

Answer on Question #68215- Physics / Other

The displacement of a particle S in a time, t is given by $S = A + Bt + Ct^2$, deduce the units of the constants A , B and C appearing in the equation.

Solution:

The unit of the displacement is meter [m] and unit of the time is second [s], so

$$[m] = [A] + [B][s] + [C][s^2].$$

Finally, the units of the constants A , B and C

$$[A] = [m], \quad [B] = \left[\frac{m}{s}\right], \quad [C] = \left[\frac{m}{s^2}\right].$$

Answer: $[A] = [m]$, $[B] = \left[\frac{m}{s}\right]$, $[C] = \left[\frac{m}{s^2}\right]$

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