Abstract

Journal of Mechanical Engineering Advancements - Volume 1 (Issue 3) January, 2025

Pages: 01-12

Linear Translation Motion of a Stewart Platform with Solid Works Modelling and Matlab Simulation

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Category: CAD and CAM

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Abstract:

The solid work modelling of a Stewart Platform for linear translation motions has been performed in this paper. The sinusoidal motions with different amplitudes of three linear translation motions as surge, sway and heave have been studied with solid works modelling. The inverse kinematic modelling of Stewart platform is done in this paper. The piston motions for the linear translation motions have been framed with inverse kinematic modelling. The piston motions from the solid work modelling and inverse kinematics model-ling have been illustrated and portrayed in this paper. The maximum range of the platform motions have also been found out and tabulated which can be implemented in real time. The maximum possible ranges are 100 mm amplitude of surge motion, 90 mm amplitude of sway motion and 100 mm amplitude of heave motion with the available piston stroke length of 150 mm.

Keywords: Stewart Platform, Linear Motion, Solid Work Modelling, Inverse Kinematics, Matlab Simulation

Cite this article:

Mintu Ghosh, Sibsankar Dasmahapatra and Souvit Mondal, Linear Translation Motion of a Stewart Platform with Solid Works Modelling and Matlab Simulation, Journal of Mechanical Engineering Advancements. Vol 1 (Issue 3: September-December, 2024), pp 1-12.

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