# 农业车辆杂草环境下视觉导航路径识别方法 Path Recognition for Vision Navigation System of Agricultural Vehicle in Weed Environment

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关键词： 杂草环境 视觉导航 路径识别 BP神经网络

摘 要： 在普通环境导航路径识别方法的基础上，分析了株间杂草和垄间杂草对农业车辆导航路径的影响。针对影响较大的垄间杂草环境，提出一种基于BP神经网络的杂草环境下导航路径识别方法。田间实验证明，该方法对杂草的影响具有较好的适应性，能够快速、可靠、准确地提取导航路径特征，识别率为97%，单幅图像平均耗时560ms。 The effect of the weed environment on the path recognition is investigated. On the basis of the conventional path recognition method, a new method based on the BP neural network for the path recognition in the weed environment is proposed. Experimental results prove that the new method is effective for the path recognition in the weed environment, and can obtain the target navigation path rapidly, reliably and accurately. The recognition correct rate is 97%, and the average cost time is 560 ms.

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