International J.ofMultidispl.Research&Advcs.inEngg.(IJMRAE),
ISSN 0975-7074, Vol. 3, No. IV(October 2011), pp. 243-254

MODELING AND ANALYSIS OF EIGHT AXIS ARTICULATED ROBOT ARM

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Abstract

In this paper concept of Eight-degree of freedom robot arm is discussed. This will allow a wide range of arm positions for any given target position, thus giving a great flexibility of motion. Motion can be governed by additional constraints, for more realistic motion than conventional six-degree of freedom systems, which have only a finite number of solutions for a target position. The paper presents an approach using modeling and a static analysis of eight axis robotic arm that consider its chains and mechanism. The results corresponding to the entire robot arm are presented as well as the final indication about the characteristics to be improved. The analysis comprises the assessment from the static point of view and natural frequencies.

Keywords: Robot arm, degrees of freedom, static analysis, natural frequency