

The running experiment of the wheel type mobile robot

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Abstract

In this paper, it used a soccer robot which needs the important field of robot technology as the wheel type mobile robot. With the soccer robot, as for the especially important one, "strategy" "the orbit control of the robot", and "the efficiency of the robot" is given. Therefore, it paid attention to "the orbit control of the robot" and it controlled an orbit of the soccer robot using the PID control.

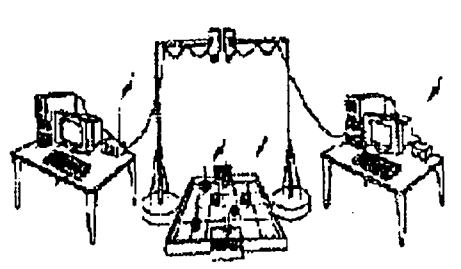


Fig.1 The soccer robot system

1. Introduction

Recently, a lot of engineers aims to make a robot with human society and the more flexible relationship which can be applied in the wide area. In this study, we report controlling an orbit by the soccer robot which consists of multi-agent system.

2. The soccer robot system

As for the method of the control of the soccer robot system, the one based on the sight is general. This study is using this, too. Basically, The robot, the visual system for the picture processing, host computer, and the communication system is needed by the soccer robot game. It is shown in figure 1. It takes a field with the camera. Then, it is the one to process the picture in computer and to send an order to the robot with the radio.

2.1 The distinguishing system

There are various ways in the distinguishing recognition system which detects object one. In this study, we fix the color of the object one which becomes a goal using RGB values. Then, it computes the position and the direction of the ball and the robot by the information.

2.2 The structure of the control

Next, the current of the basic control of the soccer robot is shown in figure 2.

The basic running of the soccer robot includes "move" "obstacle avoidance" "shoot" "position-to-shoot" "intercept ball" "sweep ball" "block", and so on.