

3.10: Kinetic energy

We remind ourselves that we are discussing *particles*, and that all kinetic energy is translational kinetic energy.

Notation:

- K_C = kinetic energy with respect to the centre of mass C.
- K_O = kinetic energy with respect to the origin O.



Theorem:

$K_O = K_C + \frac{1}{2} M v_C^2$

Thus:

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Corollary:

If $K_C = 0$. (Think about what this means.)



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Corollary: For a non-rotating rigid body, $K_C = 0$, and therefore $K_O = \frac{1}{2} M v_C^2$.
(Think about what this means.)

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