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收稿日期:2022-03-16

Digital Modeling Design of Tire Product Based on CATIA

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Abstract: The tire design generally includes three parts: profile design, pattern design and sidewall design. As they are independent, data islands are prone to occur, and it is difficult to achieve a unique data source and data collaboration. When the profile design data is changed, the downstream data is not updated in time, which might easily cause design errors. In the same time, the design iterative optimization will cost more time in product development cycle. This paper proposes a CATIA-based digital model building method for tire product design, which also mainly includes three parts: the structure construction of corresponding parts of product assembly, the definition and associated design of data parameters, and the development and invocation of the user-defined feature template. Through parameter design and parameter driving function, the assembly precision of products was improved, the cycle of tire development and design was shortened, the development cost was reduced, and the level of design automation was improved.

Key words: tire; digital modeling; CATIA; template

一种废旧轮胎热解碳催化剂、 制备方法及应用

由郑州轻工业大学申请的专利(公布号 CN 114045523A, 公布日期 2022-02-15)“一种废旧轮胎热解碳催化剂、制备方法及应用”,公开了一种废旧轮胎热解碳催化剂、制备方法及应用,以破碎后的废旧轮胎颗粒为原料与氯化铵充分混合,然后在惰性气氛下进行程序升温热处理,再经氯化氢-氟化氢混酸处理和二次热处理后制得热解碳催化剂。将其作为阴极材料应用于电

解水制氢的析氢反应,表现出超高的催化性能,在还原电位为0.55~0.10 V(对照可逆氢电极)范围内,电流密度最高达350 mA·cm²,当电流密度为10和100 mA·cm²时,过电位仅为330和440 mV。

该方法所需原料来源广泛且价格廉价,制备工艺简单,反应条件易于控制,反应性能优异,提高废旧轮胎热解碳的附加值,符合节能减排的战略要求,适合批量化生产。

(本刊编辑部 马 晓)