

Abstract: Control of Swarm Robots for Visual Communication Based on Color Sensors

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Abstract

In this paper, an attempt has been made to incorporate visual cooperation among decentralized swarm robots for self-organization. In the study, self-organization based on color recognition is presented to overcome the required constraints in conventional self-organization based on centralized control using an external ceiling camera or beacon systems. In this scheme, a singular association is introduced that a swarm robot considers only visual information based on LOS (Line Of Sight) from its reference robot or a moving target. The experiment results of prey pursuit show that the proposed self-organization method based on color recognition can be effectively used for multiple mobile robots, even though a simple association rules by LOS.

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