双板差分冲量式谷物流量传感器性能试验 Experiment of Dual-plates Differential Impact-based Grain Flow Sensor

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关键词： 谷物 流量传感器 冲量式 静力特性 田间试验

摘 要： 对双板差分冲量式谷物流量传感器的静态受力特性进行检测，结果表明传感器的输出信号与静态力作用点的位置无关,即传感器的线性度满足使用要求。室内标定试验和田间测产试验得到谷物流量在0～2.0 kg/s范围内信号与传感器输出电压信号的关系和标定系数K。田间水稻测产试验检测测产精度误差小于3.8%。 The dual-plates differential impact-based grain flow sensor of yield monitor systems was designed. The static force characteristics of sensor were experimental tested. Results indicated that the output signal of the grain flow sensor had nothing to do with the location of the point of application of the external force, and the linearity of the sensor could meet the application requirements. During the range of grain flow was 0~2 kg/s, characteristic of the flow sensor was tested through laboratory and field. The sensor output voltage signal of the coefficient was gotten. Calibration coefficient K was determined through test. The error of grain flow sensor was 3.8% for rice harvester.

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