**Design and analysis of helical springs in two wheeler suspension system**

**Abstract**

In vehicles problem happens while driving on bumping road condition. The objective of this project is to design and analyze the performance of Shock absorber by varying the wire diameter of the coil spring. The Shock absorber which is one of the Suspension systems is designed mechanically to handle shock impulse and dissipate kinetic energy. It reduces the amplitude of disturbances leading to increase in comfort and improved ride quality. The spring is compressed quickly when the wheel strikes the bump.

The vehicle handling becomes very difficult and leads to uncomfortable ride when bouncing is allowed uncontrolled. Hence, the designing of spring in a suspension system is very crucial.

in this project we design the shock absorber at different wire diameters at different loads with different materials and perform dynamic and static analysis by using solid works premium 2014.