```
clear all;
%Read data
vh = ncread('HL424_2011199161004.nc','virtual height (km)');
fq = ncread('HL424_2011199161004.nc','freq(kHz)');
Rx = ncread('HL424_2011199161004.nc','R5_x');
Ry = ncread('HL424_2011199161004.nc','R5_y');
n=size(vh,1);
%Transfer frequency unit to MHz
fq=fq./1000;
%Caculate the signal Intensity
DB = 20.*log10(sqrt(Rx.^2+Ry.^2));

% valuename = {'freq(kHz)','virtual height (km)',...
%            'reprete #','freq #','pulse #',...
%            'R1_x','R1_y',...
%            'R2_x','R2_y',...
%            'R3_x','R3_y',...
%            'R4_x','R4_y',...
%            'R5_x','R5_y',...
%            'R6_x','R6_y',...
%            'R7_x','R7_y',...
%            'R8_x','R8_y'};

%Correct the final point
%Make sure the final point is at right-bottom corner
DB(n+1,1)=99;
fq(n+1,1)=22.03;
vh(n+1,1)=1;
%Plot the diagram
fill(fq,vh,DB);

%Use colormap to discribe dB value (Receiver's signal intensity)
colormap Jet;
%Display colorbar
colorbar;
%Use bilinear interpolation to make color uniform
shading interp;
%Set x axis and y axis limit
axis([1 22 0 800]);
%Set X axis and Y axis unit
xlabel('Sounding Frequency (MHz)');
ylabel('Virtual Range (km)');
```