A NEW METHOD TO SOLVE THE REVERSE KINEMATIC ROBOT PROBLEM

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TÓM TẮT:

Abstract— This paper presents a new method to solve the reverse kinematic problem of indutrial robots. The mathematical basis is to convert the traditional problem with non-linear transcendent equations into the optimization. The paper also mentions the selection of the most appropriate numeric method to solve the optimization and the application of the method in solving the reverse kinematic problem for robots when building the mathematical model applying the Denavit – Hartenbeg (DH) rule or the contimuous srew transpose. In addition to that, a method to increase the accuracy of the results of the reverse kinematic problem was also proposed. This accuracay meets the requirements for positions and orientations of the actuator. Those requirements were not met when solving the problems using the old methods.