

梳解法制备竹纤维的力学模型 Mechanical Model of Processing Bamboo Fiber with Combing Method

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关键词: 竹纤维 梳解法 力学模型

摘要: 通过研究梳解法制备竹纤维的原理, 提出竹子梳解制纤中平均梳解力的概念; 运用动力学方法, 建立竹纤维平均梳解力与纤维长度、细度关系的计算模型。对模型进行分析和验证, 结果表明: 模型表述的平均梳解力、滚筒转速及滚筒梳针参数与竹纤维长度、细度的关系正确; 运用模型计算竹纤维长度的结果与实验结果相吻合, 此模型可用于梳解法制备竹纤维的长度、细度预测与计算。 Based on mechanism of processing bamboo fiber by combing method, a concept of average combing strength was put forward. Calculation model of relationship between average combing strength of fiber and fiber length and fineness was established with dynamic principle. The model was analyzed and validated, and the results showed that the model of bamboo fiber length and fineness against average combing strength, roller speed and comb-pins parameters was correct. The values calculated for bamboo fiber length by the model agree well with the experimental values. The length and fineness of bamboo fiber can be calculated by the model.

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