UNIVERSITI TEKNOLOGI MARA

DESIGN AND DEVELOPMENT OF ROCKET BASED PING PONG BALL LAUNCHER

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ABSTRACT

Task and a title of the project is about design and development of rocket-based ping pong ball launcher. On this idea, the project needs to be designed and developed a ping pong ball launcher prototype based on rocket design. The objectives are designing projectile ping pong ball launcher using solidworks, fabricate the design and find the maximum height Then, conduct an analysis of the launcher using projectile motion analysis. This analysis was considered by the mass of the ball and the design of launcher itself. There are a lot of process that need to do for fabricate the product like cutting, measuring, drilling, tightening and a lot more. For designing this ping pong ball launcher, the information was collected from articles, books and mostly internet on how to design the launcher, the example of rocket launcher, how to calculate accurate flight time and a lot more. Therefore, the effectiveness of this project has been analysed using proven formulas. From the analysis, the result is when the pressure increases, the time taken for the ball reach maximum height also increase and when the time taken increase the maximum height also increases. In conclusion, the product was successful, and it can show the projectile motion clearly for student to understand more about the topic.

KEYWORDS: Ping pong ball launcher, projectile motion, formula, rocket design, successful.

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