**DESIGN AND ANALYSIS OF AN ALLOY WHEELS**

ABSTRACT

The project is to design the motor cycle alloy wheels using SOLID WORKS and analyzed with the SOLID WORKS SIMULATION. It is a tool used for the evaluation of systems and structures. It is needed to analyze complex structures, where as very simple ones. The chosen material is an aluminum alloy, magnesium alloy, titanium alloy. The aluminum alloy is better to the conventional steel wheels in strength and durability. It has excellent wear resistance, anticorrosion properties and longer service life as estimated by the stress frequency distribution. The analysis is done with the maximum load can be applied on rim. The rear wheel and front wheel have their own maximum load that can be supported. It was found that the stress of the analysis is still in the range of the yield strength of aluminum alloy. The displacement is at the low value. The design is still in the safe condition.