Bott Gabriel Pam
Petroleum Engineering
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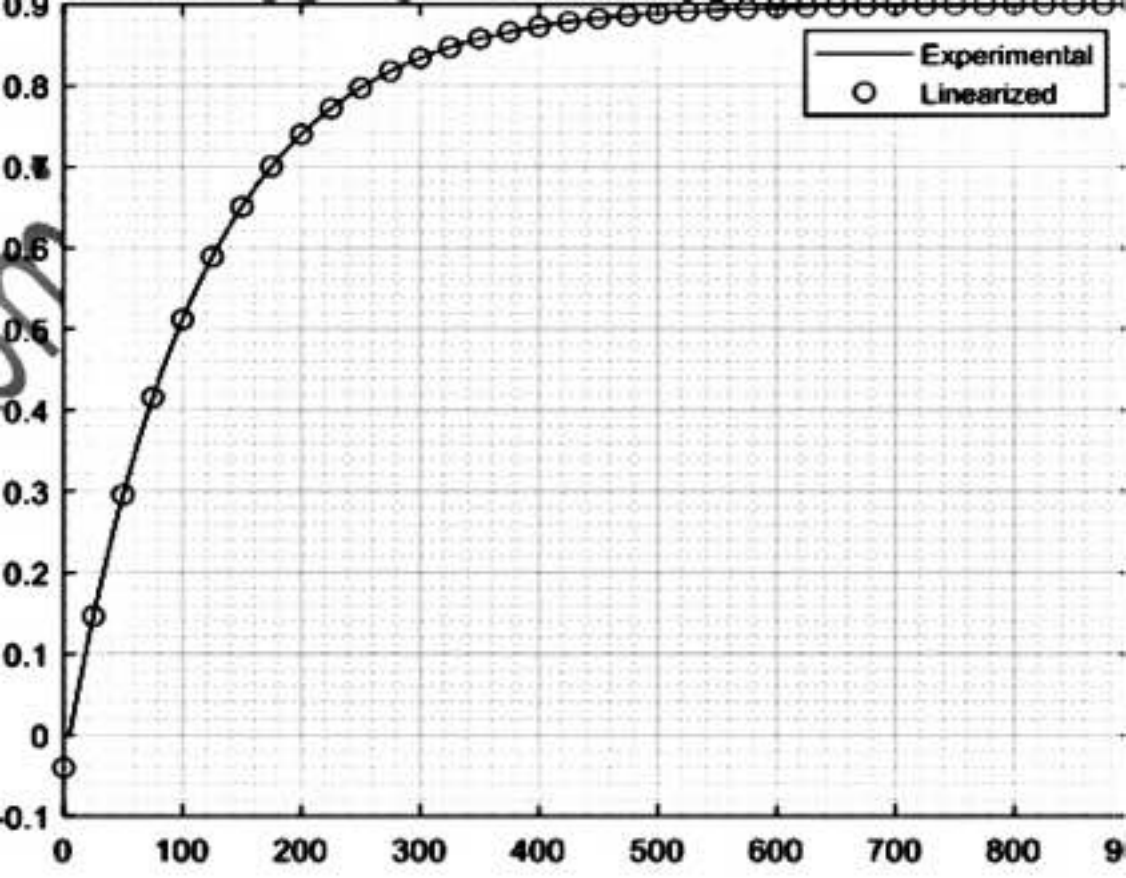
Answer

@ Command Window

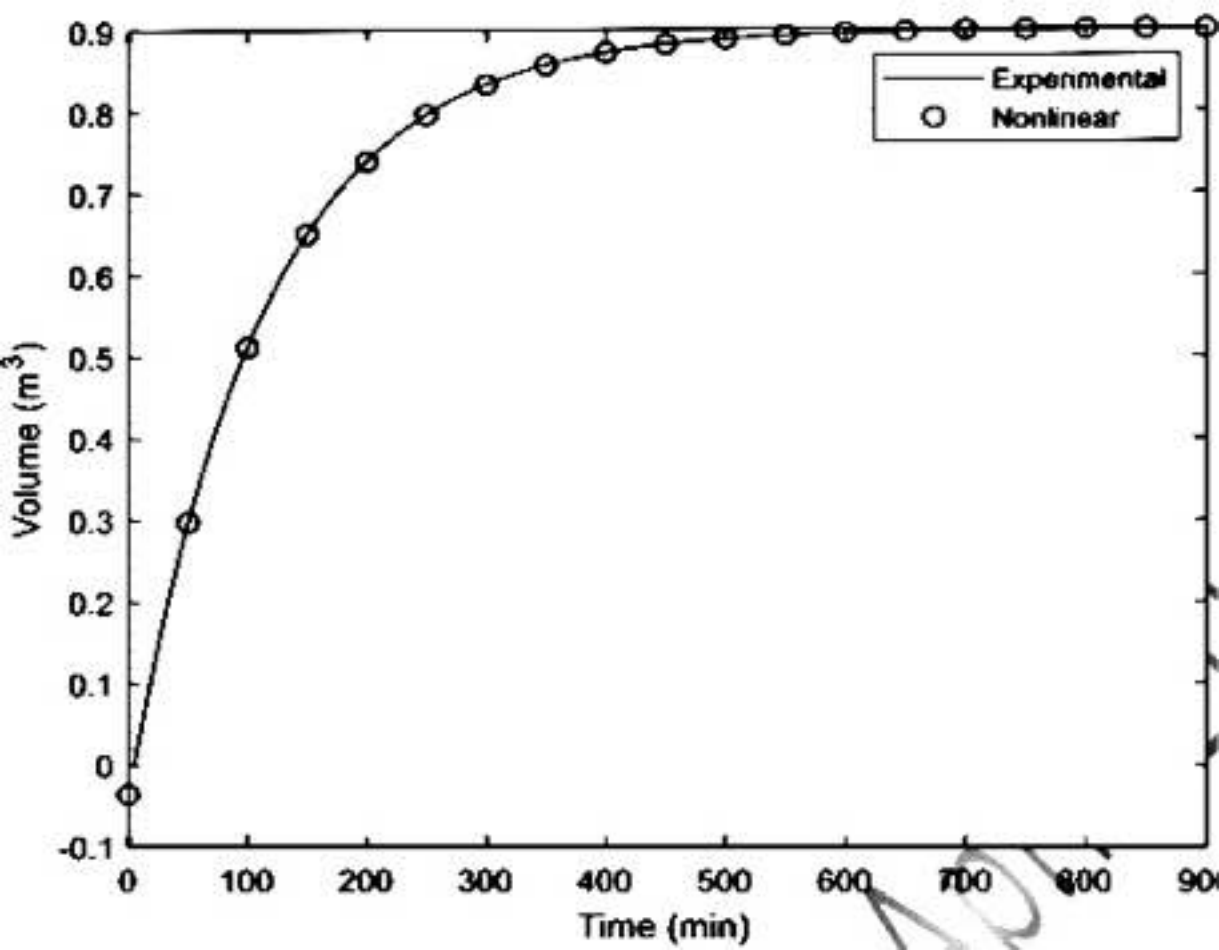
```
Clearvars
Clc
format short g
Syms t Kp td tp
V = Kp * (1 - exp(-((t - td)/tp)))
mdata = xlsread('odevbesdata', 'data 1')
t1 = mdata(:, 1);
v = mdata(:, 2);
V1 = round(mdata(900, 2), 1)
t = [t0 t1]
% [mCoeff, mCoeffint, mResid, mResidint, manova] = regress(V,t);
% mCoeff
% rsquaredvalue = mCoeff(2)
Plot(t,v)
grid on
axis tight
grid minor
```


Experimental
Linearized
0.9
0.8
0.6
0.4
0.3
0.2
0.1
0
-0.1
0
100
200
300
400
500
600
700
800

9)ii)

```
Command window
clear vars
clc
format short g

syms t kp td tp
mdata = xlsread('devbesdata', 'data 1')
td = mdata(1, 1);
V = mdata(:, 2)
to = ones(length(V), 1)
t = [to td]
y = e(kp, td, tp) (- ((exp(td) + exp(-td)) / exp(tp)));
initials = [0.1, 0.1, 0.1]
% [mCoeff, mCoeffint, mrold, mroldint, manova] = nlinfit(V, t,
  initials)
% mCoeff
Plot (t, v)
grid on
grid minor
```


Expenmental
Nonlinear
Volume (m3)
Time (min)
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
-0.1
0
100
200
300
400
500
600
700
800
900