

# 红 外 研 究

Chin. J. Infrared Res.

## 第九卷年度索引

(一九九〇年)

### 主 题 索 引

#### 阿达玛(Hadamard)变换

——光谱术, 对称变换的应用(325).

#### 半导体

——激光器( $1.3\mu\text{m}$ ), 直接调制产生 2.1GHz 超短光脉冲(389);

——P 型闪锌矿, 带内光吸收的计算(396).

#### 薄膜

——P 型  $\text{CuInSe}_2$ , 瞬时光电导(227).

#### 背景辐射

——对 N-HgCdTe 少子迁移率值测量的影响(7).

#### 表面

——清洁及单层吸附  $\text{Mo}(001)$ , 声子色散研究(35);

——积累层对 N-HgCdTe 输运特性和复合特性的影响(337).

#### 玻璃

—— $\text{BiCl}_3\text{-KCl-As}_2\text{S}_3$  系, 形成、性质和结构(249).

#### 测量

——薄膜材料  $n, \kappa, d$ , 简易方法及在低温下应用(21);

——红外探测器频谱特性, 自动装置(57);

—— $\text{Zn}_{1-x}\text{Co}_x\text{S}$  和  $\text{Zn}_{1-x}\text{Ni}_x\text{S}$  新吸收谱线, 测量和分析(207);

——多层样品埋层厚度非接触, 利用 PTR 技术(215);

——光响应均匀性, CCD 摄像器件的(301);

——远红外激光光声检测系统(321);

——HgCdTe 晶体电参数反常的检测与分析(351);

——硅晶体中离子注入应力, 红外光弹性测量与研究(425)

#### 测温

——折射率温度敏感式医用光纤温度传感器的研究(73).

#### 超导

—— $\text{MBa}_2\text{Cu}_3\text{O}_{7-x}$  的红外光谱(189);

——自由载流子及超导状态下反射光谱中声子的异常敏感性(199).

#### 大气

——参数数值试验, NOAA-10 极轨气象卫星的, 利用物理反演法(233);

——折迭式湍流路径中双频光束协方差(269).

#### 电荷耦合器件(CCD)

——摄像器件光响应均匀性测量(301).

#### 碲镉汞(HgCdTe)

——室温长波光导探测器(1);

——N 型材料的少子迁移率(7);

——长波探测器研究, 卫星用(123);

——过热电子效应(293);

——N 型, 表面积累层对输运特性及复合特性的影响(337);

——晶体电参数反常的检测与分析(351);

——弱掺 Sb P 型晶体光电特性研究(359);

——光电二极管反向漏电机理分析(415);

——N 型晶片的 P 型夹杂, 红外吸收法测定(441).

#### 碲化铅(PbTe)

——薄膜材料  $n, \kappa, d$  简易测量方法(21);

——分子束外延异质结构多量子阱能带类型, 弱场霍尔效应判断(255).

#### 碲锡铅(PbSnTe)

——分子束外延异质结构多量子阱能带类型, 弱场霍尔效应判断(255).

#### 定标

- 红外辐射, 气象卫星扫描辐射计的(140);
- 可见近红外通道试验, 气象卫星扫描辐射计的(144);
- 光谱响应, 红外仪器的(151);
- 漫射圆筒型腔体有效发射率不确定度(447).

#### 分子束外延(BME)

- PbSnTe/PbTe 多量子阱能带类型, 弱场霍尔效应判断(255).

#### 光电导

- 室温长波光电导体研究(1);
- 瞬时, P-CuInSe<sub>2</sub> 薄膜的(227).

#### 光谱

- 高分辨光热电离, 高纯硅单晶的(67);
- 红外, MBa<sub>2</sub>Cu<sub>3</sub>O<sub>7-x</sub> 超导体的(189);
- 反射光谱中声子异常敏感性, 自由载流子及超导状态下(199);
- 新吸收谱线测量与分析, Zn<sub>1-x</sub>Co<sub>x</sub>S 和 Zn<sub>1-x</sub>Ni<sub>x</sub>S 的(207);
- 复原, 干涉型红外光谱仪的(221);
- 研究, Cr<sup>3+</sup>: LiGaW<sub>2</sub>O<sub>8</sub> 晶体的(243);
- 分辨率分析, 成像光谱仪的(277);
- 性质, 未掺杂和掺铬、钇 ZrO<sub>2</sub>-Y<sub>2</sub>O<sub>3</sub> 晶体的(309);
- 光声, 远红外激光检测(321);
- 光电离截面谱, 未掺杂半绝缘 GaAs 中 EL2 能级的(345);
- 光声, 周围介质及微粒间相互作用对微粒光吸收影响的研究(435);
- 光学截面及发射光谱计算, C/H<sub>2</sub>O 复合微粒子的(463).

#### 光谱仪

- 干涉型红外, 光谱复原(221);
- 成像, 光谱分辨率分析(277);
- 阿达玛变换光谱术, 对称变换的应用(325);
- 星载红外, 在空间甚长工作寿命:
  - II. 计算结果(365),
  - III. 活动门方法(409).

#### 光纤

- 温度传感器研究, 折射率温度敏感式医用的(73).

#### 光热辐射

- 高分辨率电离光谱, N 型高纯硅单晶的

(67);

- 测量理论, 多层样品的(215).

#### 光学材料

- 薄膜  $n, \kappa, d$  简单测量方法(21);
- 多晶 ZnS<sub>x</sub>Se<sub>1-x</sub> 的晶格振动行为, 物理汽相输运生长的(43);
- 用于气象卫星的光学涂层(129);
- BiCl<sub>3</sub>-KCl-As<sub>2</sub>S<sub>3</sub> 系玻璃的形成、性质和结构(249);
- 损伤阈值, CO<sub>2</sub> 连续激光预处理基板的影响(329);
- 非均匀涂层的热辐射(384).

#### 光学参数

- $n, \kappa, d$  简易测量方法, 薄膜材料的(21);
- 有效发射率不确定度, 漫射圆筒型腔体的(447);
- 光学截面及发射光谱计算, C/H<sub>2</sub>O 复合微粒子的(463);

#### 光学系统

- 卡塞格伦, 红外激光束衍射后的远场分布(15);
- 扫描辐射计光学设计, 气象卫星用的(91);
- 双频光束协方差, 折迭式湍流大气路径中(269).

#### 硅(Si)

- 高纯硅中新的浅施主中心(67);
- 三元线列探测器, 气象卫星用的(115);
- 晶体中离子注入应力的红外光弹性测量(425).

#### 过热电子效应

- InSb 远红外探测器(287);
- HgCdTe 的(293).

#### 毫米波

- 对小鼠肿瘤作用的实验研究(405).

#### 红外辐射

- 特性, 含微粒半无机高聚物复合陶瓷膜的(27);
- 木材干燥, 升温速率影响的实验研究(377);
- 非均匀涂层的热辐射(384);
- 高发射率涂层的研究(401).

#### 红外干燥

- 木材, 升温速率影响的实验研究(377);
- 高发射率涂料的研究(401).

## 红外应用

- 无损检测的理论和计算(51);
- 气象和农业遥感, 气象卫星的(156);
- 海洋水色遥感, 气象卫星的(162);
- 无损检测术, 薄壁材料热图象(263);
- 木材干燥, 升温速率影响的实验研究(377).

## 激光

- 红外束经卡塞格伦系统衍射后的远场分布(15);
- 掺杂铌酸锂氮氛相位共轭激光器(63);
- 远红外光声检测系统(321);
- CO<sub>2</sub> 连续预处理基板对光学薄膜损伤阈值的影响(329);
- 1.3 μm 半导体激光器直接调制产生 2.1 GHz 超短光脉冲(389);
- 获得增益的新方法(393);
- 多纵模光泵远红外实验研究(431).

## 晶格

- 振动行为, 物理汽相输运生长多晶 ZnS<sub>x</sub>Se<sub>1-x</sub> 的(43).

## 晶体

- 多晶 ZnS<sub>x</sub>Se<sub>1-x</sub> 晶格振动行为, 物理汽相输运生长的(43);
- 掺杂 LiNbO<sub>3</sub> 单晶, 氮氛相位共轭激光器(63);
- 高纯硅单晶, 新的浅施主中心(67);
- 多晶 MBa<sub>2</sub>Cu<sub>3</sub>O<sub>7-δ</sub>, 红外光谱(189);
- Zn<sub>1-x</sub>Co<sub>x</sub>S 和 Zn<sub>1-x</sub>Ni<sub>x</sub>S, 新吸收谱线的测量和分析(207);
- G<sup>3+</sup>: LiGaW<sub>2</sub>O<sub>8</sub>, 光谱研究(243);
- InSb, 过热电子远红外探测器(287);
- 未掺杂和掺铬、钇 ZrO<sub>2</sub>-Y<sub>2</sub>O<sub>3</sub>, 光谱性质(309);
- HgCdTe, 电参数反常检测与分析(351);
- 弱掺 Sb P 型 HgCdTe, 光电特性研究(359);
- 简支边界铁电晶片, 第三热释电效应的理论计算(457).

## 绝缘体

- 介电色散理论评述(169);
- 未掺杂半绝缘 GaAs 中 EL2 能级的光电离截面谱(345).

## 量子阱

- 分子束外延 PbSnTe/PbTe 多量子阱能带类型, 弱场霍尔效应判断(255).

铌酸锂(LiNbO<sub>3</sub>)

- 掺杂氮氛相位共轭激光器(63).

## 气象卫星

- 风云一号专辑序言(No 2);
- 风云一号, 可见红外扫描辐射计及其技术发展(81);
- 风云一号, 扫描辐射计光学设计(91);
- 风云一号, 遥感信号星上预处理(99);
- 风云一号, 高精度扫描器(108);
- 风云一号, 三元线列硅探测器(115);
- 风云一号, 长波 HgCdTe 探测器研究(120);
- 风云一号, 光学涂层(129);
- 风云一号, 辐射致冷系统(135);
- 风云一号, 扫描辐射计红外辐射定标(140);
- 风云一号, 扫描辐射计可见近红外通道辐射定标试验(144);
- 风云一号, 红外仪器光谱响应定标(151);
- 风云一号, 气象和农业遥感应用(156);
- 风云一号, 海洋水色遥感试验(162);
- NOAA-10, 大气参数物理反演法数值试验(233).

## 汽相输运

- 生长多晶 ZnS<sub>x</sub>Se<sub>1-x</sub> 的晶格振动行为(43).

## 热成像

- 无损检测术, 薄壁材料的(263).

## 热释电

- 第三效应理论计算, 简支边界铁电晶片的(457).

## 扫描仪

- 可见红外, 风云一号卫星用(81);
- 光学设计, 风云一号卫星用(91);
- 高精度的, 气象卫星用(108);
- 红外辐射定标(140);
- 可见近红外通道辐射定标试验(144);
- 光谱响应定标(151).

## 色散

- 清洁及单层吸附 Mo(001) 表面声子的(35);
- 绝缘体介电, 理论评述(169).

## 声子

- 色散, 清洁及单层吸附 Mo(001) 表面的 (35);
- 异常敏感性, 自由载流子及超导状态下反射光谱中(199).

### 砷化镓(GaAs)

- 未掺杂半绝缘, EL2 能级的光电离截面谱 (345);
- InGaAsP 半导体激光器直接调制产生超短光脉冲(389).

### 探测器

- 室温长波 HgCdTe 光导(1);
- 频谱特性自动测量装置(115);
- 三元线列硅, 风云一号卫星用(115);
- 长波 HgCdTe, 风云一号卫星用(123);
- InSb 过热电子远红外(287);
- CCD 摄像器件光响应均匀性测量(301);
- HgCdTe, 反向漏电机制分析(415).

### 陶瓷

- 含微粒子半无机高聚物复合膜, 红外辐射特性(27).

### 微粒子

- 含微粒子半无机高聚物复合陶瓷膜的红外特性(27),
- 周围介质与微粒子间相互作用对微粒子吸收影响的光声光谱研究(435);
- C/H<sub>2</sub>O 复合微粒子的光学截面及发射光谱计算(463).

### 无损检测

- 红外, 理论分析和计算(51);
- 热图, 薄壁材料的(263).

### 硒化锌(ZnSe)

- 薄膜材料  $n, \kappa, d$  简易测量方法(21);
- 多晶 ZnS<sub>0.9</sub>Se<sub>0.1</sub> 晶格振动行为, 物理汽相

输运生长的(43);

- Zn<sub>1-x</sub>Co<sub>x</sub>S 和 Zn<sub>1-x</sub>Ni<sub>x</sub>S 新吸收谱线的测量与分析(207).

### 吸收

- 光吸收计算, P 型闪锌矿半导体带内(396);
- 红外吸收法, 测定 N-HgCdTe 晶片 P 型; 夹杂(441);
- 微粒子光吸收, 周围介质与微粒子间相互作用的影响研究(435).

### 肖特基(Schottky)势垒二极管

- 3 mm, 雪崩噪声源(317).

### 信息处理

- 遥感信号星上预处理(99).

### 遥感

- 风云一号气象卫星专辑(No 2);
- 扫描辐射计及其技术发展, 风云一号卫星用(81);
- 信号星上预处理(99);
- 气象和农业应用, 风云一号卫星(156);
- 海洋水色, 风云一号卫星(162);
- 大气参数物理反演法数值试验, NOAA-10 卫星(233);
- 成像光谱仪, 光谱分辨率分析(277);
- 星载红外分光计在空间甚长寿命:
  - II. 计算结果(365),
  - III. 活动门方法(409).

### 铟铟(InSb)

- 过热电子远红外探测器(287)。

### 噪声源

- 雪崩, 3 mm 肖特基势垒二极管的(317)。

### 致冷

- 辐射致冷系统, 风云一号卫星用(135)。

## 作者索引

曹洪如——见 Kneubuhl Fritz K. (169).

曹 宁——见叶红娟(189).

曹逸庭(中科院紫金山天文台, 南京): 3 mm 肖特基势垒二极管雪崩噪声源(317).

常大定——见孙汉东(401)

陈建湘——见叶红娟(189);

见陈永平(293).

陈继明、罗遵度、王国富、陈金华、黄艺东(中科院福

建物构所, 福州): Cr<sup>3+</sup>: LiGaW<sub>2</sub>O<sub>8</sub> 晶体的光谱研究(243).

陈金华——见陈继明(243).

陈 珏、邵光宁(东南大学, 南京): 红外无损检测的理论分析和计算(51).

陈敏辉——见董亮初(301).

陈伟立——见史智盛(255).

陈熙琛——见叶红娟(189)。

- 陈永平、郑国珍、龚雅谦、郭少令、陈建湘、汤定元(中科院上海技物所):  $\text{Hg}_{1-x}\text{Cd}_x\text{Te}$  的过热电子效应(293).
- 邓文荣(中科院长春光机所)、杨文库(长春光机学院): P型  $\text{CuInSe}_2$  薄膜的瞬态光电导(227).
- 董超华——见吴保锁(233).
- 董亮初、唐红兰、陈敏辉(中科院上海技物所): CCD 摄像器件光响应均匀性测量(301).
- 樊震——见孙汉东(401).
- 范正修——见吴周令(329).
- 方家熊、徐国森、张林法、刘激鸣(中科院上海技物所): 卫星用长波  $\text{HgCdTe}$  探测器的研究(123); 方家熊——见黄建新(7);  
见 Staszewski G. Mahr von (337).
- 方宗义、江吉喜(国家气象局卫星气象中心,北京): 风云一号气象卫星在气象和农业遥感中的应用(156).
- 冯伟亭、严义坝(中科院上海技物所): 测量薄膜材料  $n$ 、 $\alpha$ 、 $d$  的简单方法及其在低温测量中的应用(21).
- 傅义——见史智盛(255).
- 干福熹——见江浩川(249).
- 郇光宁——见陈珏(51).
- 高鼎三——见贾刚(389).
- 高扬——见吴周令(329).
- 龚惠兴(中科院上海技物所): 风云一号气象卫星可见红外扫描辐射计的技术发展(81);
- 龚惠兴、郑亲波、张建新(中科院上海技物所): 甚高分辨率扫描辐射计的红外辐射定标(140).
- 龚雅谦——见徐建人(287);  
见陈永平(293).
- 管国兴——见李佩赞(215).
- 郭惠林——见张宝龙(108).
- 郭少令——见陈永平(293).
- 顾霞敏——见姜山(207).
- 洪焯(中科院上海技物所): 红外仪器的光谱响应定标(151).
- 黄长河——见王珏(359);
- 黄长河、俞振中、汤定元(中科院上海技物所): P型闪锌矿半导带内光吸收的计算(396);
- 黄长河、司承才、季华美、俞振中、汤定元(中科院上海技物所): 红外吸收法测定N型  $\text{Hg}_{0.8}\text{Cd}_{0.2}\text{Te}$  晶片的P型夹杂(441).
- 黄建新、方家熊、汤定元(中科院上海技物所): N型  $\text{Hg}_{0.805}\text{Cd}_{0.195}\text{Te}$  少数载流子迁移率(7).
- 黄叶肖——见俞志毅(67).
- 黄毅、林雪荣、徐军(中科院金属所,沈阳): 薄壁材料的热图无损检测术(263).
- 黄艺东——见陈继明(243).
- 胡百柳——见刘建成(309).
- 贾刚、孙伟、衣茂斌、高鼎三(吉林大学): 用1.3微米半导体激光器直接调制产生2.1GHz超短光脉冲(389).
- 江浩川、孙洪维、干福熹(中科院上海光机所):  $\text{BiCl}_3\text{-KCl-As}_2\text{S}_3$  系玻璃的形成、性质和结构(249).
- 江吉喜——见方宗义(156).
- 蒋连生、赵寿南、梁汉成(华南理工大学,广州): 硅晶体中离子注入应力的红外弹性测量及研究(425).
- 季华美——见黄长河(441).
- 季晓(上海市计量技术所): 漫射圆筒型腔体有效发射率的不确定度(447).
- 姜山、居逸群、马可军、朱浩荣、沈学础(中科院上海技物所)、顾霞敏(中科院上海冶金所):  $\text{Zn}_{1-x}\text{Co}_x\text{S}$  和  $\text{Zn}_{1-x}\text{Ni}_x\text{S}$  新吸收谱线的测量与分析(207).
- 金亿鑫——见史智盛(255).
- 居逸群——见姜山(207).
- 匡定波(中科院上海技物所): 《风云一号气象卫星》专辑序言(第二期).
- 雷仕湛(中科院上海光机所): 获得激光增益的新方法(393).
- 梁汉成——见蒋连生(425).
- 梁平治、张忠堂、孙德庆、谈德明(中科院上海技物所): 风云一号气象卫星用三元线列硅探测器(115).
- 黎光清——见吴保锁(233).
- 李佩赞、吴志明、郑小明、管国兴(苏州大学): 多层样品的PTR理论及其埋层厚度的非接触测量(215).
- 李若林、李增发、张光寅、俞平、(南开大学,天津): 周围介质及微粒间相互作用对微粒光吸收影响的光声光谱研究(435).
- 李正常——见翁垂骏(99).
- 李增发——见曾文生(199);  
见李若林(435).
- 李正直、倪振宇(杭州大学): 红外激光束经卡塞格伦系统衍射后的远场分布(15); 干涉型红外光谱

- 仪的光谱复原(221).
- 林寿仁(国家海洋局第二海洋研究所,杭州):风云一号气象卫星海洋水色的遥感试验(162).
- 林雪荣——见黄毅(263).
- 林贻堃——见罗锡璋(431).
- 刘德傅、沈小珩、曾真(上海第二医大瑞金医院)、周宝庆、叶妙根、糜正瑜(中科院上海技物所):毫米波辐射对小鼠肿瘤作用的实验研究(405).
- 刘建成、胡百柳、张道标(中科院长春应用化学所):未掺杂和掺铈、铒  $ZrO_2-Y_2O_3$  晶体的光谱性质(309).
- 刘嘉智——见褚治德(377).
- 刘激鸣——见方家熊(123);  
见王珏(359);  
见杨建荣(351).
- 刘劲松(西安电子科大)、吴仲康(南开大学、天津)、徐玉恒(哈尔滨工大):掺杂铈酸锂氟氘相位共轭激光器(63).
- 刘松荷——见徐建人(287).
- 刘晓春——见宋正方(269).
- 刘贤德——见潘应天(73).
- 罗宁胜——见徐文兰(384).
- 罗锡璋、郑兴世、丘秉生、林贻堃(中山大学,广州):多纵模光泵远红外激光的实验研究(431).
- 罗遵度——见陈建明(243).
- 吕巍——见褚治德(377).
- 陆卫——见叶红娟(189).
- 马骏——见宋正方(269).
- 马可军——见姜山(207).
- 糜正瑜——见刘德傅(405).
- 倪振宇——见李正直(15);(221).
- 潘守甫——见汤大新(463).
- 潘应天、刘贤德(华中理工大学、武汉):折射率温度敏感式医用光纤温度传感器的研究(73).
- 钱梦骥——见苏锦文(321).
- 丘秉生——见罗锡璋(431).
- 沈小珩——见刘德傅(405).
- 沈学础——见夏忠平(43);  
见俞志毅(67);  
见叶红娟(189);  
见姜山(207);  
见徐文兰(384).
- 史智盛、陈伟立、宋航、杨慧、傅义、金亿鑫(中科院长春物理所):用弱场霍尔效应判断分子束外延  $Pb_{0.88}Sn_{0.12}Te/PbTe$  量子阱能带类型(255).
- 石保安、王惠英、张爱军(中科院上海技物所):红外探测器频谱特性自动测量装置(57).
- 司承才——见黄长河(441).
- 宋航——见史智盛(255).
- 宋正方、马骏、刘晓春(中科院安徽光机所,合肥):折迭式湍流大气路径中双频光束协方差(269).
- 苏锦文、熊守仁(中科院上海技物所)、钱梦骥、吴大同(同济大学,上海)远红外激光光声检测系统(321).
- 孙德庆——见梁平治(115).
- 孙汉东、常大定、樊震(华中理工大学,武汉):高发射率红外涂层的研究(401).
- 孙恒慧——见朱永刚(345).
- 孙洪维——见江浩川(249).
- 孙伟——见贾刚(389).
- 谈德明——见梁平治(115).
- 汤大新、杨钧(吉林大学,长春):含微粒子的半无机高聚物复合陶瓷膜的红外辐射特性(27);  
汤大新、武志坚、潘守甫(吉林大学,长春): $C/H_2O$  复合微粒子的光学截面及发射率光谱计算(463).
- 汤定元——见黄建新(7);  
见陈永平(293);  
见杨建荣(351);  
见王珏(359);  
见黄长河(396),(441);  
见袁皓心(415).
- 唐红兰——见董亮初(301).
- 唐秀云——见夏忠平(43).
- 田元英——见张复礼(325).
- 童斐明——见袁皓心(415).
- 王德新——见褚治德(377).
- 王国富——见陈继明(243).
- 王惠英——见石保安(57).
- 王建宇(中科院上海技物所):成象光谱仪光谱分辨率的分析(277).
- 王珏、黄长河、刘激鸣、俞振中、汤定元(中科院上海技物所)、弱P型  $Sb-Hg_{1-x}Cd_xTe$  晶体光电特性研究(359).
- 王群——见褚治德(377).
- 王维扬——见杨春江(135).
- 王旭昇、张显焯(西安电子科大):简支边界铁电晶片

- 的第三热释电效应的理论计算(457)。
- 王之江——见吴周令(329)。
- 翁垂骏、李正常、周言木(中科院上海技物所): 遥感信号星上预处理(99)。
- 吴保锁、黎光清、董超华(国家气象局卫星气象中心, 北京): NOAA 极轨气象卫星大气参数的物理反演方法数值试验(233)。
- 吴大同——见苏锦文(321)。
- 吴志明——见李佩赞(215)。
- 吴仲康——见刘劲松(63)。
- 吴周令、高扬、范正修、王之江(中科院上海光机所):  $\text{CO}_2$  连续激光预处理基板对光学薄膜损伤阈值的影响(329)。
- 武志坚——见汤大新(463)。
- 夏忠平、唐秀云、沈学础(中科院上海技物所): 物理汽相输运生长多晶  $\text{ZnS}_x\text{Se}_{1-x}$  的晶格振动行为(43)。
- 熊守仁——见苏锦文(321)。
- 许步云、朱翠媛、朱炳生(中科院上海技物所): 用于气象卫星的光学涂层(129)。
- 许铁栓——见褚治德(377)。
- 徐国森——见方家熊(123)。
- 徐建人、龚雅谦、刘松荷(中科院上海技物所):  $\text{InSb}$  过热电子远红外探测器(287)。
- 徐军——见黄毅(255)。
- 徐文兰、罗宁胜、张珉、沈学础(中科院上海技物所): 非均匀涂层的热辐射(384)。
- 徐玉恒——见刘劲松(63)。
- 胥学荣——见郑亲波(91)。
- 杨春江、王维扬(中科院上海技物所): 风云一号气象卫星用辐射制冷系统(135)。
- 杨慧——见史智盛(255)。
- 杨建荣、俞振中、刘激鸣、汤定元(中科院上海技物所):  $\text{Hg}_{0.8}\text{Cd}_{0.2}\text{Te}$  晶体电参数反常的检测和分析(351)。
- 杨钧——见汤大新(27)。
- 杨文库——见邓文荣(227)。
- 杨小明——见曾文生(199)。
- 闫杰——见曾文生(199)。
- 严义坝——见冯伟亭(21)。
- 叶红娟、俞志毅、陆卫、陈建湘、学沈础(中科院上海技物所)、曹宁、郑家琪、陈熙琛(中科院物理所, 北京):  $\text{MBa}_2\text{Cu}_3\text{O}_{7-x}$  ( $M=\text{Y}, \text{Sm}, \text{Gd}, \text{Eu}$ ) 超导体的红外光谱(189)。
- 叶妙根——见刘德傅(405)。
- 衣茂斌——见贾刚(389)。
- 袁皓心、童斐明、汤定元(中科院上海技物所):  $\text{Hg}_{1-x}\text{Cd}_x\text{Te}$  光电二极管反向漏电机理分析(415)。
- 俞平——见李若林(435)。
- 俞振中——见杨建荣(351); 见王珏(359); 见黄长河(396)、(441)。
- 俞志毅、黄叶肖、沈学础(中科院上海技物所): 高纯硅中新的浅施主中心(67)。
- 俞志毅——见叶红娟(189)。
- 曾文生、张贵忠、李增发、张光寅、闫杰、杨小明(南开大学, 天津): 自由载流子及超导状态下反射光谱中声子的异常敏感性(199)。
- 曾真——见刘德傅(405)。
- 张爱军——见石保安(57)。
- 张宝龙、郭惠林(中科院上海技物所): 星载高精度扫描器(108)。
- 张道标——见刘建成(309)。
- 张复礼、田元英(天津大学): 对称变换及其在阿达玛变换光谱术中的应用(325)。
- 张光寅——见曾文生(199); 见李若林(435)。
- 张贵忠——见曾文生(199)。
- 张建新——见龚惠兴(140)。
- 张开明——见资剑(35)。
- 张林发——见方家熊(123)。
- 张珉——见徐文兰(384)。
- 张显炽——见王旭昇(457)。
- 张肇先(中科院上海技物所): 星载红外分光计在空间甚长工作寿命。II. 计算结果(365); III. 活动门方法(409)。
- 张智敏、郑亲波(中科院上海技物所): 风云一号扫描辐射计可见近红外通道辐射定标试验(144)。
- 张忠堂——见梁平治(115)。
- 赵寿南——见蒋连生(425)。
- 郑国珍——见陈永平(293)。
- 郑家琪——见叶红娟(189)。
- 郑亲波、胥学荣(中科院上海技物所): 风云一号气象卫星遥感仪器的光学设计(91)。
- 郑亲波——见龚惠兴(140); 见张智敏(144)。
- 郑小明——见李佩赞(215)。

郑兴世——见罗锡璋(431).  
 周宝庆——见刘德傅(405).  
 周言木——见翁垂骏(99).  
 朱炳生——见许步云(129).  
 朱翠媛——见许步云(129).  
 朱浩荣——见姜 山(207).  
 朱永刚、孙恒慧(复旦大学,上海): 未掺杂半绝缘砷化镓中 E12 能级的光电离截面积(345).  
 褚治德、许铁栓、刘嘉智、王德新、王 群、吕 巍(天津大学): 升温速率对木材红外干燥影响的实验研究(377).  
 资 剑、张开明(复旦大学,上海): 清洁及单层吸附的 Mo(001) 表面声子色散研究(35).  
 Kneubuhl Fritz K.、曹洪如(IQE, ETH, Zurich,

Switzerland): 绝缘体介电色散理论评述(169)  
 Lex C.——见 Staszewski G, Mahr von (337).  
 Nimitz G.——见 Staszewski G. Mahr von (337).  
 Piotrowski Jozef (Institute of Plasma Physics and Laser Microfusion, Warsaw, Poland): 室温长波光导探测器研究(1).  
 Schilz J.——见 Staszewski G. Mahr von (337).  
 Staszewski G. Mahr von.、Lex C.、Nimitz G.、方家熊、Schilz J.、Wollrab B. (Physikalisches Institut der Universität zur Köln, FRG): 表面累积层对 N 型 Hg<sub>1-x</sub>Cd<sub>x</sub>Te 输运特性及复合特性的影响(337).  
 Wollrab R.——见 Staszewski G. Mahr von(337).

## 机 构 索 引

长春光学精密机械学院, 吉林长春, 130022(227).  
 复旦大学, 上海, 200433(35), (345).  
 国家海洋局第二海洋研究所, 浙江杭州, 310012 (162).  
 国家气象局卫星气象中心, 北京, 100081(156), (233).  
 杭州大学, 浙江杭州, 310028 (15), (221).  
 哈尔滨工业大学, 黑龙江哈尔滨, 150006(63).  
 华南理工大学, 广东广州510641(425).  
 华中理工大学, 湖北武汉, 430074(73), (401).  
 吉林大学, 吉林长春, 130023(27), (389), (463).  
 联邦德国 Univertat zur Koln, 5000 Köln 41, FRG (337).  
 南开大学, 天津, 300071(63), (199), (435).  
 波兰 Institute of Plasma Physics and Laser Microfusion, Warsaw 49, Poland (1).  
 瑞士 Institute of Quantum Electronics, ETH, CH-8093 Zurich, Switzerland (169).  
 上海第二医科大学瑞金医院, 上海, 200025(405).  
 上海市计量技术研究所, 上海, 200040(447).  
 苏州大学, 江苏苏州, 215006(215).  
 天津大学, 天津, 300072(325), (405).  
 同济大学, 上海, 200092(321).  
 东南大学, 江苏南京, 210018(51).  
 西安电子科技大学, 陕西西安, 710071(63), (457).

中国科学院安徽光学精密机械研究所, 安徽合肥, 230031(269).  
 中国科学院长春光学精密机械研究所, 吉林长春, 130022(227).  
 中国科学院长春物理研究所, 吉林长春, 130021 (255).  
 中国科学院长春应用化学研究所, 吉林长春, 130021 (309).  
 中国科学院福建物质结构研究所, 福建福州, 350002 (343).  
 中国科学院金属研究所, 辽宁沈阳, 110015(263).  
 中国科学院上海光学精密机械研究所, 上海, 201800 (249), (329), (393).  
 中国科学院上海技术物理研究所, 上海, 200083(7), (21), (43), (57), (67), (81), (91), (99), (108), (115), (123), (129), (135), (140), (144), (151), (189), (207), (277), (287), (293), (301), (321), (351), (359), (365), (384), (396), (405), (409), (415), (441).  
 中国科学院上海冶金研究所, 上海, 200050(189), (207).  
 中国科学院紫金山天文台, 江苏南京, 210008(317).  
 中国科学院物理研究所, 北京, 100080(189).  
 中山大学, 广东广州, 510275(431).



# ANNUAL INDEX

Chinese Journal of Infrared Research,  
Vol.9(1990)

## SUBJECT INDEX

### ABSORPTION

- Intraband optical absorption in P-type zinc-blend structure semiconductors, calculation of (396);
- I.R. absorption, determination of P-type inclusion in N-HgCdTe alloy by (441);
- Optical absorption of small particles, study of effect of medium and inter-particle interactions on (435).

### ATMOSPHERE

- parameters using physical retrieval method from NOAA-10 polar orbit meteorological satellite data, numerical experiment of (233);
- Folded turbulent path, covariance of bifrequency beam propagating in (269).

### BACKGROUND RADIATION

- Effect on values of measurement of mobility of minority carriers in N-HgCdTe (7).

### CALIBRATION

- IR radiation calibration of scanning radiometer for meteorological satellite (140);
- Radiation calibration test for visible and near IR waveband of scanning radiometer on meteorological satellite (144);
- Calibration of spectral response of IR instrument (151);
- Uncertainty of effective emissivity of diffuse cylindrical cavity (447).

### CERAMICS

- Composite ceramic film of half-inorganic polymer with microparticles, IR emission properties of (27).

### CHARGE COUPLED DEVICES (CCD)

- Image sensor, photoresponse uniformity measurement of (301).

### COOLING

- Radiant cooler system for FY-1 meteorological satellite (135).

### CRYSTALS

- Polycrystalline  $ZnS_xSe_{1-x}$  prepared by PVT, lattice vibration behaviors of (43);
- Doped LiNbO<sub>3</sub> single crystal, He-Ne phase conjugate laser with (63);
- High-purity silicon single crystal, novel shallow donor centers in (67);
- Polycrystalline MBa<sub>2</sub>Cu<sub>3</sub>O<sub>7- $\delta$</sub> , IR spectra of (189);
- $Zn_{1-x}Co_xS$  and  $Zn_{1-x}Ni_xS$ , measurement and analysis of new absorption line in (207);
- G<sup>3+</sup>: LiGaW<sub>2</sub>O<sub>3</sub>, spectroscopy investigation of (243);
- InSb hot electron FIR detector (287);
- ZrO<sub>2</sub>-Y<sub>2</sub>O<sub>3</sub> crystals undoped and doped with chromium and erbium, spectral properties of (309);
- HgCdTe crystals, examination and analysis of anomalous electrical behaviors in (351);
- Sb-doped weak P-type HgCdTe, optical and electrical properties of (359);
- Ferroelectric crystal wafers in simply supported edges, theoretical calculation of tertiary pyroelectric effect of (457).

### DETECTORS

- Ambient temperature longwavelength HgCdTe photoconductors (1);
- Frequency performances of IR detectors, an

- automatic system for measuring (57);  
 —Three-element linear Si detector for FY-1 meteorological satellite (115);  
 —Long wavelength HgCdTe detector for satellite, study of (123);  
 —InSb hot electron FIR detector (287);  
 —CCD image sensor, photoresponse uniformity measurement of (301);  
 —HgCdTe photodiode, analysis of reverse leakage current mechanism in (415).

### DISPERSION

- Phonon dispersion of clean and monolayer adsorbed Mo(001) surface (35);  
 —Dielectric dispersion of insulators, review on theory of (169).

### GALLIUM ARSENIDE (GaAs)

- Undoped semi-insulating GaAs, spectral distribution of photoionization cross sections for EL2 level in (345);  
 —InGaAsP semiconductor laser, picosecond optical pulse generation by direct modulation from (389).

### GLASSES

- BiCl<sub>3</sub>-KCl-As<sub>2</sub>S<sub>3</sub> system, formation, properties and structure (249).

### HADAMARD TRANSFORMATION

- Spectroscopy, symmetric transformation and its application in (325).

### HOT ELECTRON EFFECT

- InSb FIR detector (287);  
 —Effect of HgCdTe (293).

### INDIUM ANTIMONIDE (InSb)

- Hot electron FIR detector (287).

### INFORMATION PROCESSING

- Pre-processing of remote sensing signal on satellite (99).

### INFRARED APPLICATIONS

- Nondestructive testing, theoretical analysis and computation of (51);  
 —Meteorological and agricultural remote sensing applications of FY-1 meteorological satellite (156);  
 —Ocean color remote sensing experiment on FY-1 meteorological satellite (162);

—Thermographic nondestructive testing of thin-walled materials (263);

—Wood drying by IR radiation, experimental study on effect of temperature rising rate on (377).

### INFRARED DRYING

—Wood drying by IR radiation, experimental study on effect of temperature rising rate on (377);

—High emissivity IR coatings, study of (401).

### INFRARED RADIATION

—IR emission properties of composite ceramic film of half-inorganic polymer with microparticles (27);

—Wood drying by IR radiation, experimental study on effect of temperature rising rate on (377);

—Thermal radiation of inhomogeneous coating (384);

—High emissivity IR coatings, study of (401).

### INSULATORS

—Dielectric dispersion, review on theory of (169);

—Undoped semi-insulating GaAs, spectral distribution of photo-ionization cross sections for EL2 level in (345).

### LASERS

—IR beam passing through Cassegrain system, far-field distributions of (15);

—Doped lithium niobate He-Ne phase conjugate laser (63);

—FIR laser photoacoustic detection system (321);

—Semiconductor laser at 1.3 $\mu$ m wavelength by direct modulation 2.1 GHz picosecond optical pulse generation from (389);

—Effect of CO<sub>2</sub> laser irradiated substrates on damage threshold of optical coating (393);

—Multi-mode optically pumped FIR laser, experimental study of (431).

### LATTICES

—Vibration behaviors of polycrystalline ZnS<sub>1-x</sub>Se<sub>x</sub> prepared by PVT technique (43).

### LEAD TELLURIDE (PbTe)

- Coatings, a simple method for determination of  $n$ ,  $\kappa$ ,  $d$  of (21);
- MBE PbSnTe/PbTe multi-quantum well, determination of type of energy band weak field Hall-effect measurement on (255).

#### LEAD TIN TELLURIDE (PbSnTe)

- MBE PbSnTe/PbTe multi-quantum well, determination of type of energy band by weak field Hall-effect measurement on (255).

#### LITHIUM NIOBATE (LiNbO<sub>3</sub>)

- Doped lithium niobate He-Ne phase conjugate laser (63).

#### MEASUREMENT

- Simple method for determination of  $n$ ,  $\kappa$ ,  $d$  of coatings and its applications at low temperatures (21);
- Automatic system for measuring frequency performances of IR detectors (57);
- Measurement and analysis of new absorption lines in Zn<sub>1-x</sub>Co<sub>x</sub>S and Zn<sub>1-x</sub>Ni<sub>x</sub>S (207);
- Noncontact measurement of buried layer thickness of multilayer samples by PTR (215);
- Photoresponse uniformity measurement of CCD image sensors (301);
- FIR laser photoacoustic detection system (321);
- Examination and analysis of anomalous electrical behaviors in HgCdTe crystals (351);
- IR photoelastic method, measurement and study of stress in ion-implanted silicon wafer by (425).

#### MERCURY CADMIUM TELLURIDE (HgCdTe)

- Ambient temperature longwavelength photoconductors (1);
- N-type material, mobility of minority carriers in (7);
- Long wavelength detector for satellite, study of (123);
- Hot electron effect (293);
- N-type, influence of surface accumulation layer on transport and recombination properties in (337);
- Crystals, examination and analysis of anomalous electrical behaviors in (351);

- Sb-doped weak P-type crystal, optical and electrical properties of (359);
- Photodiodes, analysis of reverse leakage current mechanisms in (415);
- N-type alloys, determination of P-type inclusion by IR absorption (441).

#### MICROPARTICLES

- IR emission properties of composite ceramic film of half-inorganic polymer with (27);
- Effect of medium and inter-particle interactions on optical absorption of small particles by photoacoustic method (435);
- C/H<sub>2</sub>O composite microscopic particle, calculation of optical cross sections and emissivity spectra for (463).

#### MILLIMETER WAVES

- Effect of millimeter wave radiation on malignant tumor in mice, experimental study on (405).

#### METEOROLOGICAL SATELLITES

- Foreword to Special Issue on FY-1 meteorological satellite (No. 2);
- FY-1 satellite, visible infrared scanning radiometer and its technical advances for (81);
- FY-1 satellite, optical design of scanning radiometer for (91);
- FY-1 satellite, pre-processing of remote sensing signal on (99);
- FY-1 satellite, high accuracy scanner for (108);
- FY-1 satellite, three-element linear Si detector for (115);
- FY-1 satellite, study of long wavelength HgCdTe detector for (123);
- FY-1 satellite, optical coatings for (129);
- FY-1 satellite, radiant cooler system for (135);
- FY-1 satellite, IR radiation calibration of scanning radiometer for (140);
- FY-1 satellite, visible and near IR radiation calibration of scanning radiometer for (144);
- FY-1 satellite, spectral response calibration of IR instrument for (151);
- FY-1 satellite, meteorological and agricultu-

ral remote sensing applications of (156);

- FY-1 satellite, ocean color remote sensing experiment on (162);
- NOAA-10 polar orbit meteorological satellite data, numerical experiment of atmospheric parameters using physical retrieval method from (233).

#### MOLECULAR BEAM EPITAXY (MBE)

- MBE PbSnTe/PbTe multi-quantum well, determination of type of energy band by weak field Hall-effect measurement on (255).

#### NOISE SOURCES

- avalanche noise source of Schottky barrier diode in 3 mm band (317).

#### NONDESTRUCTIVE TESTING

- IR nondestructive testing, theoretical analysis and computation of (51);
- Thermographic nondestructive testing of thin-walled materials (263).

#### OPTICAL FIBERS

- Modified cladding refractive index dependent fiber optic thermometer for medical applications (73).

#### OPTICAL MATERIALS

- Coatings, a simple method for determination of  $n$ ,  $\kappa$ ,  $d$  of (21);
- Polycrystalline  $ZnS_xSe_{1-x}$  prepared by PVT technology, lattice vibration behaviors of (43);
- Optical coatings for meteorological satellite (129);
- $BiCl_3-KCl-As_2S_3$  system glasses, formation, properties and structure of (249);
- Damage threshold of optical coatings, effect of  $CO_2$  laser irradiated substrates on (329);
- Inhomogeneous coating, thermal radiation of (384).

#### OPTICAL PARAMETERS

- $n$ ,  $\kappa$ ,  $d$  of coatings, a simple method for determination of (21);
- Uncertainty of effective emissivity of diffuse cylindrical cavity (447);
- Optical cross sections and emissivity spectra for  $C/H_2O$  composite microscopic particle, theoretical calculation of (463).

#### OPTICAL SYSTEMS

- Cassegrain system, far-field distributions of IR laser beam passing through (15);
- Optical design of scanning radiometer for FY-1 meteorological satellite (91);
- Covariance of bifrequency beam propagating in folded turbulent atmospheric path (269).

#### PHONON

- Phonon dispersion of clean and monolayer adsorbed Mo(001) surface (35);
- Phonon in free carriers and superconductivity state, abnormal sensitivity of reflection structures of (199).

#### PHOTOCONDUCTIVITY

- Ambient temperature long wavelength photoconductors, study on (1);
- Transient photoconductivity in P-CuInSe<sub>2</sub> thin film (227).

#### PHOTOTHERMAL RADIATION

- High-resolution photothermal ionization spectra (PTIS) of N-type high-purity silicon single crystal (67);
- Theory of photothermal radiometry for multilayer samples and noncontact measurement of buried layer thickness (215).

#### PYROELECTRICITY

- Tertiary pyroelectric effect of ferroelectric crystal wafers in simply supported edges, theoretical calculation of (457).

#### QUANTUM WELL

- MBE PbSnTe/PbTe multi-quantum well, determination of type of energy band by weak field Hall-effect measurement on (255).

#### REMOTE SENSING

- FY-1 meteorological satellite, special issue on (No. 2);
- VHRSR and its technical advances for FY-1 satellite (81);
- Pre-processing of signal on satellite (99);
- Meteorological and agricultural applications of FY-1 satellite (156);
- Ocean color experiment on FY-1 satellite (162);
- numerical experiment of atmospheric param

eters using physical retrieval method from NOAA-10 polar orbit meteorological satellite data (233);

—Analysis about spectral resolving power of imaging spectrometer (277);

—Very long life of satellite-borne IR spectrometer in space:

II. Results of calculation (365);

III. Movable door method (409).

### SCANNERS

—Visible and IR scanning radiometer and its technical advances for FY-1 meteorological satellite (81);

—Optical design of scanning radiometer for FY-1 satellite (91);

—High accuracy scanner for FY-1 satellite (108);

—IR radiation calibration of scanning radiometer for FY-1 satellite (140);

—Radiation calibration test for visible and near IR waveband of scanning radiometer (144);

—Calibration of spectral response for scanning radiometer (151).

### SCHOTTKY BARRIER DIODES

—Schottky barrier diode in 3 mm band, avalanche noise source of (317).

### SEMICONDUCTORS

—Semiconductor laser at  $1.3\mu\text{m}$  wavelength by direct modulation, 2.1 GHz picosecond optical pulse generation from (389);

—P-type zincblende structure semiconductors, calculation of intraband optical absorption in (397).

### SILICON (Si)

—High-purity silicon, novel shallow donor center in (67);

—Three-element linear detector for FY-1 satellite (115);

—Stress in ion-implanted Si wafer, its measurement and study by IR photoelastic method (425)

### SPECTROMETERS

—Interferometric IR spectrometer, recovery of spectrum in (221);

—Imaging spectrometer, analysis about spectral resolving power of (277);

—Hadamard transform spectrometry, symmetric transformation and its application in (325);

—Satellite-borne IR spectrometer, very long life in space:

II. Results of calculation (365);

III. Movable door method (409).

### SPECTRA

—High resolution photothermal ionization spectra of high-purity silicon (67);

—IR spectra of superconductor  $\text{MBa}_2\text{Cu}_3\text{O}_{7-\delta}$  (189);

—Reflection structure of phonon in free carriers and superconductivity state, abnormal sensibility of (199);

—New absorption lines in  $\text{Zn}_{1-x}\text{Co}_x\text{S}$  and  $\text{Zn}_{1-x}\text{Ni}_x\text{S}$ , measurement and analysis of (207);

—Recovery of spectrum in interferometric IR spectrometer (221);

—Spectroscopy investigation of  $\text{Gr}^{3+}$ :  $\text{LiGaW}_2\text{O}_8$  crystal (243);

—Spectral resolving power of imaging spectrometer, analysis about (277);

—Spectral properties of  $\text{ZrO}_2\text{-Y}_2\text{O}_3$  crystals undoped and doped with chromium and erbium (309);

—Photoacoustic spectrum, FIR laser detection of (321);

—Spectral distribution of photo-ionization cross sections for EL2 level in undoped semi-insulating GaAs (345);

—Photoacoustic spectroscopy, study of effects of medium and inter-particle interactions on optical absorption of small particle by (435);

—Optical cross sections and emissivity spectra for C/H<sub>2</sub>O composite microscopic particle, calculations of (403).

### SUPERCONDUCTORS

— $\text{MBa}_2\text{Cu}_3\text{O}_{7-\delta}$ , IR spectra of (189);

—Free carriers and superconductivity state, abnormal sensibility of reflection structures of phonon in (199).

**SURFACE**

- Clean and monolayer Mo(001) surface, study on phonon dispersion of (35);
- Surface accumulation layer, its influence on transport and recombination properties in N-HgCdTe (337).

**THERMOGRAPHY**

- Nondestructive testing of thin-walled materials (263).

**THERMOMETRY**

- Modified cladding refractive index dependent fiber optic thermometer for medical applications (73).

**THIN FILMS**

- P-type CuInSe<sub>2</sub> thin film, transient photoconductivity in (227).

**VAPOR TRANSPORT**

- PVT technique, lattice vibration behaviors of polycrystalline ZnS<sub>x</sub>Se<sub>1-x</sub> prepared by (43).

**ZINC SELENIDE (ZnSe)**

- Coatings, a simple method for determination of  $n, \kappa, d$  of (21);
- Polycrystalline ZnS<sub>x</sub>Se<sub>1-x</sub> prepared by PVT technique, lattice vibration behaviors of (43);
- Zn<sub>1-x</sub>Co<sub>x</sub>S and Zn<sub>1-x</sub>Ni<sub>x</sub>S, measurement and analysis of new absorption lines in (207).

**AUTHOR INDEX**

- Cao Hongru**—see Kneubuhl Fritz K. (169).
- Cao Ning**—see Ye Hongjuan (189).
- Cao Yiting** (Purple Mountain Observatory, Academia Sinica) *Avalanche noise source of Schottky barrier diode in the 3mm band* (317).
- Cheng Dading**—see Sun Handong (401).
- Chen Jianxiang**—see Ye Hongjuan (189); Chen Yongping (293).
- Chen Jiming, Luo Zundu, Wang Guofu, Chen Jinhua, Huang Yidong** (Fujian Institute of Research on the Structure of Matter, Academia Sinica); *Spectroscopy investigation of the Cr<sup>3+</sup>-doped lithium gallium tungstate crystal (Cr<sup>3+</sup>: LiGaW<sub>2</sub>O<sub>8</sub>)* (243).
- Chen Jinhua**—see Chen Jiming (243).
- Chen Jue, Gao Guangning** (Southeast University): *Theoretical analysis and computation of infrared nondestructive testing* (51).
- Chen Minhui**—see Dong Liangchu (301).
- Chen Weili**—see Shi Zhisheng (255).
- Chen Xichen**—see Ye Hongjuan (189).
- Chen Yongping, Zheng Guozhen, Gong Yaqian, Guo Shaoling, Chen Jianxiang, Tang Dingyuan** (Shanghai Institute of Technical Physics, Academia Sinica): *Hot electron effect in Hg<sub>1-x</sub>Cd<sub>x</sub>Te* (293).
- Deng Wenrong** (Changchun Institute of Optics and Fine Mechanics, Academia Sinica) **Yang Wenku** (Changchun Institute of Optics and Fine Mechanics): *Transient photoconductivity in P-type CuInSe<sub>2</sub> thin film* (227).
- Dong Chaohua**—see Wu Baosuo (233).
- Dong Liangchu, Tang Honglan, Chen Minhu** (Shanghai Institute of Technical Physics, Academia Sinica): *Photoresponse uniformity measurement of CCD image sensors* (301).
- Fan Zhen**—see Sun Handong (401).
- Fan Zhenxiu**—see Wu Zhouling (329).
- Fang Jiaxiong, Xu Guoshen, Zhang Linfai, Liu Jimin** (Shanghai Institute of Technical Physics, Academia Sinica): *Study of long wavelength HgCdTe detector for satellite* (123);
- Fang Jiaxiong**—see Huang Jianxin (7); Staszewski G. Mahr von (337).
- Fang Zongyi, Jiang Jixi** (Satellite Meteorology Center, State Meteorological Administration) *Applications of FY-1 meteorological satellite in the fields of meteorology and agricultural remote sensing* (156).
- Feng Weiting, Yen Yixun** (Shanghai Institute of Technical Physics, Academia Sinica): *A simple method for determination of*

- n, κ, d of coatings and its application at low temperatures* (21).
- Fu Yi—see Shi Zhisheng (255).
- Gan Fuxi—see Jian Haochuan (249).
- Gao Dingsan—see Jia Gang (389).
- Gao Guangning—see Chen Jue (51).
- Gao Yang—see Wu Zhouling (329).
- Gong Huixing (Shanghai Institute of Technical Physics, Academia Sinica): *Visible-infrared scanning radiometer of FY-1 meteorological satellite and its technical advances* (81);
- Gong Huixing, Zheng Qinbo, Zhang Jianxing: *Infrared radiation calibration of very high resolution scanning radiometer* (140).
- Gong Yaqian—see Xu Jianren (387); Chen Yongping (293).
- Guan Guoxing—see Li Peizan (215).
- Guo Huilin—see Zhang Baolong (108).
- Guo Shaoling—see Chen Yongping (293).
- Gu Xiamin—see Jiang Shan (207).
- Hong Ye (Shanghai Institute of Technical Physics, Academia Sinica): *Calibration of spectral response of infrared instrument* (151).
- Huang Changhe, Yu Zhengzhong, Tang Dingyuan (Shanghai Institute of Technical Physics, Academia Sinica): *Calculation of intraband optical absorption in P-type zinc blende structure semiconductors* (396);
- Huang Changhe, Si Chengcai, Ji Huamei, Yu Zhengzhong, Tang Dingyuan: *Determination of P-type inclusion in N-type Hg<sub>0.8</sub>Cd<sub>0.2</sub>Te alloys by infrared absorption* (441).
- Huang Changhe—see Wang Jue (359).
- Huang Jianxin, Fang Jiexiong, Tang Dingyuan (Shanghai Institute of Technical Physics, Academia Sinica): *Mobility of minority carriers in N-type Hg<sub>0.805</sub>Cd<sub>0.195</sub>Te* (7).
- Huang Yexiao—see Yu Zhiyi (67).
- Huang Yi, Lin Xuerong, Xu Jin (Institute of Metal Research, Academia Sinica): *Thermographic nondestructive testing of thin walled materials* (263).
- Huang Yidong—see Chen Jiming (243).
- Hu Bailiu—see Liu Jiancheng (309).
- Jia Gang, Sun Wei, Yi Maobin, Gao Dingsan (Jilin University): *2.1GHz picosecond optical pulse generation from semiconductor laser at 1.3μm wavelength by direct modulation* (389).
- Jiang Haochuan, Sun Hongwei, Gan Fuxi (Shanghai Institute of Optics and Fine Mechanics, Academia Sinica): *Formation, Properties and structure of BiCl<sub>3</sub>-KCl-As<sub>2</sub>S<sub>3</sub> system glasses* (249).
- Jiang Jixi—see Fang Zongyi (156).
- Jiang Liansheng, Zhao Shounan, Liang Hancheng (South China University of Technology): *Measurement and study of stress in ion-implanted silicon wafer by infrared photoelastic method* (425).
- Ji Huamei—see Huang Chenghe (441).
- Jiang Shan, Ju Yiqun, Ma Kejun, Zhu Haorong, Shen Xuechu (Shanghai Institute of Technical Physics, Academia Sinica), Gu Xiamin (Shanghai Institute of Metallurgy, Academia Sinica): *The measurement and analysis of new absorption lines in Zn<sub>1-x</sub>Co<sub>x</sub>S and Zn<sub>1-x</sub>Ni<sub>x</sub>S* (207).
- Jin Yixin—see Shi Zhisheng (255).
- Ji Xiaoye (Shanghai Institute of Metrological Technology): *Uncertainty of effective emissivity of a diffuse cylindrical cavity* (447).
- Ju Yiqun—see Jiang Shan (207).
- Kneubahl Fritz K., Cao Hongru (Institute of Quantum Electronics, ETH, Zurich, Switzerland): *Review on the theory of the dielectric dispersion of insulators* (169).
- Kuang Dingbo (Shanghai Institute of Technical Physics, Academia Sinica): *Foreword to special issue on FY-1 meteorological satellite* (No. 2).
- Lei Shizhang (Shanghai Institute of Optics and Fine Mechanics, Academia Sinica): *A*

- new way for obtaining laser gain* (393).
- Lex C.—see Staszewski G. Mahr von (337).
- Liang Hancheng—see Jiang Liansheng (425).
- Liang Pingzhi, Zhang Zhongtang, Sun Deqing, Tan Deming (Shanghai Institute of Technical Physics, Academia Sinica): *Three-element linear Si detector for FY-1 meteorological satellite* (115).
- Li Guangqing—see Wu Baosuo (233).
- Lin Shouren (Second Institute of Oceanography, State Oceanic Administration): *ocean color remote sensing experiment on FY-1 meteorological satellite* (162).
- Lin Xuerong—see Huang Yi (263).
- Lin Yikun—see Luo Xizhang (431).
- Li Peizan, Wu Zhiming, Zheng Xiaoming, Guan Guoxing (Suzhou University): *Theory of photothermal radiometry for multilayer samples and noncontact measurement of buried layer thickness* (215).
- Li Ruolin, Li Zengfa, Zhang Guangyin, Yu Ping, (Nankai University): *Study of effects of medium and inter-particle interactions on optical absorption of small particles by photoacoustic method* (435).
- Liu Defu, Shen Xiaoheng, Zeng Zheng (Ruijin Hospital, Shanghai Second Medical University), Zhou Baoqing, Ye Miaogun, Mi Zhengyu (Shanghai Institute of Technical Physics, Academia Sinica): *Experimental study on the effect of millimeter wave radiation on malignant tumor in mice* (405).
- Liu Jiancheng, Hu Bailiu, Zhang Daobiao (Changchun Institute of Applied Chemistry Academia Sinica): *Spectral properties of  $ZrO_2$ - $Y_2O_3$  crystals undoped and doped with chromium and erbium* (309).
- Liu Jiazhi—see Zhu Zhide (377).
- Liu Jimin—see Fang Jiaxiong (123); Wang Jue (359); Yang Jianrong (351).
- Liu Jinsong (Xi'an University of Electronic Science and Technology), Wu Zhongkang (Nankai University), Xu Yuheng (Harbin Institute of Technology): *Doped lithium niobate He-Ne phased conjugate laser* (63).
- Liu Songhe—see Xu Jianren (287).
- Liu Xiaochun—see Song Zhengfang (269).
- Liu Xiande—see Pan Yingtian (73).
- Li Zhengchang—see Weng Chuijun (99).
- Li Zengfa—see Zeng Wensheng (199); Li Ruolin (435).
- Li Zhengzhi, Ni Zhenyu (Hangzhou University): *Far-field distributions of infrared laser beam passing through Cassegrain system* (15);
- Li Zhengzhi, Ni Zhenyu (Hangzhou University): *The recovery of spectrum in interferometric infrared spectrometer* (221).
- Luo Ningsheng—see Xu Wenlan (384).
- Luo Xizhang, Zheng Xingshi, Qiu Bingsheng, Lin Yikun (Zhongshan University): *Experimental study of multi-mode optically pumped FIR laser* (431).
- Luo Zundu—see Chen Jiming (243).
- Lu Wei—see Zhu Zhide (377).
- Lu Wei—see Ye Hongjuan (189).
- Ma Jun—see Shong Zhengfang (269).
- Ma Kejun—see Jiang Shan (207).
- Mi Zhengyu—see Liu Defu (405).
- Nimtz G.—see Staszewski G. Mahr von (337).
- Ni Zhenyu—see Li Zhengzhi (15); (221).
- Pan Shoupu—see Tang Daxin (463).
- Pan Yingtian, Liu Xiande (Huazhong University of Science and Technology): *Modified cladding refractive index dependent fiber optic thermometer for medical applications* (73).
- Piotrowski Jozef (Institute of Plasma Physics and Laser Microfusion, Warsaw, Poland): *Study on ambient temperature long-wavelength photoconductors* (1)
- Qian Mengliu—see Su Jinwen (321).
- Qiu Bingsheng—see Luo Xizhang (431).
- Schilz J.—see Staszewski G. Mahr von (337).
- Shen Xiaoheng—see Liu Defu (405).
- Shen Xuechu—see Xia Zhongping (43); Yu Zhiyi (67); Ye Hongjuan (189); Jiang Sh



- Shi Zhisheng, Chen Weili, Song Hang, Yang Hui, Fu Yi, Jin Yixin** (Changchun Institute of Physics, Academia Sinica): *Determination of the type of energy band by weak field Hall-effect measurement on MBE  $Pb_{0.88}Sn_{0.12}Te/PbTe$  multi-quantum well* (255).
- Si Bao'an, Wang, Huiying, Zhang Aijun** (Shanghai Institute of Technical Physics, Academia Sinica): *An automatic system for an* (207); Xu Wenlan (384).  
*measuring frequency performances of IR detectors* (57).
- Si Chengcai**—see Huang Changhe(441).
- Song Hang**—see Shi Zhisheng(255).
- Song Zhengfang, Ma Jun, Liu Xiaochun** (Anhui Institute of Optics and Fine Mechanics, Academia Sinica): *Covariance of bifrequency beam propagating in a folded turbulent atmospheric path* (269).
- Staszewski G. Mahr, von, Lex C., Nimtz G., Fang Jiexiong, Schilz J., Wollrab R.** (der Universitat zur Koln, Koln, FRG): *The influence of the surface accumulation layer on transport and recombination properties in  $N-Hg_{1-x}Cd_xTe$*  (337).
- Su Jinwen, Xiong Shouren** (Shanghai Institute of Technical Physics, Academia Sinica), **Qian Menglu, Wu Datong** (Tong Ji University): *FIR laser Photoacoustic detection system* (321).
- Sun Deqing**—see Liang Pingzhi (115).
- Sun Handong, Chang Dading, Fan Zhen** (Huazhong University of Science and Technology): *Study on high emissivity infrared coatings* (401).
- Sun Henghui**—see Zhu Yonggong (345).
- Sun Hongwei**—see Jiang Haochuan (249).
- Sun Wei**—see Jia Gang (389).
- Tan Deming**—see Liang Pingzhi (115).
- Tang Daxin, Yang Jun** (Jilin University): *Infrared emission properties of composite ceramic film of half-inorganic polymer with microparticles* (27);
- Tang Daxin, Wu Zhijian, Pan Shoupu** (Jilin University): *Theoretical calculations of optical cross sections and emissivity spectra for  $C/H_2O$  composite microscopic particle* (463).
- Tang Dingyuan**—see Huang Jianxin (7); Chen Yongping (293); Yang Jianrong (351); Wang Jue (359); Huang Changhe (396), (441); Yuan Haoxin (415).
- Tang Honglan**—see Dong Liangchu (301).
- Tang Xiuyun**—see Xia Zhongping (43).
- Tian Yuanying**—see Zhang Fuli (325).
- Tong Feiming**—see Yuan Haoxin (415).
- Wang Dexin**—see Zhu Zhide (377).
- Wang Guofu**—see Chen Jiming (243).
- Wang Huiying**—see Shi Bao'an (57).
- Wang Jianyu** (Shanghai Institute of Technical Physics, Academia Sinica): *Analysis about spectral resolving power of imaging spectrometer* (277).
- Wang, Jue, Huang Changhe, Liu Jiming, Yu Zhenhong, Tang Dingyuan** (Shanghai Institute of Technical Physics, Academia Sinica): *Optical and electrical properties of Sb-doped weak P-type  $Hg_{1-x}Cd_xTe$  crystal* (359).
- Wang Qun**—see Zhu Zhide (377).
- Wang Weiyang**—see Yang Chunjiang (135).
- Wang Xusheng, Zhang Xianzhi** (Xi'an University of Electronic Science and Technology): *Theoretical calculation of tertiary pyroelectric effect of ferroelectric crystal wafers in simply supported edges* (457).
- Wang Zhijiang**—see Wu Zhouling (329).
- Weng Chuijun, Li Zhengzhang, Zhou Yanmu** (Shanghai Institute of Technical Physics, Academia Sinica): *Pre-processing of remote sensing signal on satellite* (99).
- Wollrab R.**—see Staszewski G. Mahr von (337).
- Wu Baosuo, Li Guangqing, Dong Chaohua** (Satellite Meteorological Center, SMA): *The numerical experiment of atmospheric parameters using physical retrieval method*

- from NOAA-10 polar orbit meteorological satellite data (233).
- Wu Datong—see Su Jinwen (321).
- Wu Zhijian—see Tang Daxin (463).
- Wu Zhiming—see Li Peizan (215).
- Wu Zhongkang—see Liu Jinsong (63).
- Wu Zhouling, Gao Yang, Fan Zhenxiu, Wang Zhijiang (Shanghai Institute of Optics and Fine Mechanics, Academia Sinica): *Effect of CO<sub>2</sub> laser irradiated substrates on damage threshold of optical coatings* (329).
- Xia Zhongping, Tang Xinyun, Shen Xuechu (Shanghai Institute of Technical Physics, Academia Sinica): *Lattice vibration behaviors of polycrystalline ZnS<sub>x</sub>Se<sub>1-x</sub> prepared by PVT technique* (43).
- Xiong Shouren—see Su Jinwen (321).
- Xu Buyun, Zhu Cuiyuan, Zhu Bingsheng (Shanghai Institute of Technical Physics, Academia Sinica): *Optical coatings for meteorological satellite* (129).
- Xu Guoshen—see Fang Jiaxiong (123).
- Xu Jianren, Gong Yaqian, Liu Songhe (Shanghai Institute of Technical Physics, Academia Sinica): *InSb hot electron far-infrared detector* (287).
- Xu Jin—see Huang Yi (255).
- Xu Tieshan—see Zhu Zhide (377).
- Xu Wenlan, Luo Ningsheng, Zhang Ming, Shen Xuechu (Shanghai Institute of Technical Physics, Academia Sinica): *Thermal radiation of inhomogeneous coating* (384).
- Xu Xuerong—see Zheng Qinbo (91).
- Xu Yuheng—see Liu Jinsong (63).
- Yang Chunjiang, Wang Weiyang (Shanghai Institute of Technical Physics, Academia Sinica): *Radiant cooler system for FA-1 meteorological satellite* (135).
- Yang Hui—see Shi Zhisheng (255).
- Yang Jianrong, Yu Zhenzhong, Liu Jiming, Tang Dingyuan (Shanghai Institute of Technical Physics, Academia Sinica): *Examination and analysis of anomalous electrical behaviors in Hg<sub>0.8</sub>Cd<sub>0.2</sub>Te crystals* (351).
- Yang Jun—see Tang Daxin (27).
- Yang Wenku—see Deng Wenaong (227).
- Yang Xiaoming—see Zeng Wensheng (199).
- Yan Jie—see Zeng Wensheng (199).
- Yan Yixun—see Feng Weiting (21).
- Ye Hongjuan, Yu Zhiyi, Lu Wei, Chen Jianxiang, Shen Xuechu (Shanghai Institute of Technical Physics, Academia Sinica), Cao Ning, Zheng Jiaqi, Chen Xichen (Institute of Physics, Academia Sinica): *Infrared spectra of superconductor MBa<sub>2</sub>Cu<sub>3</sub>O<sub>7-δ</sub> (M = Y, Sm, Gd, Eu)* (189).
- Ye Miaogun—see Liu Defu (405).
- Yi Maobin—see Jia Gang (389).
- Yuan Haoxin, Tong Feiming, Tang Dingyuan (Shanghai Institute of Technical Physics, Academia Sinica): *Analysis of reverse leakage current mechanisms in Hg<sub>1-x</sub>Cd<sub>x</sub>Te photodiodes* (415).
- Yu Ping—see Li Ruolin (435).
- Yu Zhenzhong—see Wang Jue (359); Yang Jianrong (351); Huang Chang Changhe (396); (441).
- Yu Zhiyi, Huang Yexiao, Shen Xuechu (Shanghai Institute of Technical Physics, Academia Sinica): *Novel shallow donor centers in high-purity silicon* (67);
- Yu Zhiyi—see Ye Hongjuan (189).
- Zeng Wensheng, Zhang Guizhong, Li Zengfa, Zhang Guangyin, Yan Jie, Yang Xiaoming: (Nankai University): *Abnormal sensitivity of reflection structures of phonons in free carriers and superconductivity state* (199).
- Zeng Zheng—see Liu Defu (405).
- Zhang Aijun—see Shi Bao'an (57).
- Zhang Baolong, Guo Huilin (Shanghai Institute of Technical Physics, Academia Sinica): *Satellite-borne high accuracy high accuracy scanner* (108).
- Zhang Daobiao—see Liu Jiancheng (309).
- Zhang Fuli, Tian Yuanying (Tianjin University): *Symmetric transformation and its*

- application in Hadamard transform spectrometry* (325).
- Zhang Guangyin—see Zeng Wensheng (199).  
Li Ruolin (435).
- Zhang Guizhong—see Zeng Wensheng (199).
- Zhang Jianxing—see Gong Huixing (140).
- Zhang Kaiming—see Zi Jian (35).
- Zhang Linfa—see Fang Jiaxiang (123).
- Zhang Min—see Xu Wenlan (384).
- Zhang Xianzhi—see Wang Xusheng (457).
- Zhang Zhaoxian (Shanghai Institute of Technical Physics, Academia Sinica): *Very long life of satellite-borne infrared spectrometer in space. II. Results of calculation* (365); *III. Movable door method* (409).
- Zhang Zhimin, Zheng Qinbo (Shanghai Institute of Technical Physics, Academia Sinica): *Radiation calibration test for visible and near infrared wavebands of VHRSR on FY-1 meteorological satellite* (144).
- Zhang Zhongtang—see Liang Pingzhi (115).
- Zhao Shounan—see Jiang Liansheng (425).
- Zheng Guozhen—see Chen Yongping (293).
- Zheng Jiaqi—see Ye Hongjuan (189).
- Zheng Qinbo, Xu Xuerong (Shanghai Institute of Technical Physics, Academia Sinica): *Optical design of VHRSR for FY-1 meteorological satellite* (91);
- Zheng Qinbo—see Gong Huixing (140);  
Zhang Zhimin (144).
- Zheng Xiaoming—see Li Peizan (215).
- Zheng Xingshi—see Luo Xizhang (431).
- Zhou Baqing—see Liu Defu (405).
- Zhou Yianmu—see Weng Chuijun (99).
- Zhu Bingiseng—see Xu Buyun (129).
- Zhu Cuiyuan—see Xu Buyun (129).
- Zhu Haorong—see Jiang Shan (207).
- Zhu Yonggong, Sun Henghui (Fudan University): *Spectral distribution of photo-ionization cross sections for EL2 level in undoped semi-insulating GaAs* (345).
- Zhu Zhide, Xu Tieshuan, Liu Jiazhi, Wang Dexin, Wang Qun, Lu Wei (Tianjin University): *Experimental study on the effect of temperature rising rate on wood drying by infrared radiation* (377).
- Zi Jian, Zhang Kaiming (Fudan University): *Study on phonon dispersion of clean and monolayer adsorbed Mo (001) surface* (35).

## CORPORATE INDEX

- Anhui Institute of Optics and Fine Mechanics, Academia Sinica, 230031, Hefei, Anhui, China (269).
- Changchun Institute of Applied Chemistry, Academia Sinica, 130021, Changchun, Jilin, China (309).
- Changchun Institute of Optics and Fine Mechanics, 130022, Changchun, Jilin, China (227).
- Changchun Institute of Optics and Fine Mechanics, Academia Sinica, 130022, Changchun, Jilin, China (227).
- Changchun Institute of Physics, Academia Sinica, 130021, Changchun, Jilin, China (255).
- Fudan University, 200433, Shanghai, China (35), (345).
- Fujian Institute of Research on Structure of Matter, Academia Sinica, 350002, Fuzhou, Fujian, China (243).
- Harbin Institute of Technology, 150006, Harbin, Heilongjiang, China (63).
- Hangzhou University, 310028, Hangzhou, Zhejiang, China (15), (221).
- Huazhong University of Science and Technology, 430074, Wuhan, Hubei, China (73), (401).
- Institute of Metal Research, Academia Sinica, 110015, Shenyang, Liaoning, China (263).
- Institute of Physics, Academia Sinica, 100080, Beijing, China (189).

- Institute of Plasma Physics and Laser Microfusion, Warsaw** 49, Poland (1).
- Institute of Quantum Electronics, ETH, CH-8093 Zurich, Switzerland** (169).
- Jiling University, 130023, Changchun, Jiling China** (27), (389), (463).
- Nankai University, 300071, Tianjin, China** (63), (199), (435).
- Purple Mountain Observatory, Academia Sinica, 210008, Nanjing, Jiangsu, China** (317).
- Rui Jin Hospital, Shanghai Second Medical University, 200025, Shanghai, China** (405).
- Satellite Meteorological center, State Meteorological Administration, 100081, Beijing, China** (156), (233).
- Second Institute of Oceanography, State Oceanic Administration, 310012, Hangzhou, Zhejiang, China** (162).
- Shanghai Institute of Metallurgy, Academia Sinica, 200050, Shanghai, China, (189), (207).**
- Shanghai Institute of Metrological technology, 200040 Shanghai, China** (447).
- Shanghai Institute of Optics and Fine Mechanics, Academia Sinica, 201800, Shanghai, China** (249), (329), (393).
- Shanghai Institute of Technical Physics Academia Sinica, 200083, Shanghai, China** (7), (21), (43), (57), (67), (81), (91), (99), (108), (115), (123), (129), (135), (140), (144), (151), (189), (207), (277), (287), (293), (301), (321), (351), (359), (365), (384), (396), (405), (409), (415), (441).
- Southeast University, 210018, Nanjing, Jiangsu, China** (51).
- South China University of Technology, 510641, Guangzhou, Guangdong, China** (425).
- Suzhou University, 215006, Suzhou, Jiangsu, China** (215).
- Tianjing University, 300072, Tianjing, China** (325), (405).
- Tong Ji University, 200092, Shanghai, China** (321).
- Universtat zur Koln, 5000 Koln 41, FRG** (337).
- Xi'an University of Electronic Science and Technology, 710071, Xi'an, Shaanxi, China** (63), (457).
- Zhongshan University, 510275, Guangzhou, Guangdong, China** (431).