

Assignment-2

EE:1205 (*SignalsSystems*)

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Question

The motion of a particle executing simple harmonic motion is described by the displacement function, $x(t) = A \cos(\omega t + \phi)$. If the initial ($t = 0$) position of the particle is 1cm and its initial velocity is $\omega \text{ cm/s}$, what are its amplitude and initial phase angle ? The angular frequency of the particle is $\pi \text{ s}^{-1}$. If instead of the cosine function, we choose the sine function to describe the SHM : $x = B \sin(\omega t + \alpha)$, what are the amplitude and initial phase of the particle with the above initial conditions.