

低温与超导

CRYOGENICS & SUPERCONDUCTIVITY

2012年7月
JULY 2012


第40卷
VOLUME 40

第7期
NUMBER 7

- 全国中文核心期刊
- 中国科技核心期刊
- 中国科学引文数据库核心库源刊
- 中国期刊网全文收录期刊
- 中国学术期刊全文收录期刊
- 中国知网全文收录期刊
- 中国版本图书馆征集典藏期刊
- 美国 CA 收录期刊
- 日本 CBST 科技文献速报收录期刊

ISSN 1001-7100



 **CETC** 中国电科集团第十六研究所

低温与超导

DIWEN YU CHAODAO

1973年创刊 月刊

2012年7月24日

主 管：中华人民共和国工业和信息化部
主 办：中国电子科技集团公司第十六研究所
编辑出版：《低温与超导》杂志社
主 编：郭冠斌
副 主 编：陈登科 杨斌 任静 郭良珠

执行主编：丁大勇
采 编：汪涓涓 付双双
责任编辑：付双双
英文编辑：David Ding
版式编辑：付双双
电 话：+86 551 5617621 或 5536934转8004
传 真：+86 551 5547444
邮 箱：cryosuper@126.com
两邮地址：230043 安徽省合肥市濉溪路439号
1019信箱

广告受理
电 话：+86 551 5617621 或 5536934转8004
传 真：+86 551 5547444
邮 箱：cryosuper@126.com
户 名：中国电子科技集团公司第十六研究所
开 户 行：合肥市建行蒙城路支行
帐 号：34001464508050020282
广告许可证号：3401004000066

发行范围：国内外公开发行
国内发行方式：邮局代发、杂志社直发
国内订阅方式：各地邮局订购、直接向杂志社订购
国际刊号：ISSN 1001-7100
国内刊号：CN34-1059/O4
国内邮发代号：26-40
国外发行代号：BM5266
承印单位：合肥锦华印务有限公司

单 价：RMB16, HKD30, USD4, EUR3, AUD5
年 价：RMB96, HKD180, USD36, EUR36, AUD60

目 次

本期头条

液化天然气(LNG)冷藏车冷量回收换热器的设计
.....张哲,郭永刚,田津津,等 1

低温技术

低温流体在多孔表面的池沸腾研究综述
.....王小军,任小军,张鹏,等 4

LNG低温潜液泵结构及设计分析
.....罗资琴,任永平,陈叔平,等 13

液氢加注系统中过滤器漏热故障仿真与分析
.....马昕晖,栾骁,陈景鹏,等 17
一种惰性气体回收器的研制.....张俊峰,章学华,丁先庚 22

超导技术

化学溶液沉积法制备YBCO薄膜的快速分解工艺研究
.....黄扬,邓永昌,朱晓磊,等 26

高温超导磁体临界电流的磁矢量分析法及其验证
.....焦丰顺,唐跃进,周世平,等 31

Nb/AlO_x-Al/Nb超导隧道结制备氧化工艺与特性研究
.....卢亚鹏,曹春海,李梦月,等 35

HT_crf SQUID用于磁异常移动测量的初步研究
.....蔡文艳,刘政豪,王贺,等 39

制冷技术

空调器焓差实验室节能的实验研究
.....邓经生,李征涛,吴会来,等 46

刮片式制冰蓄冷性能的实验研究
.....饶志明,刘圣春,孙志利,等 49

影响波纹换热管换热性能因素的数值模拟研究
.....王大成,陈朗,罗小平 54

两次节流循环在氨制冷系统的效率分析.....张建一,陈海洋
Einstein制冷循环研究新进展.....丁雨婷,刘道平,苏星,等 63

双热源复合换热器复合换热温差影响因素分析
.....张超,董家昀,赵晓丹,等 68

基于图论的便利店多元组合制冷系统热力循环的研究
.....林文松,陈天及 73

圆翅片叉排热管散热器流动和传热特性数值分析
.....王伟涛,陶汉中,徐益 80

房间空调器用R290旋转压缩机的研究
.....张海锋,刘春慧,张蕾 85

Monthly Published Since 1973

ISSN 1001-7100 CN 34-1059/04

July 24, 2012

Publisher: The 16th Institute of CETC

Editor in Chief: Guo Guanbin

Deputy Editor in Chief: Chen Dengke

Deputy Editor in Chief: Yang Bin

Deputy Editor in Chief: Ren Jing

Deputy Editor in Chief: Guo Liangzhu

Executive Editor in Chief: Ding Dayong

Editor: Wang Juanjuan Fu Shuangshuang

Designer: Fu Shuangshuang

Tel: +86 551 5617621 or 5536934 EX 8004

Fax: +86 551 5547444

Email: cryosuper@126.com

Add: P.O.1019, Hefei City 230043,

Anhui Pro., China

Advertisement and subscription

Tel: +86 551 5617621 or 5536934 EX 8004

Fax: +86 551 5547444

Email: cryosuper@126.com

Advertising License: 3401004000066

Subscription Rates (One year)

HongKong, Macao and Taiwan

..... HKD360.0

The United States of America···USD48.0

European Union·····EUR36.0

Australia ······ AUD60.0

Focus

The design of heat exchanger for cold energy recover in LNG refrigerated truck·····Zhang Zhe,Guo Yonggang,Tian Jinjin,et al 1

Cryogenics

Review of pool boiling of cryogenic fluids on porous surfaces
·····Wang Xiaojun ,Ren Xiaojun,Zhang Peng,et al 4

Structure and design analysis of submerged LNG cryopump
·····Luo Ziqin, Ren Yongping, Chen Shuping, et al 13

Hot-leakage fault simulation and analysis of filter in liquid hydrogen filling system·····Ma Xinhui,Luan Xiao,Chen Jingpeng,et al 17

Development of an inert gas reclaim machine
·····Zhang Junfeng,Zhang Xuehua,Ding Xiangeng 22

Superconductivity

Quick decomposition in preparing YBCO thin films by chemical solution deposition·····Huang Yang,Deng Yongchang,Zhu Xiaolei,et al 26

Introduction and validation of magnetic field vector analysis method of determining the critical current of HTS magnets
·····Jiao Fengshun,Tang Yuejin,Zhou Shiping,et al 31

Investigation of oxidation for high quality Nb/AlO_x-Al/Nb Josephson tunnel junctions·····Lu Yapeng,Cao Chunhai,Li Mengyue,et al 35

Preliminary research of H Te SQUID for magnetic anomaly mobile detection
·····Cai Wenyan,Liu Zhenghao,Wang He,et al 39

Refrigeration

Experimental study on energy-saving for enthalpy difference laboratory of air conditioner·····Deng Jingsheng,Li Zhengtao,Wu Huilai,et al 46

Experimental study on ice storage system performance with scraper type
·····Rao Zhiming,Liu Shengchun,Sun Zhili,et al 49

Numerical simulation research on the factors influencing the heat exchange performance of corrugated tubes
·····Wang Dacheng,Chen Lang,Luo Xiaoping 54

Efficiency analysis on the cycle with flash intercooler in ammonia refrigeration system·····Zhang Jianyi,Chen Haiyang 59

New research progress of Einstein refrigeration cycle
·····Ding Yuting,Su Xing,Liu Daoping,et al 63

The influence factors of the compound heat-exchanging temperature difference of dual-source compound heat-exchanger
·····Zhang Chao, Dong Jiayun,Zhao Xiaodan,et al 68

Numerical simulation on thermodynamic cycle of combined polycomponent refrigeration system based on graph theory·····Lin Wensong,Chen Tianji 73

Design and optimization of staggered heat pipe heat sink with circular fin
·····Wang Weitao,Tao Hanzhong,Xu Yi 80

Development of rotary compressor for room air conditioner using R290
·····Zhang Haifeng,Liu Chunhui,Zhang Lei 85