
```

function main
omega = 1;
u = tf([omega],[1 0 omega^2])% reference

g = tf([2 1],[1 3 2]) %exam1
g = tf([1 0 1],[1 3 3 1])%exam2
epsilon =0.001
g = tf([1],[epsilon^2 2*epsilon 1])%exam3
figure(1)
bode(g)
figure(2)
impulse(g*u,20)
hold on
figure(3)
impulse(u,20)

```

u =

$$\frac{1}{s^2 + 1}$$

#####

g =

$$\frac{2s + 1}{s^2 + 3s + 2}$$

#####

g =

$$\frac{s^2 + 1}{s^3 + 3s^2 + 3s + 1}$$

#####

epsilon =

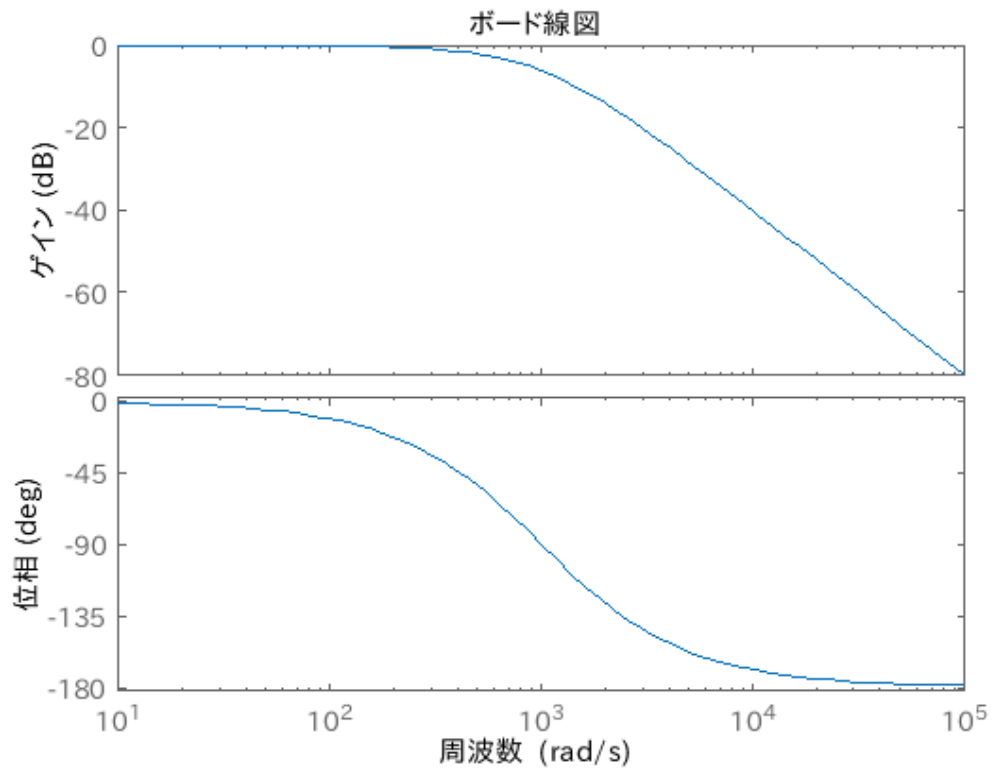
1.0000e-03

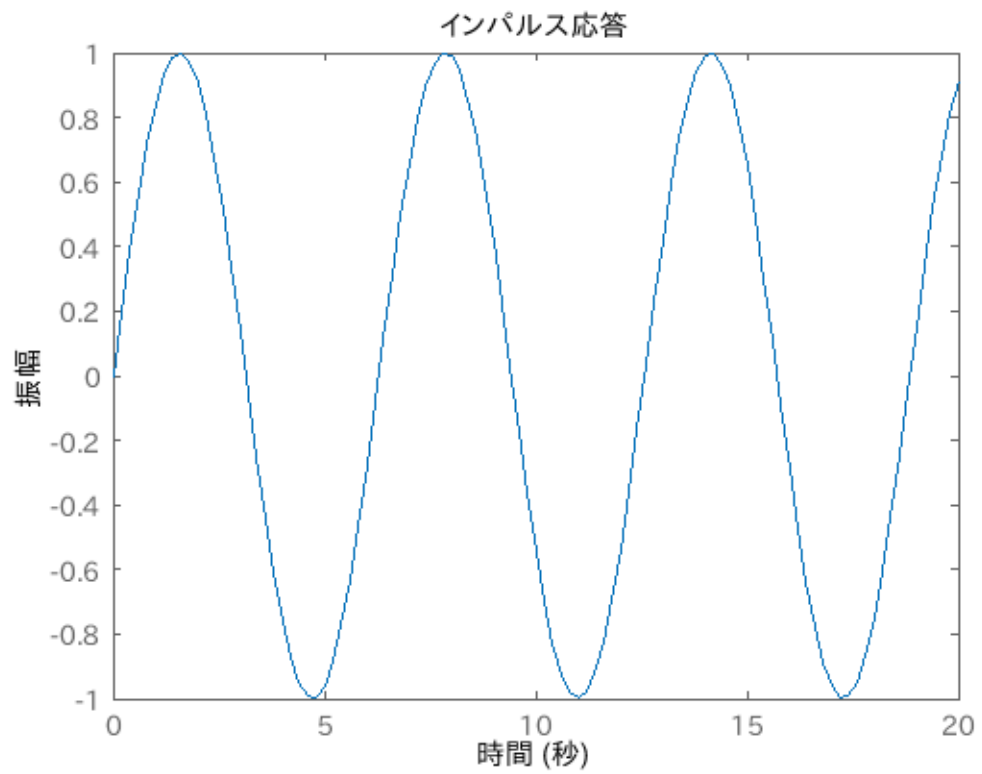
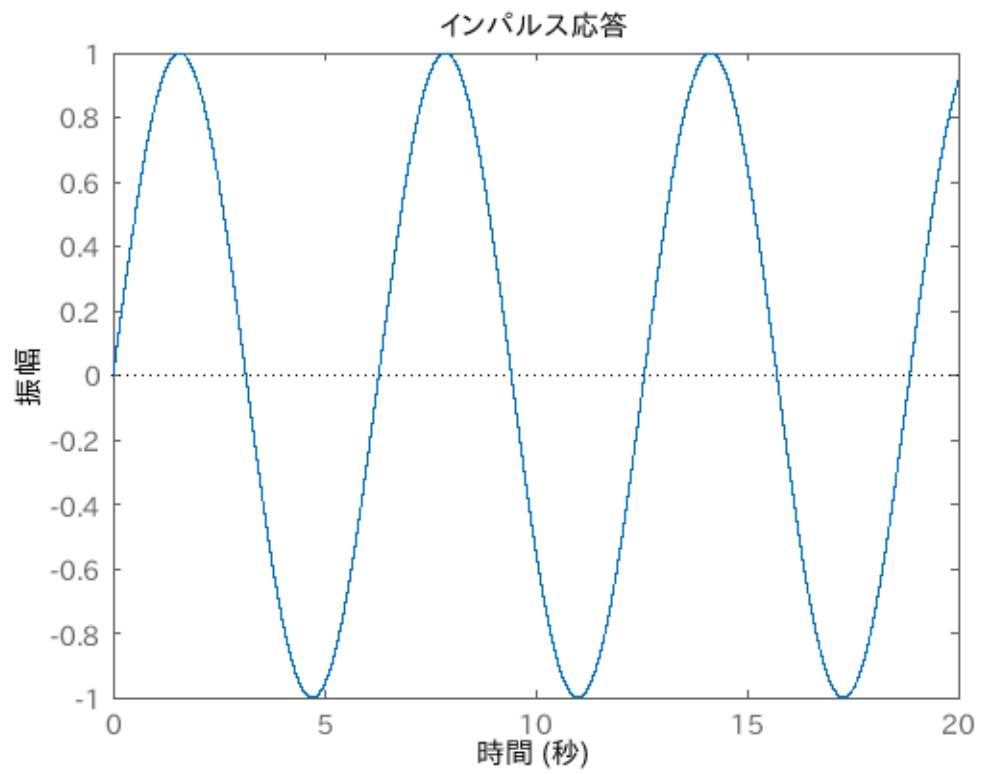
g =

1

 $1e-06 s^2 + 0.002 s + 1$

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