
```
%1.3 %1.4
%model parameters:
m=100;
theta=30/180*pi();
L=2;
g=9.81;

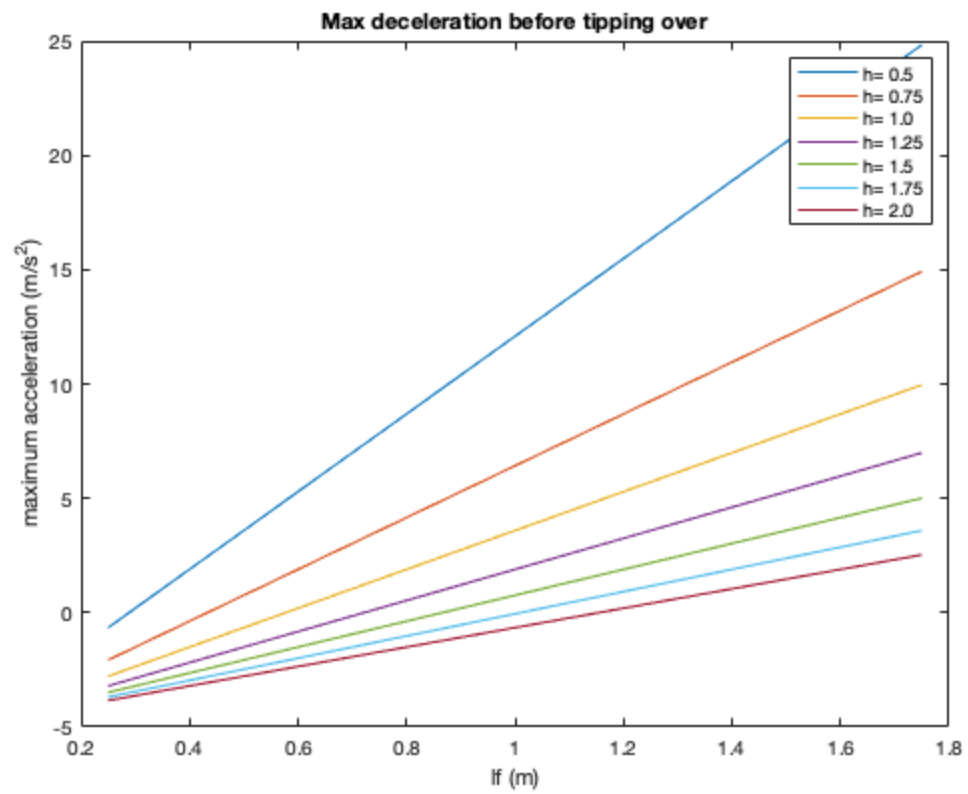
%memory space to store ans:
ansa=zeros();
anslf=zeros();
ansh=zeros();
i=1;
j=1;

for h=0.5:0.25:2 %various h
    for lf=0.25:0.05:1.75 %various lf
        %deceleration according to given h, lf
        a=g*(cos(theta)*(lf/h)-sin(theta));
        %store the ans:
        anslf(i,j)=lf;
        ansa(i,j)=a;
        i=i+1;
    end
    i=1;
    ansh(j,1)=h;
    j=j+1;
end

for j=1:1:7
    plot(anslf(:,j), ansa(:,j))
    xlabel('lf (m)');
    ylabel('maximum acceleration (m/s^2)');
    title('Max deceleration before tipping over');

    num=(j-1)*0.25+0.5;
    hold on

end
legend('h= 0.5', 'h= 0.75', 'h= 1.0', 'h= 1.25', 'h= 1.5', 'h= 1.75', 'h=
2.0')
```



Published with MATLAB® R2019a