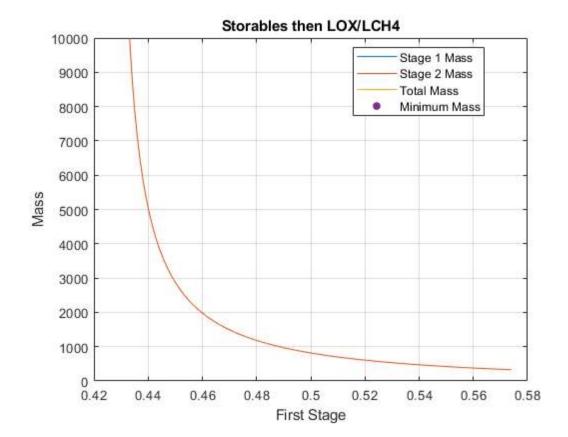
```
% TP 1
% Chris Witherspoon
% 1.2
addpath('..')
% Delta constants
d1 = 0.08:
d2 = 0.08;
% Specific impulse (storables)
isp = 285;
isp_comp = 285 ; % Second
% Payload mass
mpl = 26000;
% X variable array
x = 0:0.001:1;
% Stage arrays initializations
first_stage = [];
second_stage = [];
tot_mass = [];
% Array population
i = 1; % initialize the variable to loop
while i <= length(x)</pre>
                [\min 1, \min 2, \min, \min] = \max_{i=1}^{n} \min(i, i), \min(i), 
               first_stage(end+1) = min1 + mpr1 ;
               second_stage(end+1) = min2 + mpr2 ;
               tot_mass(end+1) = m0;
                i = i + 1;
end
% Value placeholder for the mass
min m0 = realmax ;
min_mox = NaN ;
% Check the min value
i = 1; %
while i <= length(x)</pre>
               if first_stage(i) > 0 && second_stage(i) > 0 && tot_mass(i) < min_m0</pre>
                                min_m0 = tot_mass(i) ;
                                min\_mox = x(i);
               end
                i = i + 1;
end
% Plotting the graph
plot(x,first_stage/1000);
hold on ;
grid on ;
title("Storables then LOX/LCH4")
plot(x, second_stage/1000);
plot(x, tot_mass/1000);
plot(min_mox, min_m0/1000, '.', MarkerSize = 20);
```

```
legend('Stage 1 Mass','Stage 2 Mass','Total Mass','Minimum Mass','Location','best');
ylim([0, 1e4]);
xlabel("First Stage");
ylabel("Mass");
```



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