

3.3: Moment of Momentum

In a similar way, if a particle at position \mathbf{r} has linear momentum $\mathbf{p} = m\mathbf{v}$, its *moment of momentum with respect to the origin* is the vector \mathbf{l} defined by

$$\mathbf{l} = \mathbf{r} \times \mathbf{p} \quad (3.3.1)$$

and its *components* are the moments of momentum *with respect to the axes*. Moment of momentum plays a role in rotational motion analogous to the role played by linear momentum in linear motion, and is also called *angular momentum*. The dimensions of angular momentum are ML^2T^{-1} . Several choices for expressing angular momentum in SI units are possible; the usual choice is J s (joule seconds).

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