APPENDIX B: Mat lab programme illustrating curve plotting and fitting

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  Student License -- for use in conjunction with courses offered at a
  degree-granting institution.  Professional and commercial use prohibited.

  Using Toolbox Path Cache.  Type "help toolbox_path_cache" for more info.

  To get started, select "MATLAB Help" from the Help menu.

EDU>> x=[3.6,7.2,14.4,28.8,86.4,345.6,604.8];
EDU>> y=[927.069,894.896,876.012,838.477,822.041,742.774,721.209];
EDU>> n=2;
EDU>> p=polyfit(x,y,n)

p =

   0.0007   -0.7242  892.4923

EDU>> xi=linspace(3.6,605,8);
EDU>> yi=polyval(p,xi);
EDU>> plot(x,y,'o',xi,yi,'--')
EDU>> z=[911.799,920.775,904.455,896.179,885.571,804.789,752.217];
EDU>> n=2;
EDU>> p=polyfit(x,y,n)

p =

   0.0007   -0.7242  892.4923

EDU>> xi=linspace(3.6,605,8);
EDU>> zi=polyval(p,xi);
EDU>> hold on
EDU>> ishold

ans =

    1

EDU>> plot(x,z,'o',xi,zi,'o')
EDU>> r=[900.00,916.928,907.369,915.763,891.982,871.00,842.907];
EDU>> n=2;
EDU>> p=polyfit(x,r,n)

p =

   0.0000   -0.1308  910.3061

EDU>> xi=linspace(3.6,605,8);
EDU>> ri=polyval(p,xi);
EDU>> hold on
EDU>> ishold

ans =

    1
```

```
EDU>> plot(x,r,'o',xi,ri,'--')
EDU>>
```

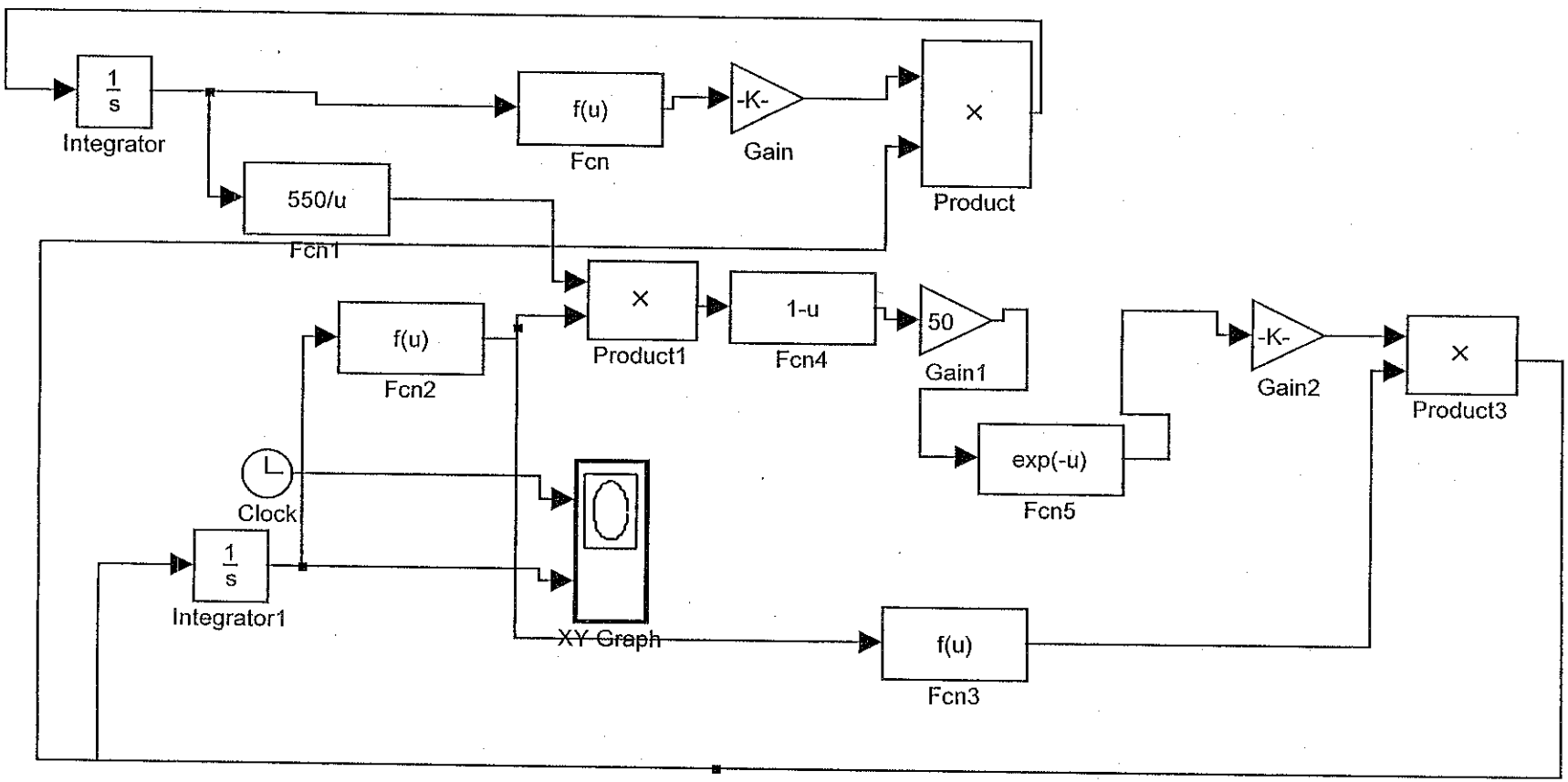
```
x=[3.6, 7.2, 14.4, 28.8, 86.4, 169.2, 345.6, 604.8];
y=[913, 926, 906, 901, 888, 838, 197, 760];
n=2;
p=polyfit(x,y,n)
xi=linspace(3.6, 650, 8);
yi=polyval(p,xi);
plot(x,y,'o',xi,yi,'--')
z=[900, 930, 918, 914, 899, 895, 914, 869];
n=2;
p=polyfit(x,z,n)
xi=linspace(3.6, 650, 8);
zi=polyval(p,xi);
plot(x,z,'o',xi,zi,'--')
hold on
ishold
plot(x,y,'o',xi,yi,'--')
s=[927, 899, 880, 863, 822, 737, 742, 721];
n=2;
p=polyfit(x,s,n)
xi=linspace(3.6, 650, 8);
si=polyval(p, xi);
hold on
ishold
plot(x,s,'o',xi,si,'--')
r=[0, 907, 930, 896, 898, 854, 840, 821];
n=2;
p=polyfit(x,r,n)
xi=linspace(3.6, 3000, 8);
ri=polyval(p, xi);
hold on
ishold
plot(x,r,'o', xi,ri,'--')
%-- 11:26 AM 9/17/02 --%
plot(x,r,'o', xi,ri,'--')
x=[3.6, 7.2, 14.4, 28.8, 86.4, 169.2, 345.6, 604.8];
y=[900, 930, 918, 899, 895, 914, 869];
n=2;
p=polyfit(x,y,n)
x=[3.6, 7.2, 14.4, 28.8, 86.4, 169.2, 345.6, 604.8];
y=[900, 930, 918, 899, 895, 914, 869];
y=[900, 930, 918, 914, 899, 895, 914, 869];
n=2;
p=polyfit(x,y,n)
xi=linspace(3.6, 640, 8);
yi=polyval(p,xi);
plot(x,y,'o',xi,yi,'--')
%-- 11:38 AM 9/17/02 --%
x=[3.6, 7.2, 14.4, 28.8, 86.4, 169.2, 345.6, 604.8];
y=[900, 930.45, 918.22, 914.36, 899.9, 895.36, 914.36, 869.01];
```

```
p=polyfit(x,y,n)
xi=linspace(3.6, 650, 8);
yi=polyval(p,xi);
plot(x,y,'o',xi,yi,'--')
z=[900, 930, 918, 914, 899, 895, 914, 869];
n=2;
p=polyfit(x,z,n)
xi=linspace(3.6, 650, 8);
zi=polyval(p,xi);
plot(x,z,'o',xi,zi,'--')
hold on
ishold
plot(x,y,'o',xi,yi,'--')
s=[927, 899, 880, 863, 822, 737, 742, 721];
n=2;
p=polyfit(x,s,n)
xi=linspace(3.6, 650, 8);
si=polyval(p, xi);
hold on
ishold
plot(x,s,'o',xi,si,'--')
r=[0, 907, 930, 896, 898, 854, 840, 821];
n=2;
p=polyfit(x,r,n)
xi=linspace(3.6, 3000, 8);
ri=polyval(p, xi);
hold on
ishold
plot(x,r,'o', xi,ri,'--')
%-- 11:26 AM 9/17/02 --%
plot(x,r,'o', xi,ri,'--')
x=[3.6, 7.2, 14.4, 28.8, 86.4, 169.2, 345.6, 604.8];
y=[900, 930, 918, 899, 895, 914, 869];
n=2;
p=polyfit(x,y,n)
x=[3.6, 7.2, 14.4, 28.8, 86.4, 169.2, 345.6, 604.8];
y=[900, 930, 918, 899, 895, 914, 869];
y=[900, 930, 918, 914, 899, 895, 914, 869];
n=2;
p=polyfit(x,y,n)
xi=linspace(3.6, 640, 8);
yi=polyval(p,xi);
plot(x,y,'o',xi,yi,'--')
%-- 11:38 AM 9/17/02 --%
x=[3.6, 7.2, 14.4, 28.8, 86.4, 169.2, 345.6, 604.8];
y=[900, 930.45, 918.22, 914.36, 899.9, 895.36, 914.36, 869.01];
n=2;
p=polyfit(x,y,n)
xi=linspace(3.6,640,8);
yi=polyval(p,xi);
```

```
plot(x,y,'o',xi,yi,'--')
z=[913.66, 926.83, 906.78, 901.38, 888.36, 838.82, 797.79, 760.60];
n=2;
p=polyfit(x,z,n)
xi=linspace(3.6, 640, 8);
zi=polyval(p,xi);
hold on
ishold
plot(x,z,'o',xi,zi,'--')
r=[927.06, 899.55, 880.67, 863.65, 822.04, 737.64, 742.77, 721.21];
n=2;
p=polyfit(x,r,n)
xi=linspace(3.6, 640, 8);
ri=polyval(p,xi);
hold on
ishold
plot(x,r,'o', xi,ri,'--')
s=[900, 902, 907.36, 914.36, 899.9, 895.36,917.36, 847.57, 745.57];
n=2;
p=polyfit(x,s,n)
s=[902, 907.36, 914.36, 899.9, 895.36, 917.36, 847.57, 745.57];
n=2;
p=polyfit(x,s,n)
xi=linspace(3.6, 640, 8);
si=polyval(p,xi);
hold on
ishold
plot(x,s,'o',xi,si,'--')
%-- 12:45 PM 9/18/02 --%
%--  2:11 PM 9/23/02 --%
%-- 12:09 PM 9/25/02 --%
%--  2:18 PM 9/26/02 --%
%--  1:07 PM 9/27/02 --%
%--  1:10 PM 9/27/02 --%
```

APPENDIX C: Schematic Simulink Block Diagram for estimating the general creep curve

SCHEMATIC BLOCK DIAGRAM FOR ESTIMATING GENERAL CREEP CURVES



APPENDIX D: Schematic Simulink Block Diagram for estimating softening kinetics

SCHEMATIC SIMULINK BLOCK DIAGRAM FOR ESTIMATING SOFTENING CURVES