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第19届中国轮胎技术研讨会论文(一等奖)

Balanced Design of Rolling Resistance and Noise of Electric Car Tire and Product Development

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Abstract: The balanced design principles of rolling resistance and noise of electric car tires were presented in this paper. For example, narrow tread and large diameter were preferred, standard tire pressure was increased to high level such as 320 kPa, large angle ($60^{\circ} \sim 70^{\circ}$) was designed for belts, and pattern design and pitch arrangement were aimed at not only low rolling resistance but also low noise. In this study, a domestic B-class electric vehicle was taken as an example, special 155/65R17 electric car tire was developed, finite element modeling and pitch noise optimization were carried out, rolling resistance was calculated, and six component wheel force was predicted. The results showed that, the rolling resistance coefficient was $6.36 \text{ kg} \cdot \text{t}^{-1}$, which reached grade A, tire noise and control stability met requirements of the design, and the balanced control of rolling resistance, tire noise and control stability was achieved.

Key words: electric car tire; radial tire; structure design; rolling resistance; noise

建大进入UHP全天候轮胎领域

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美国《现代轮胎经销商》(www.moderntiredealer.com)2016年11月3日报道:

建大美国公司在拉斯维加斯2016年专业设备市场协会(SEMA)展上推出了Vezda UHP A/S轮胎,这是该公司首次进入超高性能全天候轮胎领域。

轮胎研发部的首席工程师Dan Shavers表示,Vezda UHP A/S轮胎特殊的白炭黑胶料在夏季具有干湿地性能,也能够在小雪条件下行驶。该轮胎具有以下特点:

3D刀槽花纹赋予轮胎良好的雪地牵引性能,同时能最大限度地提高干路面操纵性能;

4条大周向花纹沟槽赋予轮胎优异的滑水性能和湿牵引性能;

高饱和度外侧胎面花纹设计,可以最大限度地提高干路面操纵性能和牵引性能;

低饱和度内侧胎面花纹设计,提供了优异的湿路面操纵性能和牵引性能。

Vezda UHP A/S轮胎已经有43个W和Y速度级别规格,其中406.4 mm(16英寸)为4个,431.8 mm(17英寸)为14个,457.2 mm(18英寸)为12个,482.6 mm(19英寸)为7个,508 mm(20英寸)为6个。这款轮胎是在该公司位于俄亥俄州格林的建大美国技术中心研发的,在2016年11月拉斯维加斯SEMA展和全球轮胎展上展出。

(赵敏摘译 吴秀兰校)