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论文

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先进武装直升机一种新型组合智能飞控系统和火/飞综合系统的设计与仿真

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DESIGN AND SIMULATION OF A NEW KIND OF COMBINATIVE INTELLIGENCE FLIGHT CONTROL SYSTEM AND INTEGRATED FIRE/FLIGHT CONTROL SYSTEM OF ADVANCED ARMED HELICOPTER

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摘要

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**摘要** 讨论了模糊逻辑控制与神经网络相结合的一种控制方法, 给出了一种增益自适应调整的模糊控制方法和BP网络自适应变步长学习算法, 提高了系统精度, 改善了系统品质, 并将这种方法成功地用于直升机飞控系统和综合火/飞系统的设计。同时, 针对某型直升机用数字仿真证明了这种方法的优点和良好效果。

**关键词:** 智能控制 综合控制 火/飞控制 系统仿真

**Abstract:** A discussion is devoted to the intelligent control combining fuzzy logical control with artificial neural networks. A method is given, which regulates gain of fuzzy control and step length of learning algorithm of BP networks adaptively. It increases and improves precision and qualities of the control system. The method has been applied in design of helicopter flight control system and integrated fire/flight control system. In the meantime, it is demonstrated by digital simulation for some kind of helicopter that this method is advanced and useful.

**Keywords:** intelligent control integrated control fire control system simulation flight control

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