



H. Huang, D. Paramo

Unpowered Wireless Transmission of Ultrasound Signals

Издательство DEStech Publications, Lancaster, 2010 год

Код: 10655

6 стр; формат: 23,5 x 16 см; библиографический список: 7 единиц
ISBN: 978-1-60595-024-2

Ultrasound-based techniques are broadly used for crack detection, leak detection, machine condition monitoring, and manufacturing process control, etc.. Because ultrasound signals can have a frequency up to a few megahertz, existing wireless sensor technology cannot transmit the full waveform of these high frequency signals due to their limitations on data throughput. This paper presents an unpowered sensor that performs acquisition and wireless transmission of ultrasound signals with a large bandwidth. A Sensor Interrogation Unit (SIU) supplies the interrogation signals to the wireless sensor remotely, receives the ultrasound-modulated signal, and demodulates it to recover the full waveform of the ultrasound signals. Implementation of the wireless ultrasound sensor and the SIU is presented. The signal acquired by the unpowered wireless ultrasound sensors are compared with that received by wired ultrasound sensors. A transmission model for the wireless system is also presented.

Ключевые слова:

Содержание.

Unpowered Wireless Transmission of Ultrasound Signals