**Handover Algorithm**

clc

clear all

close all

d=0:0.1:50; % Distance of MS from BTS

D=50; % Seperation between BTS1 & BTS2

k1=0;

k2=30;

u1=k1-(k2\*log(d)); %Mean

u2=k1-(k2\*log(D-d));

Prmin=input('ENTER Minimum value of Received Power in dB(Prmin) : ');

Prho=input('ENTER Absolute value of received power required for Handoff in dB(Prho) : ');

sigma=input('ENTER Standard deviation of shadow fading (sigma) in dB : ');

Pout=qfunc((u1-Prmin)/sigma).\*qfunc((u2-Prmin)/sigma); % Probablity of Outage

plot(d,Pout);

xlabel('Distance (meter)');

ylabel('Probability of outage');

title('Probability of outage vs. distance');

Passg1=qfunc((u1-Prho)/sigma).\*qfunc((Prmin-u2)/sigma); % Probability of assignment to BTS1

Passg2=qfunc((u2-Prho)/sigma).\*qfunc((Prmin-u1)/sigma); % Probability of assignment to BTS2

figure(2)

plot(d,Passg1);

xlabel('Distance (meter)');

ylabel('Probability of assignment');

title('Probability of assignment to a BTS vs. distance.');

hold on;

plot(d,Passg2,'r');

d=[10 13 16 19];

u1=k1-(k2\*log(d));

u2=k1-(k2\*log(D-d));

sigma=0:30;

for i=1:4

Pout=qfunc((u1(i)-Prmin)./sigma).\*qfunc((u2(i)-Prmin)./sigma);

figure(3)

plot(sigma,Pout);

hold on;

end

xlabel('Standard deviation of shadow fading in dB');

ylabel('Probability of outage');

title('Probability of outage vs. standard deviation of shadow fading');

Output:

ENTER Minimum value of Received Power in dB(Prmin) : -95

ENTER Absolute value of received power required for Handoff in dB(Prho) : -85

ENTER Standard deviation of shadow fading (sigma) in dB : 6