```matlab
clc;
clear all;
close all;

Eb_No_dB = 0:0.5:35;
M_4 = 4;
BER_4 = berawgn(Eb_No_dB,'psk',M_4,'nondiff');
M_8 = 8;
BER_8 = berawgn(Eb_No_dB,'psk',M_8,'nondiff');
M_16 = 16;
BER_16 = berawgn(Eb_No_dB,'psk',M_16,'nondiff');
M_32 = 32;
BER_32 = berawgn(Eb_No_dB,'psk',M_32,'nondiff');
figure(1);
semilogy(Eb_No_dB, BER_4, 'y');
hold on;
semilogy(Eb_No_dB, BER_8, 'k');
hold on;
semilogy(Eb_No_dB, BER_16, 'm');
hold on;
semilogy(Eb_No_dB, BER_32, 'b');
grid on;
axis([0 35 10^-6 1])
legend('QPSK AWGN channel','8PSK AWGN channel','16PSK AWGN channel','32PSK
AWGN channel');
xlabel('Eb/No');
ylabel('BER');
title('MPSK Modulation over Gaussian noise');
```