

中国医学物理学杂志

CHINESE JOURNAL OF MEDICAL PHYSICS

月刊 1984年创刊 2021年11月25日第38卷第11期(总第220期)



主管

南方医科大学

主办

南方医科大学
中国医学物理学会

编辑

《中国医学物理学杂志》编委会

主编

胡逸民

编辑部主任

卢广文

出版

《中国医学物理学杂志》编辑部

通讯地址

广州市同和南方医科大学
生物医学工程学院
电话:020-61648280
传真:020-61360581
邮编:510515
网址:www.cjomp.com
E-mail:YXWL@263.net.cn
微信号:cjomp001

印刷

广州市艺彩印务有限公司

国内订阅

全国各地邮政局
邮发代号:46-259

国外订阅

中国出版对外贸易总公司
(北京782信箱)

国外发行代号

DK44009

邮购

《中国医学物理学杂志》编辑部

定价

每册15.00元;全年180.00元

中国标准连续出版物号

ISSN 1005-202X
CN 44-1351/R

目次

医学放射物理

- 3D打印组织补偿块在鼻腔NK/T细胞淋巴瘤放疗中的应用
.....李进,黄玉胜,杨镇洲,黄顺平(1321)
- 乳腺非介入管电压影响因素研究
.....董凤华,张晓栋,董文龙,杨建,范杰(1325)
- 基于放射性药物¹⁸F-AV45的PET-CT图像的脑组织内照射吸收剂量蒙特卡罗
计算.....李永哲,卢昱,彭昭,倪明,谢强,汪世存,裴曦,徐榭,陈志(1333)
- 咽癌患者调强适形放射治疗期间咽缩肌放射剂量对吞咽功能的影响
.....窦艳仙,刘袁颖,王帅兵(1338)
- 高分辨率半导体矩阵的剂量学特性
.....郑人川,陈阿龙,陈立新,肖德涛(1343)
- CARE Dose 4D在鼻咽癌放疗定位中的应用
.....成肇杰,韦婷,梁卫学,王占宇,刘光明,周建红,林欢(1349)
- 螺旋断层放疗在胸中下段食管癌治疗中对心脏功能保护的研究
.....樊春波,王晶,何亚男,席道军,李建锋,孙卯,李丛,郭启帅,靳富(1355)
- 独立三维剂量验证在鼻咽癌容积调强放射治疗计划中的应用
.....刘致滨,石锦平,李盈辉,张利文,谢秋英,滕建建,常元智(1359)
- 磁共振加速器Unity的输出量测量
.....田源,李明辉,张可,门阔,戴建荣(1365)

医学影像物理

- 基于多特征融合与XGBoost的肺结节检测
.....潘子妍,邢素霞,逢键梁,申楠,王瑜,刘子骄,鞠子涵(1371)
- 经食管超声心动图分析左心耳内部形态结构对左心耳封堵术的指导价值
.....张双,王仲华,侯玉桃(1377)
- 开放楔形胫骨高位截骨术后膝关节的关节线收敛角影像学分析
.....柳明忠,施建辉,谢俊杰,陈杰云(1381)

医学信号处理与医学仪器

- 基于多重分形去趋势波动分析的脑电信号特征提取及分类方法
.....陈敬凯,孟雪,王常青,钟亚鼎(1387)
- 基于肌电信号与肌肉形变信号的手语识别
.....张夏丰,阚秀,曹乐,杨诞,张文艳(1392)

基于低功耗蓝牙定位技术的手术室移动设备定位管理系统的设计和实现梁佳妮,文志有,张辉(1400)
基于心冲击信号的心率检测方法郑小涵,朱岩,杨越琪,李晓欧,周志勇(1405)

医学生物物理

血流灌注对高强度聚焦超声消融子宫肌瘤的影响陈思瑶,李成海,周野,杜宇翎,李发琪(1412)

生物力学与材料

加载PEDF的多聚体超声微泡研制及其特性胡劼,焦明克,刘立洁,张鹏,牛盈盈(1417)

医学生物信息

基于网络药理学和分子对接探析健脾丸治疗慢性胃炎的作用机制卢启明,胡小英(1421)

基于生物信息学的息痛散治疗痛风性关节炎的作用机制南晓强,雷鹏,李娟娥(1430)

基于ALBERT与BILSTM的糖尿病命名实体识别马诗语,黄润才(1438)

医学人工智能

基于Web爬虫技术的电子病历信息聚合工具的开发及验证

.....刘宏嘉,王静,黄宇亮,李晨光,吴昊,马文君,曹文田,张艺宝(1444)

脑科学与神经物理

运动想象重塑脑功能的研究进展吴拾瑶,随力,杨兰,刘亮(1449)

责任编辑:谭斯允

责任校对:黄开颜 薛泽玲 陈丽霞

英语校对:谭斯允

编 务:廖艳玲

期刊基本参数:CN44-1351/R * 1984 * M * A4 * 132 * zh * P * ¥ 15.0 * 800 * 23 * 2021-11

Responsible Institution

Southern Medical University

Sponsored by

Southern Medical University

Chinese Society of Medical Physics

Edited by

Editorial Board of Chinese

Journal of Medical Physics

Editor-in-Chief

HU Yimin

Editorial Director

LU Guangwen

Published by

Editorial Department of Chinese

Journal of Medical Physics

Address

School of Biomedical Engineering,

Southern Medical University,

Tonghe, Guangzhou

Postal code: 510515

Tel: 86-20-61648280

Fax: 020-61360581

Http://www.cjomp.com

E-mail: YXWL@263.net.cn

Wechat: cjomp001

Printed by

Guangzhou Yi Cai Printing

Co., Ltd

Domestic Subscription

Post offices all over China

Post office subscription code:

46-259

Overseas Subscription

China National Publishing

Industry Trading Corporation

(P.O.Box. 782, Beijing, China)

Mail Order

Editorial Department of Chinese

Journal of Medical Physics

China Standard Serial Numbering

ISSN 1005-202X

CN 44-1351/R

CONTENTS**Medical radiation physics**Clinical application of 3D printed bolus for nasal natural killer/T-cell lymphoma in radiotherapy
.....(1321)

LI Jin, HUANG Yusheng, YANG Zhenzhou, HUANG Shunping

Factors influencing non-invasive tube voltage measurement for mammography(1325)

DONG Fenghua, ZHANG Xiaodong, DONG Wenlong, YANG Jian, FAN Jie

Monte Carlo calculation of internal radiation absorbed dose of radiopharmaceutical ¹⁸F-AV45 in
brain tissues based on PET-CT image(1333)LI Yongzhe, LU Yu, PENG Zhao, NI Ming, XIE Qiang, WANG Shicun, PEI Xi, XU Xie,
CHEN ZhiEffects of radiation dose to pharyngeal constrictor muscle on swallowing function in patients
receiving intensity-modulated radiotherapy for pharyngeal cancer(1338)

DOU Yanxian, LIU Yuanying, WANG Shuaibing

Dosimetric characteristics of a high-resolution semiconductor matrix(1343)

ZHENG Renchuan, CHEN Along, CHEN Lixin, XIAO Detao

Application of CARE Dose 4D in radiotherapy localization of nasopharyngeal carcinoma
.....(1349)CHENG Zhaojie, WEI Ting, LIANG Weixue, WANG Zhanyu, LIU Guangming, ZHOU
Jianhong, LIN HuanProtection of cardiac function in tomotherapy for middle and lower thoracic esophageal carcinoma
.....(1355)FAN Chunbo, WANG Jing, HE Ya'nan, XI Daojun, LI Jianfeng, SUN Mao, LI Cong, GUO
Qishuai, JIN FuApplication of independent three-dimensional dose verification for volumetric modulated arc
therapy of nasopharyngeal carcinoma(1359)LIU Zhibin, SHI Jinping, LI Yinghui, ZHANG Liwen, XIE Qiuying, TENG Jianjian, CHANG
Yuanzhi

Output measurement of Unity MR-linac(1365)

TIAN Yuan, LI Minghui, ZHANG Ke, MEN Kuo, DAI Jianrong

Medical imaging physics

Lung nodule detection based on multi-feature fusion and XGBoost(1371)

PAN Ziyang, XING Suxia, PANG Jianliang, SHEN Nan, WANG Yu, LIU Zijiao, JU Zihan

Guiding value of transesophageal echocardiography analysis on the internal morphological structure
of left atrial appendage in left atrial appendage occlusion(1377)

ZHANG Shuang, WANG Zhonghua, HOU Yutao

Imaging analysis on the joint line convergence angle of the knee joint after open-wedge high tibial
osteotomy(1381)

LIU Mingzhong, SHI Jianhui, XIE Junjie, CHEN Jieyun

Medical signal processing and medical devicesFeature extraction and classification of electroencephalogram signal based on multifractal detrended
fluctuation analysis(1387)

CHEN Jingkai, MENG Xue, WANG Changqing, ZHONG Yading

Sign language recognition based on electromyogram signal and muscle deformation signal	(1392)
ZHANG Xiaofeng, KAN Xiu, CAO Le, YANG Dan, ZHANG Wenyan	
Design and implementation of a positioning management system for mobile equipments in operation room based on Bluetooth low energy positioning technology	(1400)
LIANG Jiani, WEN Zhiyou, ZHANG Hui	
Heart rate detection based on ballistocardiogram signals	(1405)
ZHENG Xiaohan, ZHU Yan, YANG Yueqi, LI Xiaoou, ZHOU Zhiyong	

Medical biophysics

Effects of blood perfusion on high-intensity focused ultrasound ablation for uterine fibroids	(1412)
CHEN Siyao, LI Chenghai, ZHOU Ye, DU Yuling, LI Faqi	

Biomechanics and materials

Preparation of PEDF-loaded polymer ultrasound microbubbles and its properties	(1417)
HU Jie, JIAO Mingke, LIU Lijie, ZHANG Peng, NIU Yingying	

Biomedical informatics

Mechanism of action of Jianpiwan in treating chronic gastritis: an analysis based on network pharmacology and molecular docking	(1421)
LU Qiming, HU Xiaoying	
A bioinformatics-based study on the mechanism of action of Xitongsan in the treatment of gouty arthritis	(1430)
NAN Xiaoqiang, LEI Peng, LI Juan'e	
Named entity recognition of diabetes based on ALBERT and BILSTM	(1438)
MA Shiyu, HUANG Runcai	

Medical artificial intelligence

Development and validation of a Web-crawler-based medical records information aggregation tool	(1444)
LIU Hongjia, WANG Jing, HUANG Yuliang, LI Chenguang, WU Hao, MA Wenjun, CAO Wentian, ZHANG Yibao	

Brain science and neurophysics

Research advances in motor imagery for remodeling brain functions	(1449)
WU Shiyao, SUI Li, YANG Lan, LIU Liang	

Executive Editor: TAN Siyun

Executive Proofreaders: HUANG Kaiyan XUE Zeling CHEN Lixia

English Editor: TAN Siyun

Editorial Assistant: LIAO Yanling