

专稿 Feature



封面文章 Cover Story

论坛 Forum

塑性成形

Plastic Forming

22 轻量化板材、管材塑性连接技术研究进展

王朋义 金加庚 万戈辉 张昌松 赵雪妮 王忠金  
Research Progress on Joining of Lightweight Sheet and Tube by Plastic Deformation  
WANG Pengyi JIN Jiageng WAN Gehui ZHANG Changsong  
ZHAO Xueni WANG Zhongjin

36 大型复杂壁板构件塑性成形技术研究与应用进展

李勇 李东升 李小强  
A Review of Plastic Forming Technologies and Applications for Large and Complex-Shaped Panels  
LI Yong LI Dongsheng LI Xiaoqiang

46 镍基高温合金旋压成形技术研究现状

肖刚锋 夏琴香 张义龙 江鹏  
Research Status of Spinning Forming for Ni-Based Superalloy  
XIAO Gangfeng XIA Qinxiang ZHANG Yilong JIANG Peng

54 芯模填充对铜钛复合管绕弯截面畸变和壁厚减薄作用的模拟研究

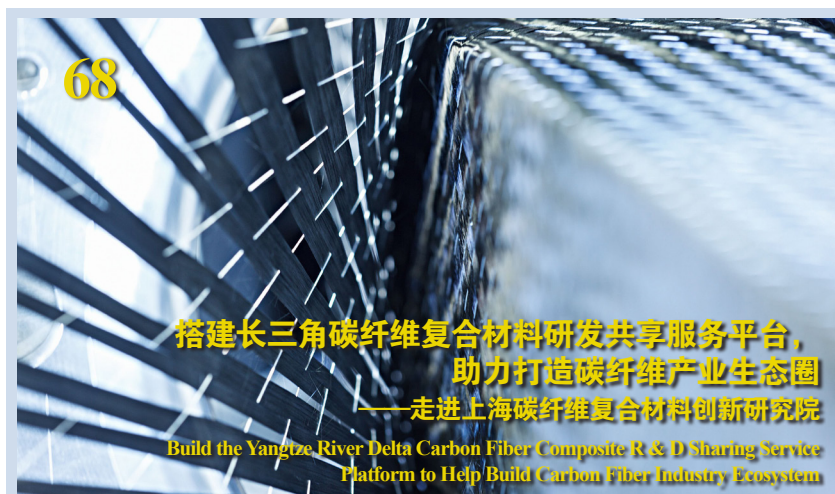
朱英霞 王匀 万苗苗 施伟 涂文斌  
Simulation Research on Effect of Mandrel Filling on Section Distortion and Wall Thickness Reduction of Rotary-Draw Bending of Copper-Titanium Composite Tube  
ZHU Yingxia WANG Yun WAN Miaomiao SHI Wei TU Wenbin

63 钛合金超塑成形/扩散连接四层结构表面沟槽控制方法研究

李保永 张铁军 张凯锋 姚为 秦中环 刘奇 刘伟  
Research on Control Method of Surface Groove of Titanium Alloy SPF/DB Four-Sheet Structure  
LI Baoyong ZHANG Tiejun ZHANG Kaifeng YAO Wei  
QIN Zhonghuan LIU Qi LIU Wei

## 走进科研

Approaching Science



## 研究论文

Research

- 70 民机复合材料等同性验证方法及二类错误控制研究  
——涂圣 余音 吕新颖 NIKITA Kalutskiy  
Research on Civil Aircraft Composite Material Equivalence Verification Method and Type 2 Error Control  
TU Sheng YU Yin LÜ Xinying NIKITA Kalutskiy
- 80 基于扩散连接试样金相照片的非焊合缺陷的自动识别  
——胡京徽 谢鹏志 杨威 姚罡  
Automatic Detection of Non-Welding Defects Based on Metallographic Photographs of Diffusion Bonding Samples  
HU Jinghui XIE Pengzhi YANG Wei YAO Gang
- 85 飞机管路强度快速分析方法  
——陈晓豫 钱文清 鲍益东 舒阳 寸文渊  
Rapid Analysis Method of Strength for Aircraft Pipeline  
CHEN Xiaoyu QIAN Wenqing BAO Yidong SHU Yang CUN Wenyuan
- 92 飞机系统件柔性敏捷制造单元构建方法  
——潘登 曾德标 李国华 李国进 杨阳  
A Method of Constructing Flexible Agile Production Cell for Aircraft System Parts  
PAN Deng ZENG Debiao LI Guohua LI Guojin YANG Yang
- 98 机械主轴轴承振动监测与故障诊断研究  
——王一鹏 李连玉 李勇  
Research on Vibration Monitoring and Fault Diagnosis of Mechanical Spindle Bearings  
WANG Yipeng LI Lianyu LI Yong