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Mechanical Wear out Parts Monitoring by Using Wireless Sensor System

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Abstract— A mechanical machine parts are experience wear out and it's widely used in motor machine tools to control the movement of processing target and spindles. Motor rotation of stator and rotor are frequently checked so that they are replacing before excessive wear occurs. Until now, there was no simple way to measure directly that state of wear quantitatively. During the operation of motor to measuring the signals of vibration, temperature and load change. This logged signal can be used to construct the wear model for estimating the remaining life time of the motor. For embedded wireless sensor used in this motor machine parts. Wireless sensor having advantages it installed freely without constraints from data or power cables. This wireless sensor has been used practically within the industrial environment. In this proposed system used for 1) Low power and Low cost in hardware design. 2) Logs the signal during the operation of the motor machine part that could experience wear. 3) It provides Guarantee that all the logged data can be wirelessly delivered to the data server. This is the first wireless sensor system for measuring the stator rotor operation signals that guarantees to complete data delivery and correctness. This can be designed implemented and evaluated system used in real industrial environments.

Keywords*:* stator and rotor, communication, mechanical wear, wireless sensor, spindles, low power