
```
function output = analytic_harmonic_oscillator(amplitude, phase, ...
    ang_freq_2, time_array)
%analytic_harmonic_oscillator    Return output for harmonic oscillator given
%    amplitude, phase, (angular frequency)^2, and array of time.
fcnsPrintQueue(mfilename('fullpath')) % Add this code to code appendix

output = amplitude*cos(sqrt(ang_freq_2)*time_array + phase);
```

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