**Abstract:**

A bumper is a structure attached or integrated to the front and rear of an automobile to absorb impact in a minor collision, ideally minimizing repair costs. Bumpers also have two safety functions: minimizing height mismatches between vehicles, and protecting pedestrians from injury. Bumpers offer protection to other vehicle components by dissipating the kinetic energy generated by an impact. A bumper that protects vehicle components from damage at 5 miles per hour must be four times stronger than a bumper that protects at 2.5 miles per hour, with the collision energy dissipation concentrated at the extreme front and rear of the vehicle. The main objective of the project is to design an auto mobile bumper and simulates the natural frequencies and mode shapes of the bumper. The cad model of auto mobile bumper is done in solid works premium 2014. And simulation is carried out in solid works simulation.