ABSTRACT

An embedded control system has been implemented to a 4-omniwheeled omnidirectional vehicle. PID control is used to constraint the velocity of each wheel so the vehicle can move steadily. Color markers are used as navigation waypoints and to correct any deviation on the vehicle movement.

The implemented system is capable to reduce the vehicle's movement deviation to 65.85 - 86.85%, with mean accuracy of 12.36 cm at 3 meters straight movement. The color markers can be used by the vehicle within 1.5 meters distance from each other.

Key words : *omnidirectional drive*, *omniwheel*, control system, PID