

## Contents

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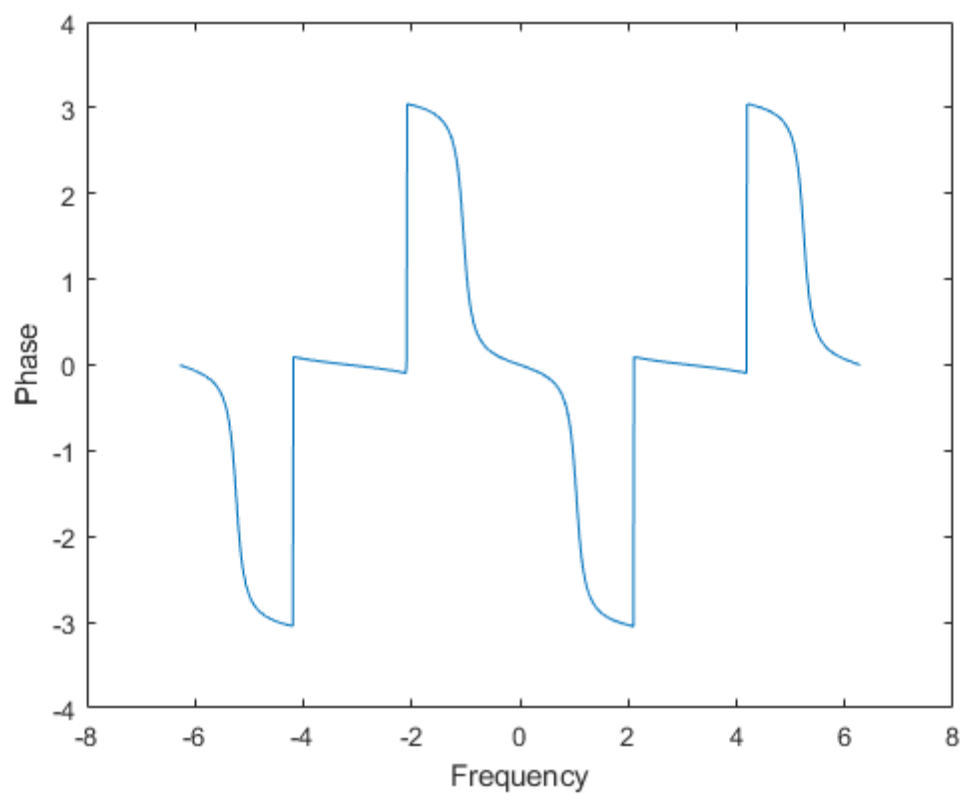
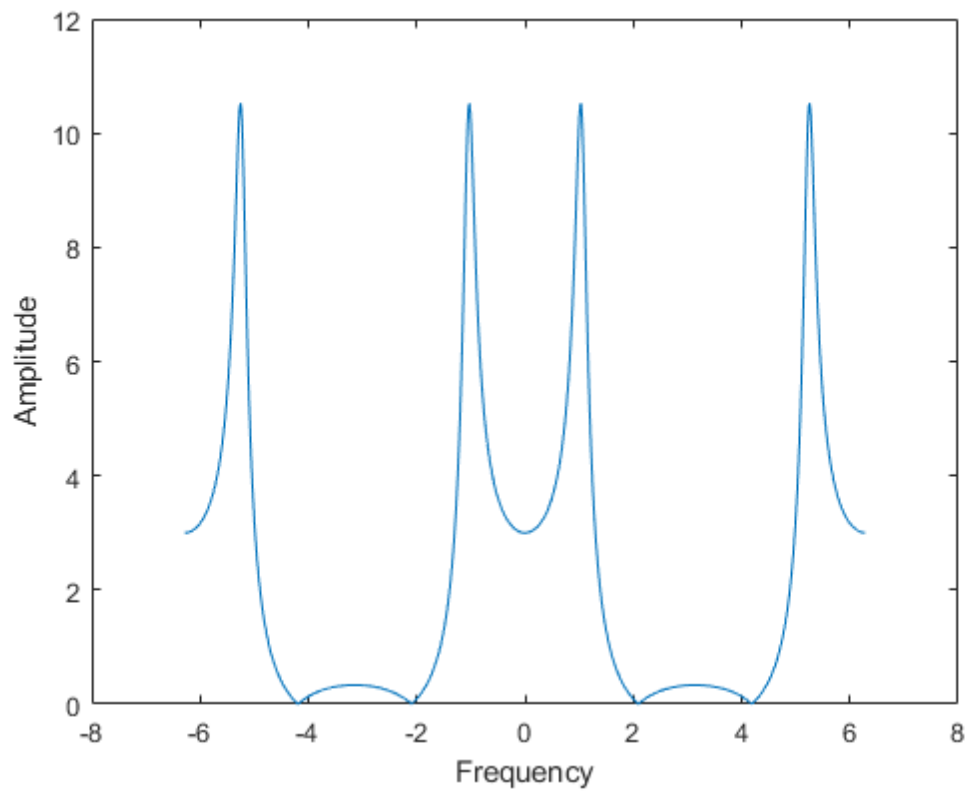
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## Define Poles, zeros and Other variables

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```
alpha = 0.8;
beta = 0.5;

w = linspace(-2*pi, 2*pi, 1024);
z1 = [0.5 + 0.866i  0.5 - 0.866i]; %pole from the given transfer function
p1 = [0.45 + 0.773i  0.45 - 0.773i]; %zero from the given transfer function
cons = (1 + alpha)/2; %constant that's multiplied in the func
Num = 1 - -2 * beta * exp(-1i * w) + exp(-2i * w);
Den = 1 - beta * (1 + alpha) * exp(-1i * w) + alpha * exp(-2i * w);
H = cons * Num./Den;
figure;
plot(w, abs(H));
xlabel('Frequency');
ylabel('Amplitude');
figure;
plot(w, angle(H));
xlabel('Frequency');
ylabel('Phase');
```



### Plot Pole-zero

```
figure;  
zplane(z1, p1);
```

