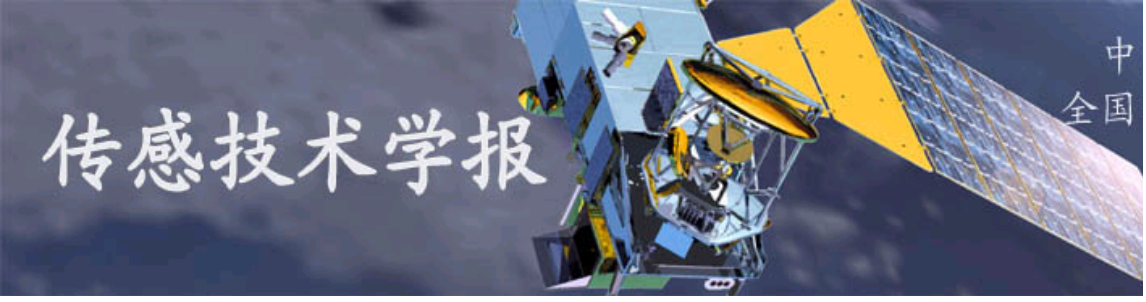

基于ZigBee和加速度传感器的手势识别研究

作　者：董玉华, 孙炎辉, 徐国凯, 宋鹏

单　位：大连民族学院机电信息工程学院

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摘　要：

随着人机交互手段的进步，手势识别得到了蓬勃的发展。基于微传感器的手势采集系统由于不受空间的约束逐渐得到
并且准确性不高。针对这一问题文中提出了一种基于多加速度传感器和ZigBee网络的手势采集系统。利用位于手指和
的信息传送给接收端。接收端通过滤波取整、起始点检测、抖动判定、模型训练与模型匹配对动作者手势信息进行判
别算法，对0-9十个手势进行判断，在20位实验者中得到了98%以上的识别率，同时由于其使用了ZigBee网络，系统移
究有一定的参考价值。

关键词：手势识别；加速度传感器；ZigBee；隐马尔科夫模型

Research on Gesture Recognition Based on ZigBee and Acceleration S

Author's Name:

Institution:

Abstract:

With the progress of man machine interaction, gesture recognition has been developed flourishingly, Great importance has
system based on micro sensor due to its without space constraints, however, this kind of equipment has highly computationa
accuracy. In order to solve these problems, a gestures acquisition system based on Multi - acceleration sensor and ZigBee n
gesture information from different axies of orientation is to be sended to the receiving end by 6 acceleration sensor located i
information will be filtered, rounded, threshold-based detected and jitter determined. Finally, a judgment will be made throug
Markov Model (HMM) identification algorithm, the system is applied to judge 10 gestures from 0~9 and more than 98% reco
the same time, Accounting to the use of ZigBee network, portability of the system has been further strengthened, which will
studies of gesture recognition.

Keywords: gesture recognition；accelerometer；ZigBee；Hidden Markov Model (HMM)