

ABSTRACT

This dissertation concerns of the design and analysis of a small race car specifically a race car for Universiti Teknologi PETRONAS (UTP)'s Formula Society of Automotive Engineer (FSAE) team. The scope of this dissertation will cover the design and analysis of space frame type race car chassis. Previous design of the chassis will be used as a reference for the project. The weaknesses, disadvantages and advantages of the previous chassis design will be studied and use as guidance to design a new chassis. Decision matrix is use to determine which design approaches is more feasible and three chassis models will be designed before selecting the desired model based on several factors such as the strength, weight and economic consideration. Modelling of chassis will be done with CATIA whilst the analysis will be conducted using CATIA analysis function, ANSYS, along with ADAMS Car. The project is expected to deliver a new chassis design that comply with all the rules and regulations of the racing competition and meet all the target specification.

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