

## 10.3: Conservation of Momentum

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If all external forces on a system are zero, then equation (10.5) reduces to

$$\mathbf{p}_{tot} = \text{const} \quad (\text{isolated system}). \quad (10.3.1)$$

A system of particles with no external forces acting on it is called *isolated*. Newton's third law thus tells us that the kinetic momentum of an isolated system doesn't change with time. This law is called the *conservation of momentum*.

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