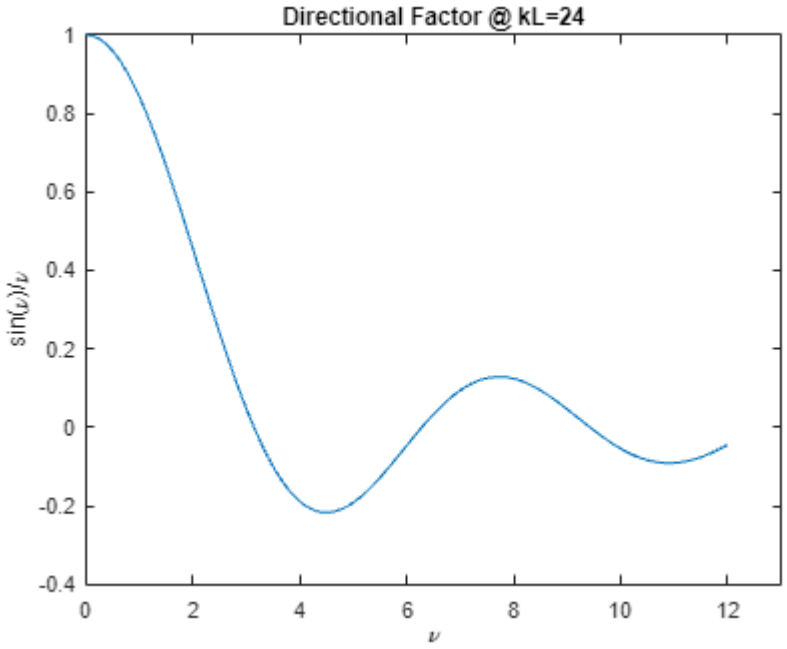
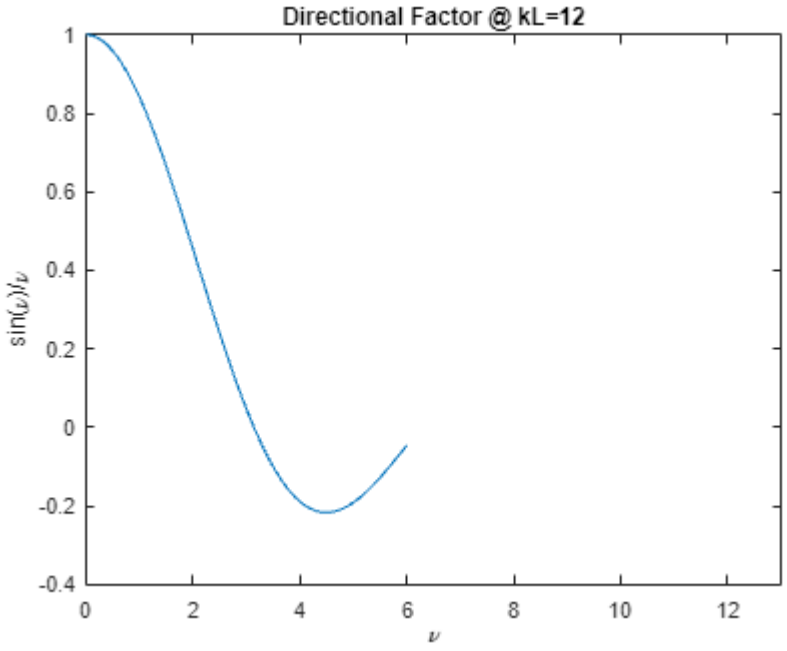
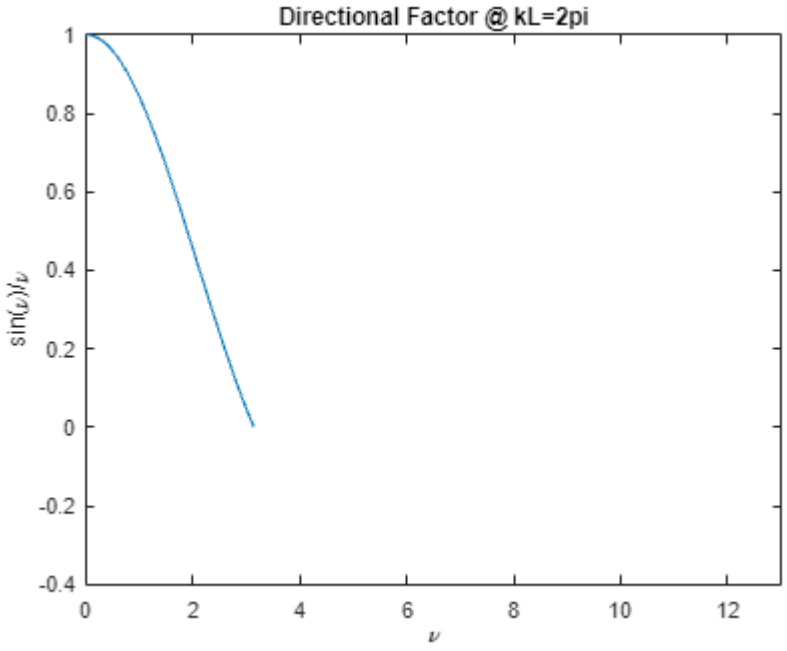
```
kL=[24, 12, 2*pi, pi];
s=pi/300;
theta=0:s:2*pi-s;
Nt=length(theta);
v1=.5*kL(1)*sin(theta);
H1=sin(v1)./v1;
figure
plot(v1,H1)
xlim([0 13])
ylim([-.4 1])
title('Directional Factor @ kL=24')
xlabel('\nu')
ylabel('sin(\nu)/\nu')
```



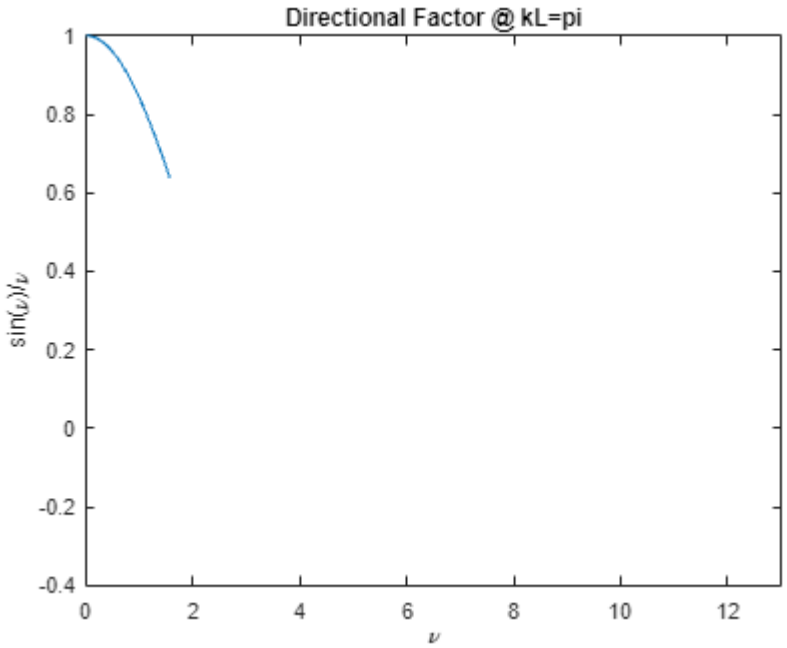

```
figure
v2=.5*kL(2)*sin(theta);
H2=sin(v2)./v2;
plot(v2,H2)
xlim([0 13])
ylim([-.4 1])
title('Directional Factor @ kL=12')
xlabel('\nu')
ylabel('sin(\nu)/\nu')
```



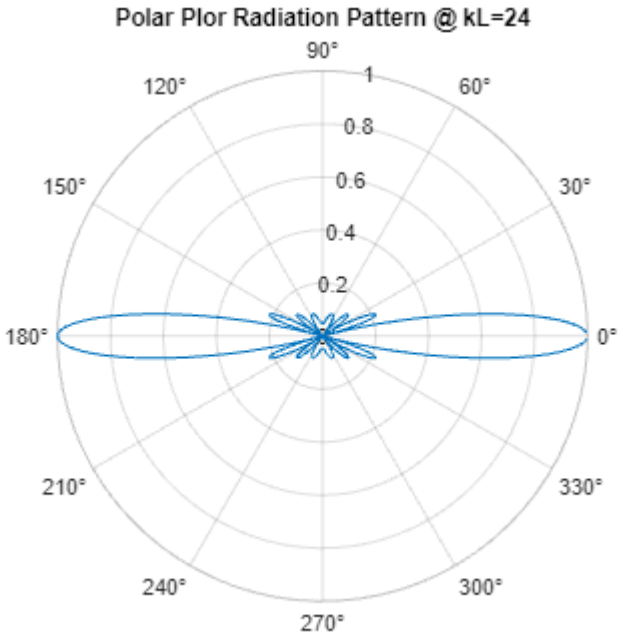

```
figure
v3=.5*kL(3)*sin(theta);
H3=sin(v3)./v3;
plot(v3,H3)
xlim([0 13])
ylim([-.4 1])
title('Directional Factor @ kL=2pi')
xlabel('\nu')
ylabel('sin(\nu)/\nu')
```



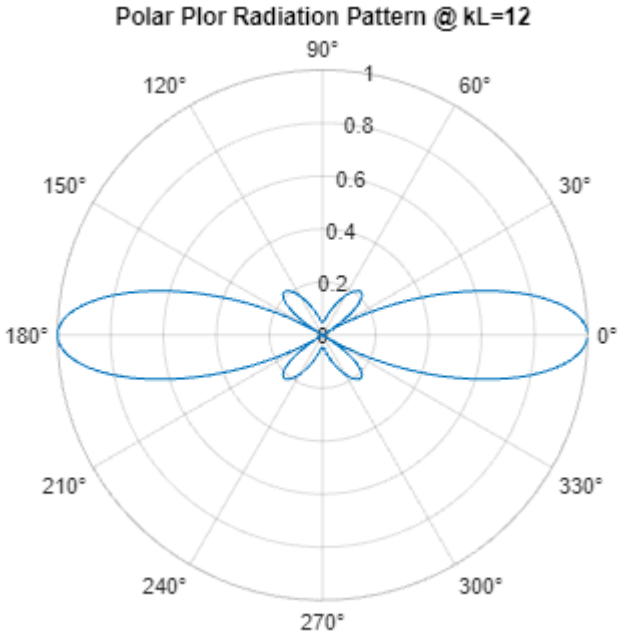
```
figure
v4=.5*kL(4)*sin(theta);
H4=sin(v4)./v4;
plot(v4,H4)
xlim([0 13])
ylim([-.4 1])
title('Directional Factor @ kL=pi')
xlabel('\nu')
ylabel('sin(\nu)/\nu')
```



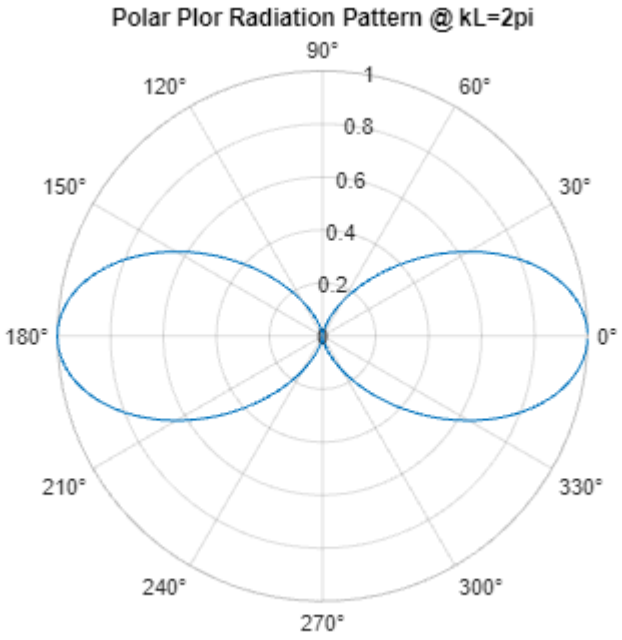

```
figure
polarplot(theta,H1)
title('Polar Plor Radiation Pattern @ kL=24')
```




```
figure
polarplot(theta,H2)
title('Polar Plor Radiation Pattern @ kL=12')
```




```
figure
polarplot(theta,H3)
title('Polar Plor Radiation Pattern @ kL=2pi')
```




```
figure
polarplot(theta,H4)
title('Polar Plor Radiation Pattern @ kL=pi')
```