29a-P8-20

High Frequency Modulated THz Electromagnetic Wave and Application to High Sensitivity Measurement of Water Content

Yoshio Koshihara, Takashi Yamasaki, Kazutoshi Matsuura, and Tsutomu Araki

Abstract

THz frequency electromagnetic waves (THz-TDS) are used in various applications in the field of materials science, such as identification and characterization of materials. In this study, we employed THz-TDS for the measurement of water content in vegetables. The results showed that THz-TDS is a promising technique for non-invasive measurement of water content in vegetables.

29a-P8-21

Development of In-process monitoring system of paint film using THz electromagnetic wave

Hiroshi Kuribayashi, Shigeru Akiyama, and Toshiyuki Matsuura

Abstract

In this study, we developed an in-process monitoring system for the quality control of paint films using THz electromagnetic waves. The system was able to detect defects in the paint film in real-time, allowing for immediate corrective action to be taken.

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The Characterization of Granular Materials with THz Radiation

M. Herrmann, M. Tani, K. Saikai, and M. Watanabe

Abstract

In this study, we characterized granular materials using THz radiation. The results showed that THz radiation is a promising technique for the characterization of granular materials, allowing for non-invasive and non-destructive analysis.

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Figure 1: THz digital spectrum of water

Figure 2: THz digital spectrum of paint film