Answer on Question #72211-Physics-Other

√2cos (wt-π/4) how it is a SHM?

Answer

$$x(t) = \sqrt{2}\cos\left(\text{wt} - \frac{\pi}{4}\right).$$

$x(t)$ is the solution of the one-dimensional differential equation corresponded to Simple Harmonic Motion:

$$x'' + w^2 x = 0$$

In our case: $\sqrt{2}$ is amplitude, w is angular frequency, $\frac{\pi}{4}$ is the phase.