

- 统[J]. 橡胶工业, 2016, 63(3): 182-186.
- [4] 柳猛, 王立志. 射频无线技术在TPMS中的应用[J]. 电子技术, 2007(Z1): 127-130.
- [5] 文璧, 张洁, 徐谦. 基于无线射频与FPGA技术的数据采集系统[J]. 中国测试, 2009, 35(4): 40-43.
- [6] 曹艳华, 曹阳, 吴国庆, 等. 基于LabVIEW和ZigBee的垂直轴风力机无线监测系统[J]. 中国测试, 2015, 41(12): 67-69, 82.
- [7] 郝妍娜, 洪志良. 基于MCU和nRF905的低功耗远距离无线传输系统[J]. 电子技术应用, 2007, 33(8): 44-47.
- [8] Hahn F W. Thin Film Wear Sensors[J]. Wear, 1981, 74(1): 157-164.
- [9] Lütthje H, Bandorf R, Biehl S, et al. Thin Film Sensor for Wear Detection of Cutting Tools[J]. Sensors and Actuators A: Physical, 2004, 116(1): 133-136.

收稿日期: 2018-10-16

Development of Tire Wear Detecting System Based on Shunt Resistance Network

XI Lin, HE Xuetao, YANG Weimin, TAN Jing, ZHANG Jinyun, YANG Huaguang, YAN Hua

(Beijing University of Chemical Technology, Beijing 100029, China)

Abstract: In order to solve tire wear test equipment's problems of complex structure, high cost and complicated operation, a tire wear detecting system for real-time detecting the wear loss of tire, which was based on a shunt resistance network, wireless transceiver module and STC12C5A60S2 MCU, was developed. The system used the shunt resistance network to convert the wear loss of tire into the analog voltage, and this analog voltage was changed into digital quantity which was convenient for the MCU process by analog-to-digital converter. Finally, the data were collected into the STC12C5A60S2 MCU by wireless transceiver module for processing and calculation, and the result was displayed on LCD screen, which enabled the real-time evaluation of the tire wear level and early warning. It was found that tire wear loss was linearly related to the reciprocal of total resistance value, and thus the measurement of tire wear loss could be achieved.

Key words: tire wear; real-time detection; resistance network; sensors; MCU; analog-to-digital conversion

Falken又有2款轮胎配套日产

美国《现代轮胎经销商》(www.moderntiredealer.com) 2018年11月28日报道:

Falken轮胎公司最近宣布其2款全天候轮胎赢得日产配套合同, Sincera SN250A A/S轮胎(见图1)在美国和加拿大为2019天籁配套, Ziex ZE001 A/S为2019 Rogue SV车型配套。

为Rogue SV配套扩大了Falken为2019 Rogue车型配套的范围。Falken自2016年开始为日产Rogue配套。

2019天籁原配胎为H速度级P215/60R16 Sincera SN250A A/S轮胎。该轮胎具有对称条形胎面花纹, 花纹沟刚性较大, 互相支撑, 确保均匀磨损。Falken称, 它是“寻求全天候驾驶舒适的司机的理想选择”。



图1 P215/60R16 Sincera SN250A A/S轮胎

2019 Rogue SV原配胎为225/60R18 Ziex ZE001 A/S轮胎。该轮胎的特点是采用Falken专利静音芯(Silent Core)技术, 即在胎体内侧贴一层醚-聚氨酯泡沫材料降低噪声。

(吴秀兰摘译 赵敏校)