

Modelling and Analysis on Intercontinental Ballistic Missiles Using CATIA and ANSYS

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ABSTRACT

By this study, the structural analysis of design of a ballistic missile which weather it suitable for the launching purpose with changing the fins of the ballistic missile. By the structural view they can vary the pressure under the control of before the missile is ready to blast. The key difficulties in developing semi-trailer structures are to minimize weight, increase strength, and increase stiffness. The design and optimization are presented in this publication. construction of a semi-trailer chassis for a lightweight missile transporter. Up to 40 tones of cargo are supported by the semi-trailer. Three generic missiles with a typical length of up to 12.5 m make up the payload.

The center of gravity of the entire system was raised by stacking these missiles. The semi-ability trailer's to man over safely was geo paradise by its high center of gravity. To satisfy the payload's functional and installation needs, the design process underwent a number of changes. The structure was simulated using a finite element model with regard to the loading circumstances. The model was then put into practice to create an optimization problem.

Key Words: Range, Speed, Warheads, Guidance, Variants, Threats, Design, Analysis, Explicit Dynamics, CFD analysis, CATIA V5, ANSYS

INTRODUCTION

Several trailer configurations and types can deal with the progression of the road regulations governing the size and capacity of trailers. These configurations bear with different forms and quantities of payloads. The trailer types can be classified into two categories either by construction or by the application. The trailer construction may be a full-trailer or semi-trailer. A full trailer is pulled and coupled by a prime mover using a hook or a drawbar. It has axles at the front and rear ends. It doesn't need the prime mover or the landing legs to support it while parking. It has an excellent steering capability thanks to the front axle (or axles). A semi-trailer is similar to a full trailer, but it has an axle (or axles) at the rear end only, and the front axle (or axles) is replaced with a kingpin near the front end.

Computational Fluid Dynamics

Partial differential equations that express the conservation laws for mass, momentum, and energy control the movement of fluids (gases and liquids). Theart of substituting such PDE systems with a set of algebraic equations that can be solved by digital computers is known as computational fluid dynamics.

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