

# Avian Influenza Surveillance System with Wearable Wireless Sensor Node Using Pb(Zr, Ti)O<sub>3</sub> Microcantilever

Hironao Okada\*, Hirofumi Nogami, Takeshi Kobayashi and Toshihiro Itoh

National Institute of Advanced Industrial Science and Technology  
1-2-1 Namiki, Tsukuba, Ibaraki 305-8564, Japan

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We report an avian influenza surveillance system with wireless sensor nodes with which the activity of chickens can be continuously monitored. Intermittent measurement is effective in decreasing the power consumption of a wireless sensor node. However, the measurement interval must be short enough to obtain accurate data in activity measurement of a chicken. In this case, the power consumption of the node is increased owing to the huge amount of transmission data. In this research, we have developed and characterized a method of detecting an anomalous state of a chicken for the continuous activity monitoring with a small amount of transmission data. The result of the simulation using data from infection experiments indicated that the average detection time was about 8 h before death and the necessary number of transmissions per hour was 33.

\*Corresponding author: e-mail: [hironao.okada@aist.go.jp](mailto:hironao.okada@aist.go.jp)