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CAD/CAE and optimized design of radial tire

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Abstract: A digitalization method of programming tire profile was established in CAD for tire structure design to significantly increase the flexibility in profile design of tire. Based on this method, a comprehensive analysis system for dynamic simulation (CASDS) of radial tire, which could be effectively run on the computer, was proposed. CASDS could be used to simulate the working conditions of inflated tire, and the deflection and stress/strain of inflated tire rotating at high speed.

Keywords: radial tire; structure design; FEA; simulation; CAD; CAE

受力轮胎花纹块与胎体变形量测试装置

中图分类号:TQ336.1;U467.4　　**文献标识码**:D

由上海轮胎橡胶(集团)股份有限公司申请的专利(专利号　01211100.7,公开日期 2001-12-26)“受力轮胎花纹块与胎体变形量测试装置”,主要由加载部分、测试部分和模拟路面部分组成,采用机械或液压方式加载、激光测试,使轮胎和轮胎胎面花纹在多种模拟路面上承受多种载荷,产生各种变形和力学特征,通过计算机实时对测试数据进行处理、显示,可以准确、方便地掌握轮胎承载、变形以及轮胎内部特性与外部特性的关系。该装置测试面广,操作方便,价格比进口测试装置低,便于推广使用。

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