



Energy Harvesting Sources for Structural Monitoring in Wind Turbines

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Abstract

To validate the calculated lifetime of civil structures, wireless sensor networks provide distributed sensor data and offer advantages in ease of installation and retrofitting, compared to wired systems. Especially wind turbine towers provide an interesting application as they are among the most dynamic structures in construction engineering. Various energy harvesting sources are examined and evaluated in the context of concept development for use in the tower of a wind turbine. For the evaluation, the necessary measurement requirements and the general conditions of the sensor system needed to be clarified.

Keywords: Wind Turbine, Energy Harvesting, Wireless Sensor Networks, Structural Monitoring.