

```
function [Mag, phase, freq] = fft_to_spec(data, sample_rate)
% Number of data points
N = length(data);

% Perform the FFT
fft_data = fft(data);

% Double-sided spectrum
P2 = abs(fft_data/N);

% Single-sided spectrum
P1 = P2(1:N/2+1);
P1(2:end-1) = 2*P1(2:end-1);

% Calculate the magnitude (volts)
Mag = P1;

% Calculate the phase (degrees)
phase = angle(fft_data) * 180/pi;

% Frequency domain (Hz)
freq = sample_rate*(0:(N/2))/N;

% Adjust the phase array size to match the magnitude array
phase = phase(1:length(freq));
end
```