改善流场压强分布，即减小轮胎行驶过程的声压值。因此，该流场数值模拟为进一步实现噪声值求解和花纹块的优化设计提供了基本条件。

5　结论

(1)通过 C 语言程序、JOU 文件编辑、UDF 辅助编译及流场数据插值交换等技术实现了有限元技术与 CFD 技术相结合，完成了轮胎滚动的固-液耦合流场分析，得到轮胎三维模型在空气中滚动时空气的运动状况。

(2)通过带复杂花纹轮胎与光面轮胎的数值模拟和对比，分析了花纹块对流体的速度和压强分布的影响。

(3)相同结构的带复杂花纹轮胎相对于光面轮胎，行驶中阻力系数较大，阻力变大，泵吸过程明显，对轮胎的噪声性能构成一定影响。

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Flow Field Analysis on Radial Tire under Rolling Condition Based on CFD Technology

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Abstract：The finite element model of the 12.00R20 all steel truck and bus radial tire under rolling condition was established using Abaqus software. Under the rolling at the speed of 70 km · h^{-1}，the change of speed and deformation of the model were processed by C programming language and the finite element grid was redrawn based on computational fluid dynamics(CFD). Then，the custom function was imported by using UDF in Fluent，and the fluid dynamics analysis was carried out. The Fluent analysis of the flow field was split into multiple time points and the interpolated values of the function were used in between. Then，the fluid dynamics simulation of gradually rolling tire and the flow field were obtained，and the effect of pattern blocks on the aerodynamic drag coefficient and flow field pressure was investigated. The results showed that，the aerodynamic drag coefficient of the tire with complex pattern blocks was bigger，where turbulence phenomena appeared，and the flow field pressure increased significantly.

Key words：radial tire；computational fluid dynamics；fluid-field；interpolation；aerodynamic drag coefficient；finite element analysis

一种改进型导热合成橡胶材料

中图分类号：TQ336.9　　**文献标志码**：D

由青岛融鑫源橡胶机械有限公司申请的专利(公开号　CN 103087527A，公开日期　2013-05-08)“一种改进型导热合成橡胶材料”，涉及的改进型导热合成橡胶材料配方为：有机硅氧烷　5.48～7.29，羟基硅油　3.5～5.5，硬脂酸　3.26～4.93，陶土　2.3～5.4，流动剂　2.1～3.5，加工助剂　2.6～3.8。该橡胶材料具有高热导率、耐热性和低压缩性的优点，改善了辊轮的操作性和脱模性能；以其为原料的制品在贮存期间具有非常好的稳定性；可应用于需要足够耐热性、热导率和弹性的导热材料或散热材料。

(本刊编辑部　赵　敏)