



Conservation of Angular Momentum

- ▶ Angular momentum $\vec{L} = I\vec{\omega}$ is the rotational analog to momentum $\vec{p} = m\vec{v}$.
 - ▶ In a collision there are not outside forces acting on the system of colliding objects so momentum is conserved.
 - ▶ In a collision there are not outside torques acting on the system of colliding objects so angular momentum is conserved.
- ▶ Rotational kinetic energy is $K = 1/2 I \omega^2$
 - ▶ In a collision kinetic energy is transferred into heat unless the collision is perfectly elastic.
 - ▶ In inelastic or partially elastic collisions energy is not conserved