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 transfered into heat unless the collision is perfectly elastic.

  ▸ In inelastic or partially elastic collisions energy is not conserved