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Reliable Wireless Sensor Networks for Infrastructure Monitoring

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Identifying possible safety problems in the approximately 600,000 bridges across the United States is generally accomplished through labor-intensive, visual inspections. However, the recent development of wireless technology is making the real-time monitoring of fatigue sensitive areas in fracture-critical bridges possible. Since current inspection techniques correct many maintenance issues, the system is envisioned to be used in conjunction with current methods to detect damage that might escalate between inspections. With such a system, transportation officials will have the tools to better allocate inspection resources while providing greater safety to the public.

The first generation of two wireless systems (one based on IEEE 802.11 and another based on IEEE 802.15.4) from National Instruments have been evaluated in laboratory and field conditions. A discussion of those results are summarized in this paper as well as items for future progress.

Ключевые слова:

Содержание.

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