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theta = [0:1:90]; % In Degrees
theta = theta.*(pi/180); % Conversion to Radians - I my system Default is radians

sl_up = 850;
sl_down = 700;
st_up = 40;
st_down = 160;
tau = 75;

F11 = abs(1/(sl_up*sl_down));
F22 = abs(1/(st_down*st_up));
F66 = abs(1/(tau^2));
F1 = (1/sl_up - abs(1/sl_down));
F2 = (1/st_up - abs(1/st_down));
F12 = 0.5*sqrt(F11*F22);

max_stress = zeros(90,1);

for i=1:90
    A = F11*(cos(theta(i)))^4 + F22*(sin(theta(i)))^4 + (F66 +
2*F12)*((cos(theta(i)))^2)*((sin(theta(i)))^2);
    B = F1*(cos(theta(i)))^2 + F2*(sin(theta(i)))^2;
    C = -1;
    s = roots([A, B, C]);
    max_stress(i) = max(s);
end

plot(max_stress)

```