Script to Display Thrust available from DEP system

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This is only from a propeller standpoint. This is not including the following efficiencies:

Setup

```
clear; clc

prop_const
prop_T
v2=@(v,t,h,pt) sqrt(t/(1/2*p(h)*A(pt))+v.^2);   % velocity ratio,
 velocity, thrust, h
airfoil_polar   % sets up fuselage drag
cd_new      % sets up airfoil drag polar
equations_wash
```

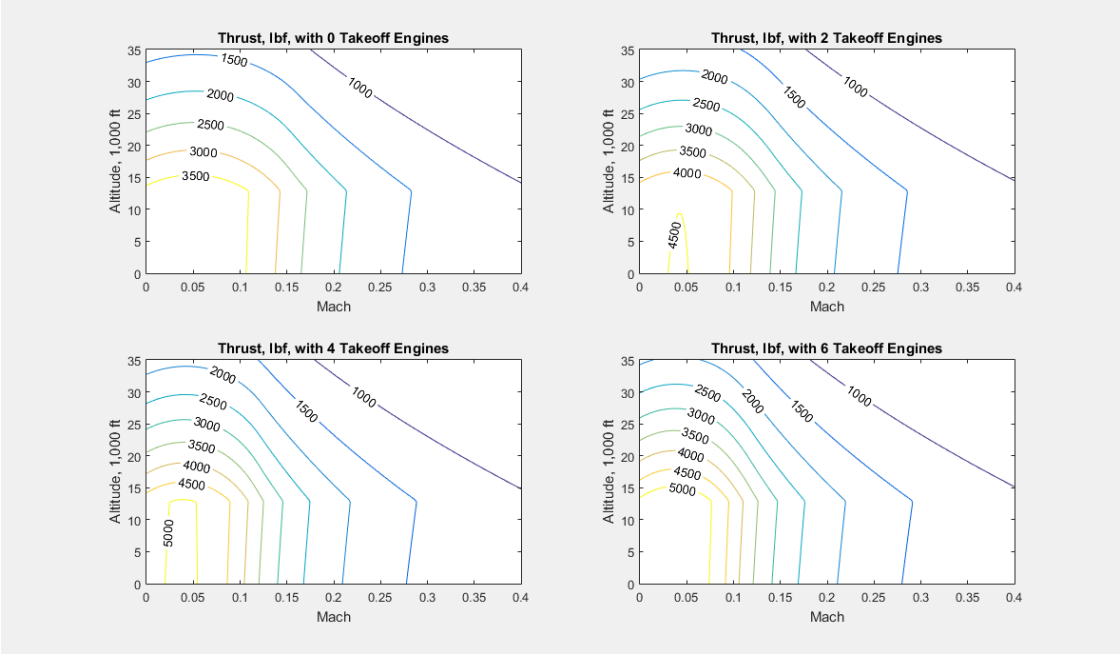
Develop Thrust across operting regieme

```
[mmat,hmat]=meshgrid(linspace(0,0.4),linspace(0,35e3));

numopts=[0:2:6];
h=0;    % deal with sea-level for now
solopts=optimoptions('fsolve','display','none');
parfor nitr=1:length(numopts)
    for ita=1:100
        for itb=1:100
            Tmat(ita,itb,nitr)=...
                T(a(hmat(ita,itb)).*mmat(ita,itb),...
                hmat(ita,itb),...
                Pa,...
                numopts(nitr)+2);
        end
    end
end

figure(1); clf
for nitr=1:length(numopts)
    subplot(2,2,nitr)
    [~,c]=contour(mmat,hmat/1e3,Tmat(:,:,nitr),[1000:500:6000]);
    set(c,'ShowText','on','LabelSpacing',400);
    title(sprintf('Thrust, lbf, with %g Takeoff
 Engines',numopts(nitr)))
```

```
    xlabel('Mach')
    ylabel('Altitude, 1,000 ft')
end
```



Published with MATLAB® R2015a