科技成果

青少年自制无人机：飞行控制与图像传输技术探索

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摘　要：本论文通过对青少年自制无人机的飞行控制和图像传输技术进行探索，研究了无人机的飞行原理和控制方法，提出了一种基于图像传输的控制技术。利用先进的飞行控制系统和传感器技术，实现了无人机的稳定飞行和精准控制。同时，通过图像传输技术，实现了无人机对周围环境的感知和识别，为无人机的飞行安全提供了重要保障。在实验验证部分，通过搭建实验平台进行了多次飞行实验，验证了所提出的飞行控制和图像传输技术的有效性和可靠性。本论文的研究成果对促进青少年对无人机技术的理解和学习具有重要意义，同时为无人机在各领域的应用提供了新的技术支持。

关键词：青少年自制无人机；飞行控制；图像传输技术；姿态控制；PID 控制器

Teen-Built Drones: Exploring Flight Control and Image Transmission Technologies

Abstract: This paper explores the flight control and image transmission technology of adolescent self-made UAV, studies the flight principle and control method of UAV, and proposes a control technology based on image transmission. Using the advanced flight control system and sensor technology, the stable flight and accurate control are realized. At the same time, through the image transmission technology, the perception and recognition of the surrounding environment are realized, which provides an important guarantee for the flight safety of the UAV. In the experimental verification part, many flight experiments were conducted by building the experimental platform, which verified the effectiveness and reliability of the proposed flight control and image transmission technology. The research results of this paper are of great significance for promoting the understanding and learning of UAV technology, and also providing new technical support for the application of UAV in various fields.

Keywords: Youth self-made UAV; Flight control; Image transmission technology; Attitude control; PID