Homework #8

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Rho = 0.5;

R = 0.4;

P = @(s, f) normcdf((norminv(s ./ (1-R),0,1) - sqrt(Rho) .\* f) ./ sqrt(1-Rho),0,1);

var\_feis = @(s,f,u) (1-P(s,f)) + P(s,f) .\* exp(-1i .\* u .\* (1-R));

feiL = @(f,u) var\_feis(6.8/1000,f,u);

var\_feiLu = @(u) integral(@(f) feiL(f,u) .\* 1./ sqrt(2.\* pi) .\* exp(-f.^2 ./2),-100,100);

hold on;

X = @(u,z) var\_feiLu(u) .\* exp(-1i .\*u .\*z) ./ (1i .\*u);

z = 0.1:0.01:1;

Pr =0.5 + 1 ./ pi .\* integral(@(u) real(X(u,z)),0,100,'ArrayValued',true);

plot(z,Pr)

