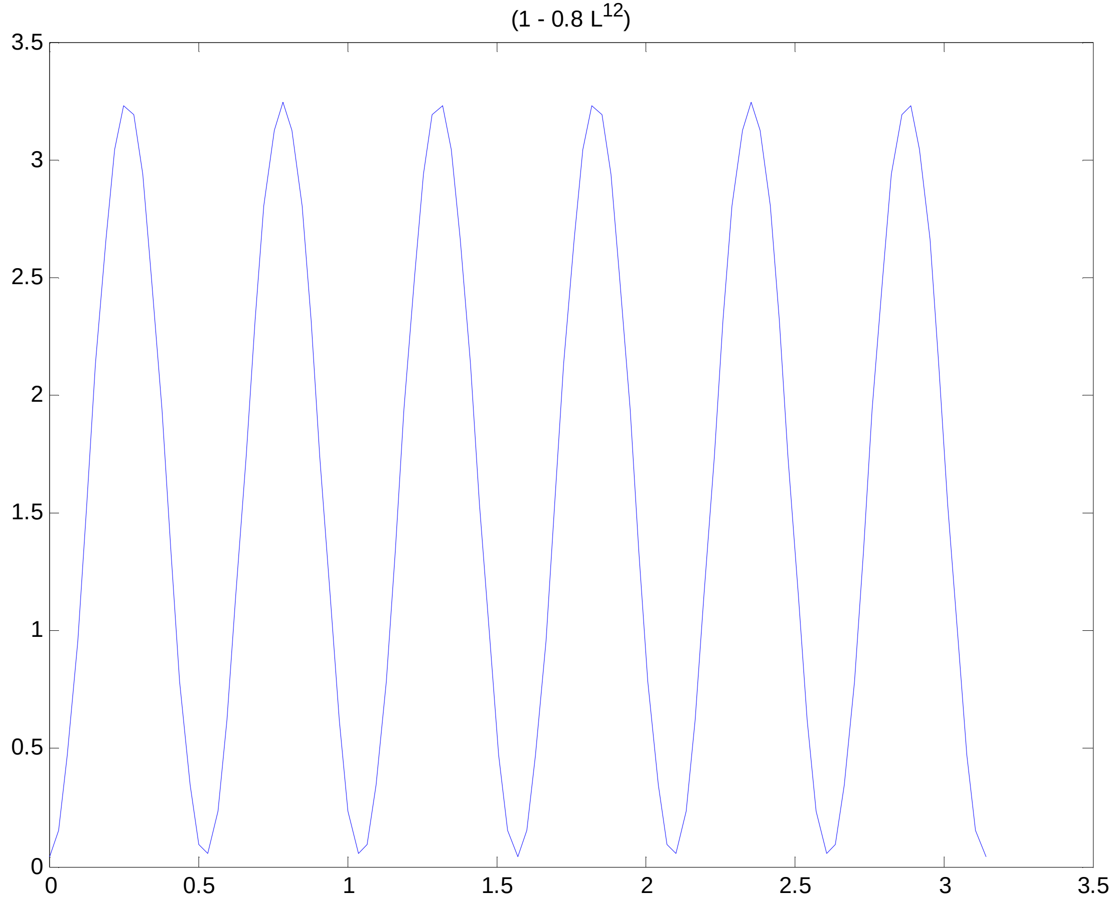
Plot of seasonally unadjusted industrial production (Fig 6.3)



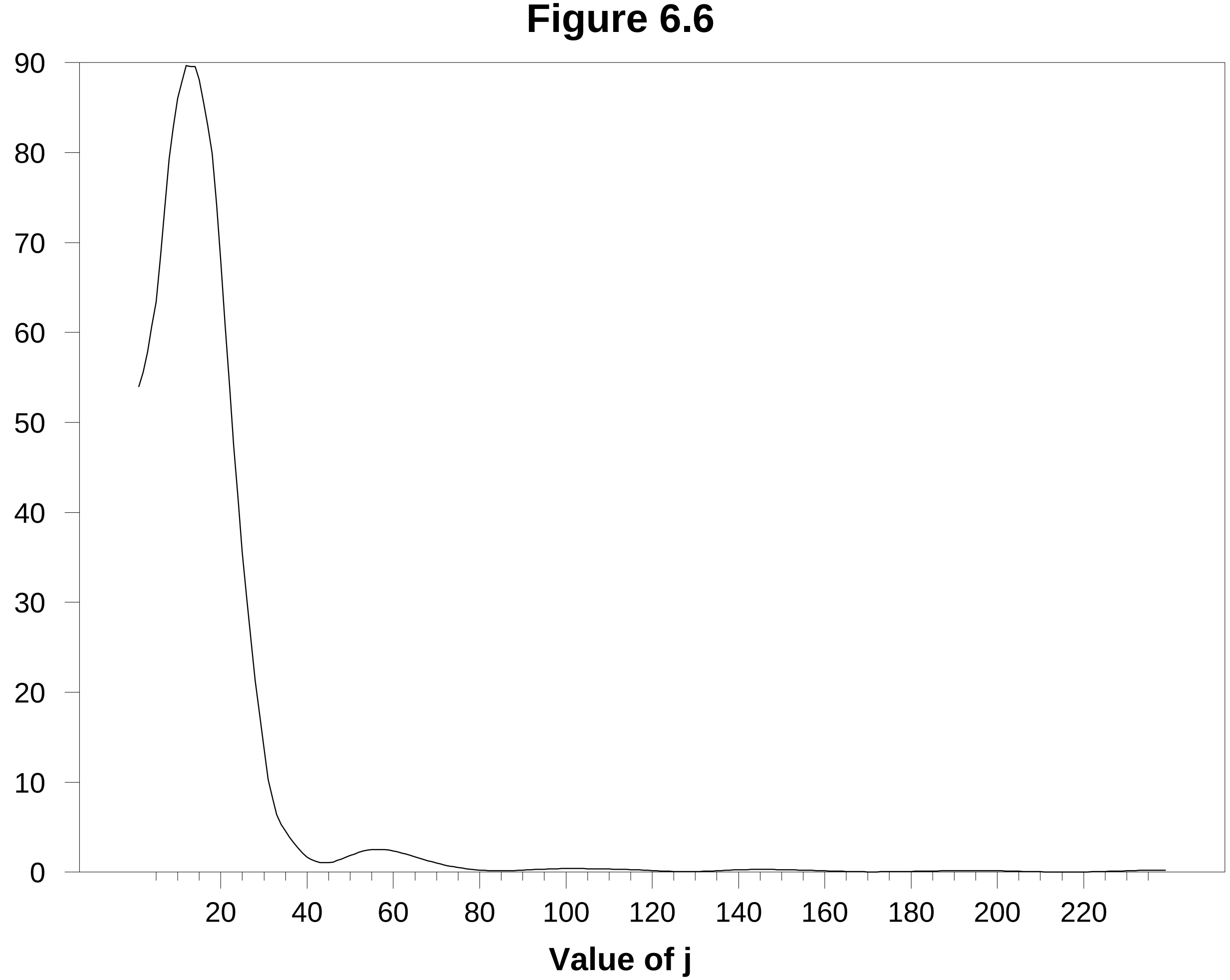
Estimated spectrum of industrial production growth (Fig 6.5)



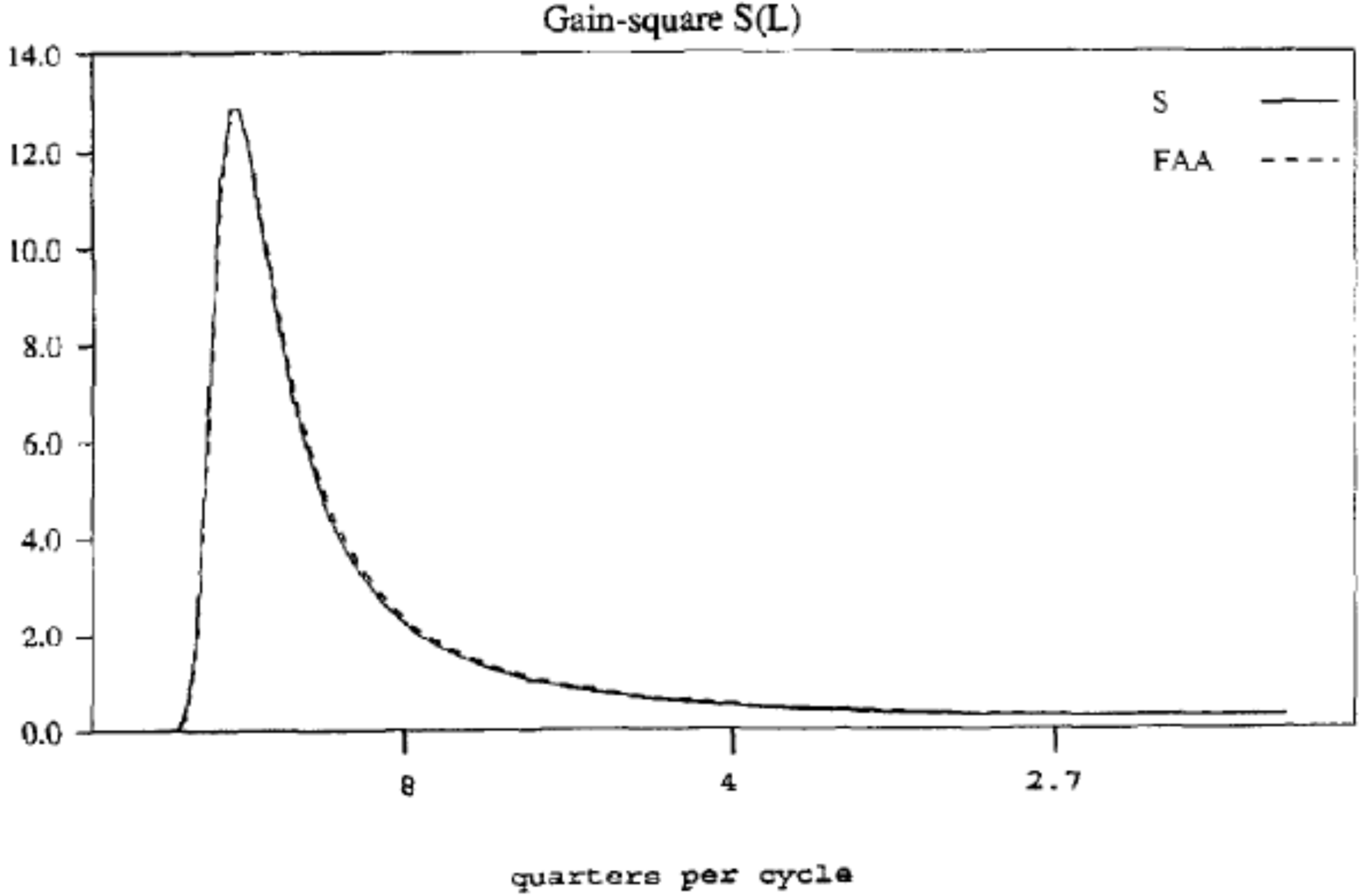
Squared gain of $1 – 0.8 L^{12}$



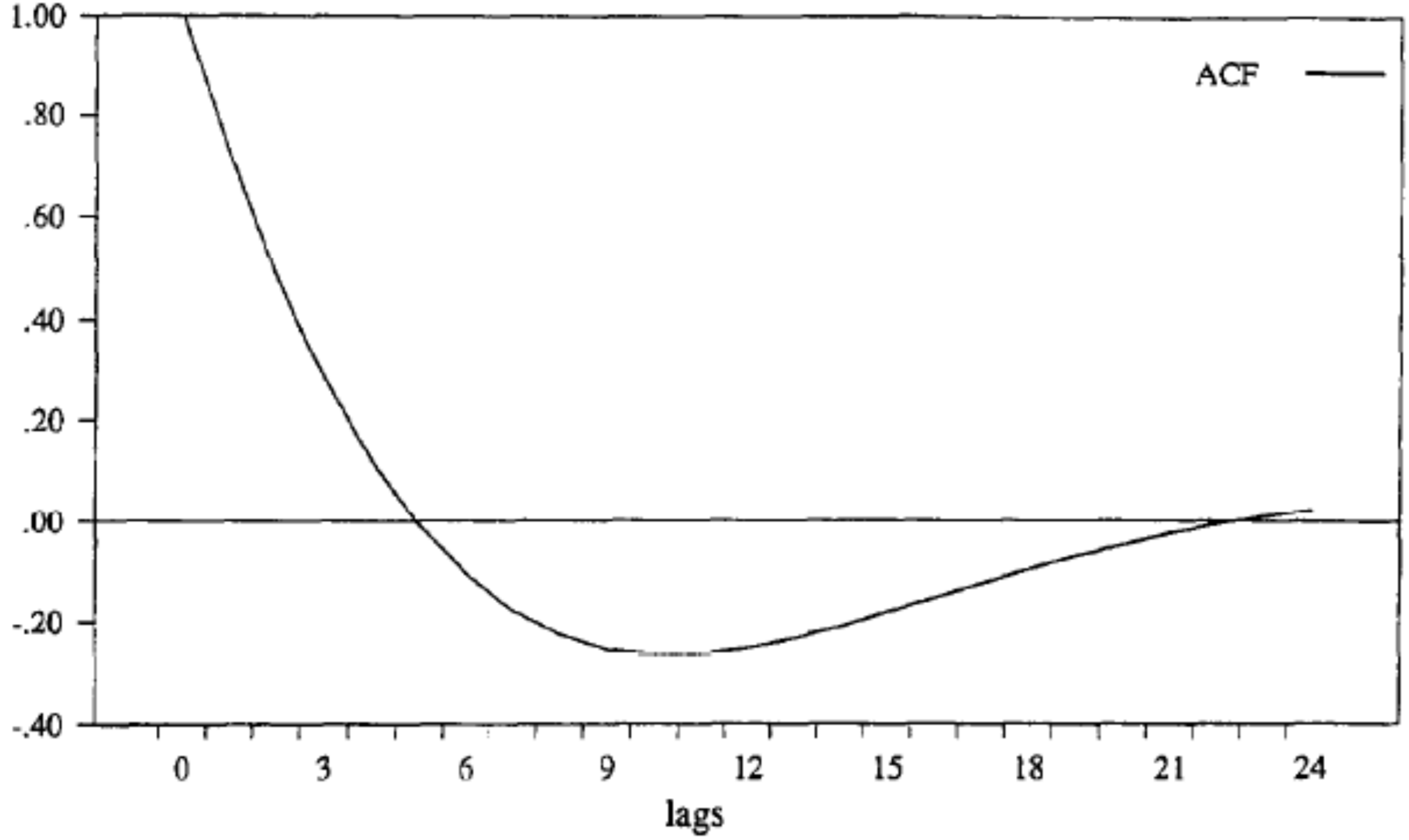
Estimated spectrum of year-over-year growth



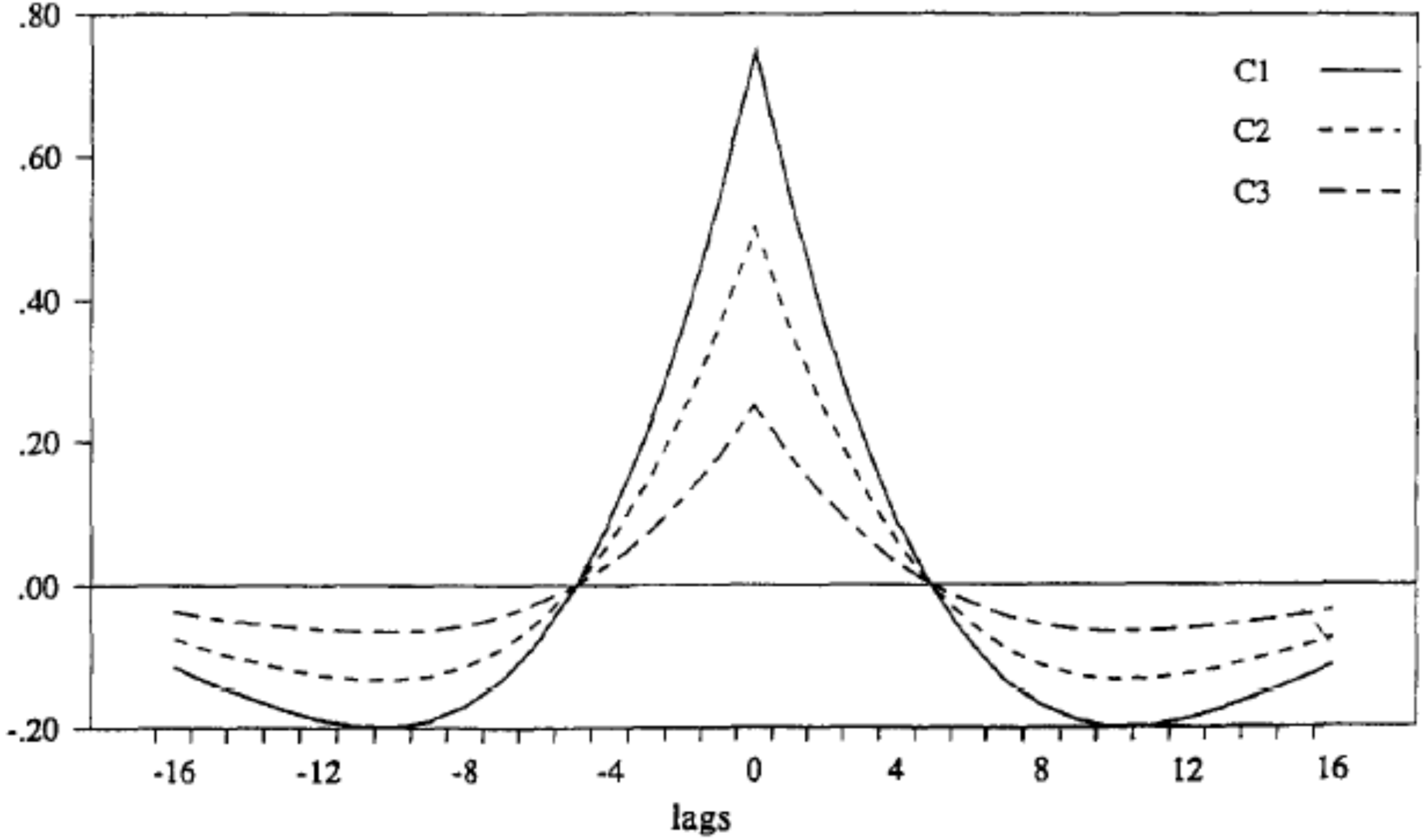
Squared gain of HP filter after differencing (Cogley-Nason, JEDC, 1995)



ACF for Filtered Random Walk



CCF for Filtered Random Walks



Correlation between s-period-ahead forecast errors for real GDP and price level (Den Haan, JME, 2000)