

# Matlab / Simulink

## How can I calculate the phase margin and/or the gain margin in a Matlab m-script?

```
% Phase and gain margin can be read from the bode plot.
%
%% For demonstration purpose we first define an arbitrary open loop pr
oces
s=tf('s');
Hopen=2/((s+1)*(s+2)*(s+3));
% create a figure handle that is not likely to be used already
% and plot the bode diagram
figure(100);
bode(Hopen);
grid on;
%
%% Compute the margins with the margin function as follows:
[Gm,Pm,Wgm,Wpm] = margin(Hopen);
% display the results
disp(['Gain margin is : ', num2str(Gm), ' at ', num2str(Wgm), ' rad/s'
]);
disp(['Phase margin is : ', num2str(Pm), ' degrees at ', num2str(Wpm),
' rad/s']]);
```

Unieke FAQ ID: #1100

Auteur: Harry van der Pol

Laatst bijgewerkt:2018-03-05 16:56