1. Suppose you want to look at the fading experienced by the GSM symbols.

Can you assume the channel is constant during a GSM symbol when vehicle velocity = 30 km/hr, 90 km/hr, and 120 km/hr? [What is the GSM symbol rate (check it out from the books in the lab)?] Plot the fading coefficients for different vehicle velocities. Which one fades faster?

30km/hr: 90km/hr:



120km/hr:

 由圖可知，速度最快的Fading最快

Compute the Doppler shift (and channel coherence time) for each case. Is it fast or slow fading in each of the three cases above?

30km/hr: Coherence\_time = 0.0400, Ts =1.0000e-06 slow fading

60km/hr: Coherence\_time =0.0133, Ts =1.0000e-06 slow fading

120km/hr: Coherence\_time =0.0100, Ts =1.0000e-06 slow fading