A Virtual Reality Environment for 5-DOF Robot Manipulator based on XNA Framework

Abstract

This work presents a complete solution for the Forward and Inverse Kinematics for a 5DOF robot manipulator and use XNA game studio as a simulator. The work include mathematical modeling of the robot Kinematics which it used in a 3D virtual environment. This text show that it can be use XNA GS as an excellent tool to simulate robots behavior.

References

- C. S. G Lee, M. Ziegler, "A geometric approach in solving the inverse kinematics of PUMA robot", Department of electrical and computer engineering - The university of Michigan, 1983.

**Index Terms**

Computer Science

Applied Science

**Keywords**

Inverse kinematics  Lab volt 5150  XNA  Simulation  Virtual reality.