

的轮胎驱动力,使两种轮胎达到相同的轮胎行驶速度。

3 结论

(1)在侧倾侧偏滚动工况下,三角平衡轮廓轮胎支撑块中部弯曲变形最大。随着轮胎行驶速度的提高,稍微缓解了支撑块的弯曲变形,但变化不大。

(2)三角平衡轮廓轮胎在接地区域内的接地印痕面积明显小于传统轮廓轮胎,但是较小的接地印痕面积影响了轮胎的制动性能,因此在三角平衡轮廓轮胎与车辆匹配时,应采取较小的侧倾角,避免过多地影响轮胎的制动性能。

(3)当轮胎行驶速度较低时,行驶速度对三角平衡轮廓轮胎的最大接地压力和最大摩擦应力影

响较大;当轮胎行驶速度较高时,则对二者基本不产生影响,说明三角平衡轮廓轮胎在中高速行驶时稳定性较好。

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FEA on the Grounding Properties of Triangle Equilibrium Profile Tire under Camber and Corner Rolling State

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Abstract: Based on Abaqus software, the 3D finite element models of the triangle equilibrium profile tire and the traditional profile tire were established, and the effect of tire velocity on the tire grounding properties under camber and corner rolling state was investigated. The results showed that, the footprint area of the triangle equilibrium profile tire was much smaller than that of the traditional profile tire. At high speed, the speed had little influence on the maximum grounding pressure and maximum friction stress of the triangle equilibrium profile tire, which indicated that the stability performance of the triangle equilibrium profile tire was good at high speed.

Key words: tire; triangle equilibrium profile; traditional profile; support block; camber angle; slip angle; finite element analysis

一种载重汽车轮胎气密层胶

中图分类号: TQ336.1; U463.341⁺.3 文献标志码: D

由山东永泰化工有限公司申请的专利(公开号 CN 103483705A, 公开日期 2014-01-01)“一种载重汽车轮胎气密层胶”,涉及一种载重汽车轮胎气密层胶,其配方组成为天然橡胶(NR)、卤化丁基橡胶(HIIR)、聚异戊二烯橡胶、炭黑 N660、氧化镁、氧化锌、硬脂酸、增粘树脂、均匀剂

40MSF、芳烃油、防老剂、不溶性硫黄、促进剂 NS。该配方采用 60~75 份 HIIR 和 0~80 份 NR,极大地降低了气密层胶生产成本;通过添加聚异戊二烯橡胶,有效地提高了气密层胶的气密性及其他性质;通过调整防老剂组合,提高了橡胶耐高温、抗氧化等性能,从而提高了气密层胶的使用寿命和安全性能。

(本刊编辑部 马 晓)