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```
close all
clearvars
clc
```

PARAMETERS

```
Fc = 50;                                % Sinusoid frequency
Ncyc = 40;                              % Number of signal
 cycles to be simulated
osf = 20;                               % Oversampling factor
 [Sa/S]
Var = 0.15;                             % Noise variance
```

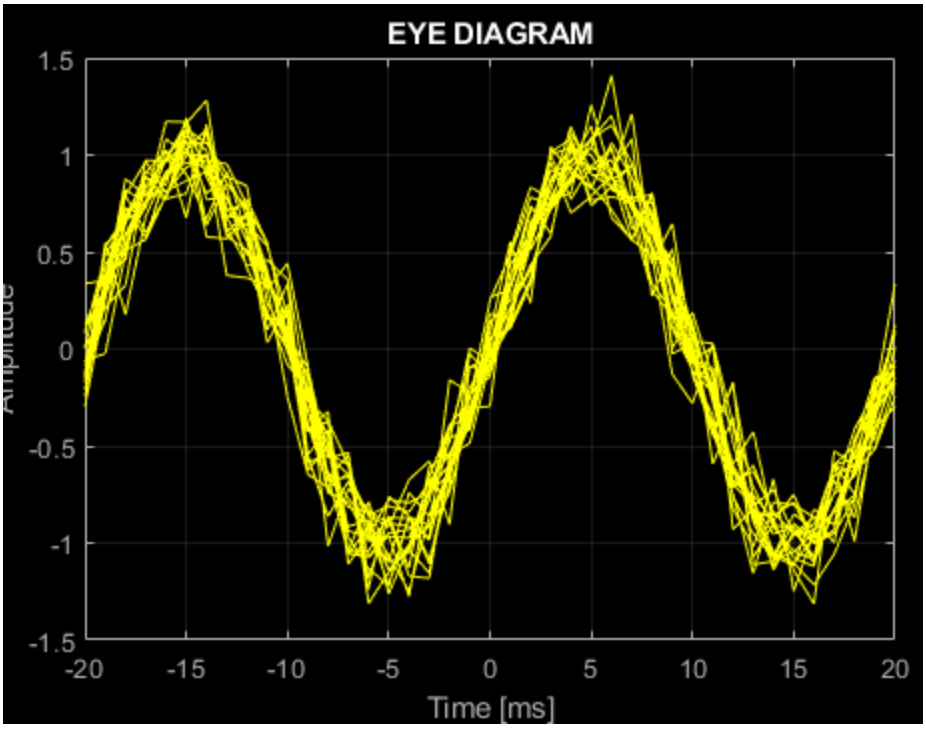
PROCESSING

```
Fs = osf*Fc;                            % Sample rate [Sa/s]
Time = 1/Fs*(0:osf*Ncyc-1);             % Time axis [s]
Sgn = sin(2*pi*Fc*Time);                % Create testing signal
Sgn = Sgn+Var*randn(1,length(Sgn));     % Add Gaussian noise

Ew = 2*osf;                             % Eye-diagram window
 [Sa] (X-range)
Ep = Ew/Fs*1e3;                         % Eye-diagram period (to
 rescale X-axis label numbering)
```

RESULTS

```
eyediagram(Sgn,Ew,Ep)
title('EYE DIAGRAM')
xlabel('Time [ms]')
grid on
```



NOTES

```
% 1. At the end of the day, the eye-diagram means simply to graphically
 overlap successive chunks
%     of a periodic signal to check how uch it varies in time (e.g. due to
 noise or sync issues).

% 2. Increasing "Var" makes the eye less clear (i.e. decreased RX capability
 to distingues exact sampling instants).
```

Published with MATLAB® R2022a