
```

##### 5
#####
#####

w=10e-6;
h=2e-6;
E=169e6;
l=500e-6;
l1=35e-6;
l2=160e-6;
alp=3.5e-6;
w1=10e-6;
dT=1;
F=@(w, dT) w*h*E*alp*dT;
k=@(w1) E*w1.^3*h./(12*l1^3);
y0=F(w, dT)./k(w1);
prolong=@(l, dt) l*(1+alp*dt);

w=linspace(w/2,w*2);
w1=linspace(w1/2,w1*2);
[W,W1]=meshgrid(w, w1);

y0=F(W, dT)./k(W1);

figure('Units', 'normalized', 'OuterPosition', [0 0 1 1]);
surf(W, W1, y0);
xlabel('$W, m$', 'Interpreter', 'latex');
ylabel('$W_1, m$', 'Interpreter', 'latex');
zlabel('$Y_0, m$', 'Interpreter', 'latex');
title('$Y_0=f(w, w_1)$', 'Interpreter', 'latex');
shading interp;

clear w w1 W W1 y0;
w=10e-6;
w1=10e-6;
dT=0:100;
y0=F(w, dT)./k(w1);
figure('Units', 'normalized', 'OuterPosition', [0 0 1 1]);
plot(dT, y0);
xlabel('$dT, K$', 'Interpreter', 'latex');
ylabel('$Y_0, m$', 'Interpreter', 'latex');
title('$Y_0=f(dT)$', 'Interpreter', 'latex');

clear dT y0;
dT=0:100;
y0=F(w, dT)./k(w1);
gamma=y0/l1;
y=(l1+w+l2)*gamma;
figure('Units', 'normalized', 'OuterPosition', [0 0 1 1]);
plot(dT, y);
xlabel('$dT, K$', 'Interpreter', 'latex');
ylabel('$Y, m$', 'Interpreter', 'latex');

```

```
title('$y=f(dT)$', 'Interpreter','latex');

clear dT;
dT=50;

Y=prolong(l,dT)
dy=Y-l

X=prolong(w, dT)
dx=X-w

Z=prolong(h, dT)
dz=Z-h


Y =

    5.0009e-04


dy =

    8.7500e-08


X =

    1.0002e-05


dx =

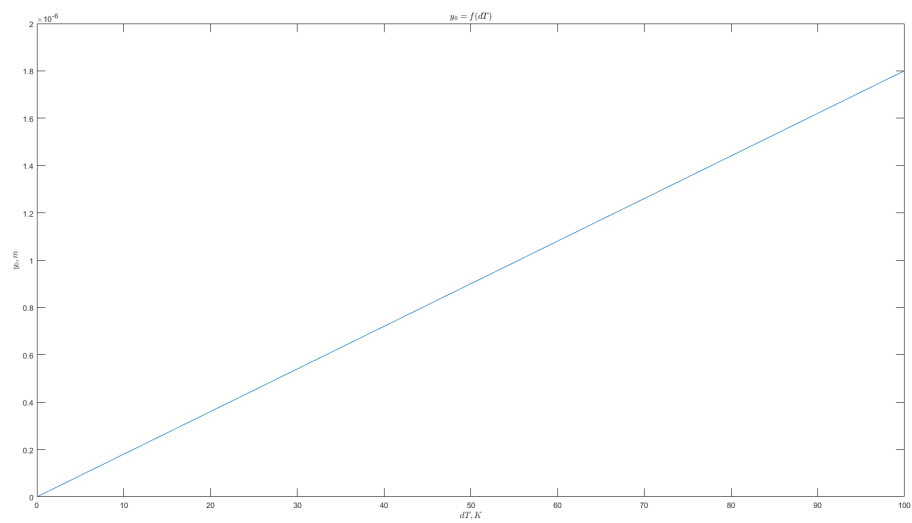
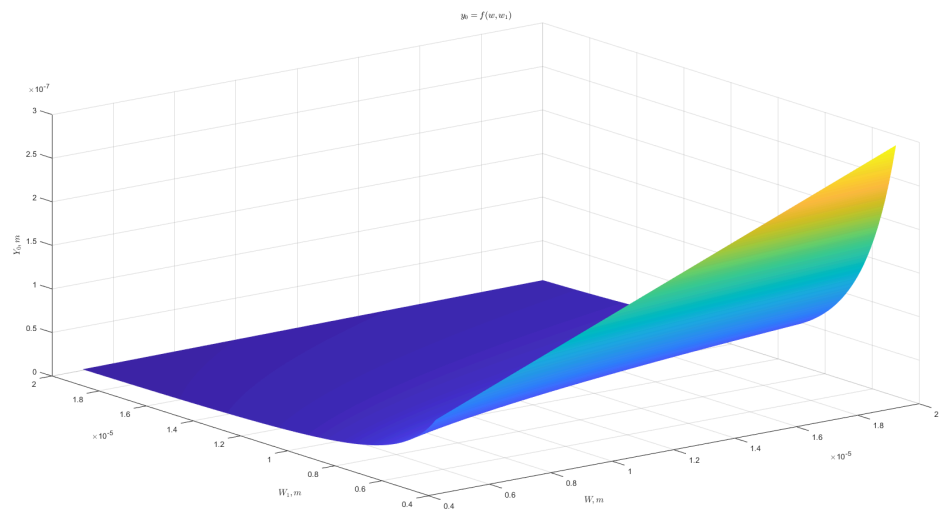
    1.7500e-09

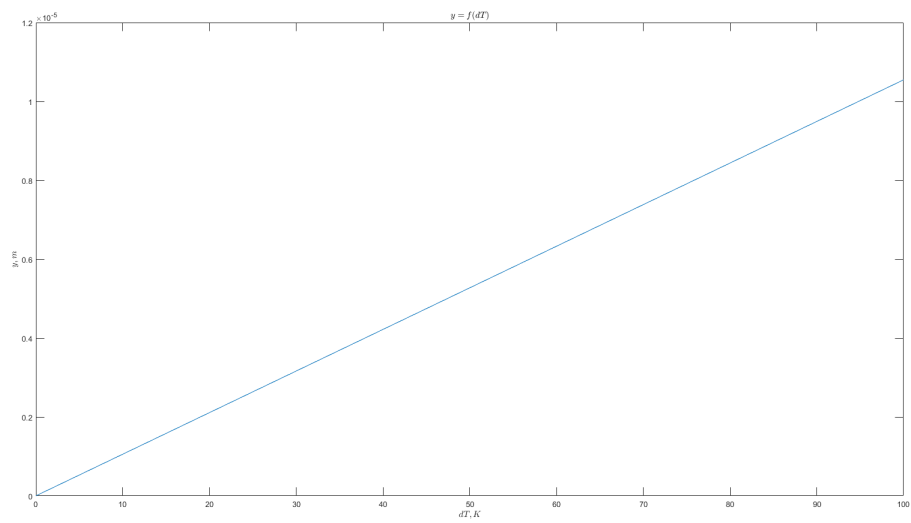

Z =

    2.0003e-06


dz =

    3.5000e-10
```





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