

KINEMATIC ANALYSIS OF A TWO LINK MANIPULATOR USED FOR FUSED DEPOSITION MODELING

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ABSTRACT

Additive manufacturing / Rapid prototyping is one of the emerging areas in the field of Mechanical Engineering. Fused Deposition Modeling (FDM) is one of the additive manufacturing techniques used with three linear axes for producing components. The creation of a 3D printed object is achieved using additive processes. In an additive process an object is created by laying down successive layers of material until entire object is created. At present 3D printing has 3 linear axis where as in the present work an analysis will be done by replacing these 3 linear axis with 2 Revolute joint manipulator.

In the present work 3D printer with 2 Revolute manipulator is modeled in CAD software, motion analysis will be carried out and results like work volume, angular displacements, angular velocities will be presented.

Keywords: two - link manipulator, fused deposition modelling, Motion analysis, 3D printer, D0-H notation, Kinematics.