
DETERMINATION OF WORKING AREA AND SPECIAL POSITIONS OF THE PLANE PARALLEL STRUCTURE MECHANISM

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Abstract

This article is devoted to solving the problems concerning the definition of the working area and special positions of the Tetra machine's module prototype on the basis of a parallel structure plane mechanism. In this paper, we present a solution to the inverse problem of positions, by means of which we carry out the discretization of the working area to determine its shape and dimensions. We investigate the manipulator's special positions by analyzing Jacobi matrix. The study gives the results for different values of the output link rotation angle.

Keywords

Special positions, singularities, working area, inverse kinematic problem, parallel structure mechanism, plane mechanism, modeling of mechanical systems, Jacobi matrix

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