

中国医学物理学杂志

CHINESE JOURNAL OF MEDICAL PHYSICS

月刊 1984年创刊 2022年08月25日第39卷第8期(总第229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

基于 Auto-Planning 技术的肺癌容积旋转调强放疗计划评估
.....李慧君,王琳婧,王锐濠,周露,彭莹莹,廖煜良,张书旭(925)

动态适形弧技术与容积调强技术在肺转移瘤立体定向放射治疗中的剂量学研究
.....郑芳,陈洪涛,陈伟思,史亚滨,高艳,梁晓敏,钟鹤立(929)

左侧乳腺癌保乳术后深吸气屏气模式下 Hybrid-IMRT 和 Hybrid-VMAT 的剂量学比较
.....史亚滨,黄嵘,高艳,陈洪涛,徐逸,陈伟思,梁晓敏,郑芳(936)

直肠癌短程放疗联合序贯化疗所致急性骨髓抑制的相关因素分析
.....余富强,黄维,李英(941)

调强放疗联合卡培他滨治疗对晚期鼻咽癌患者外周血 CD4⁺/CD8⁺ 的影响
.....张发恩(946)

医学影像物理

基于 3D-RA 图像的颅内动脉瘤自动检测算法
.....张建华,刘新科,赵岩,杨旭(950)

基于术前增强 CT 构建列线图模型预测胰腺导管腺癌 R0 切除
.....李政晓,李昇霖,薛彩强,刘苏卫,孙嘉晨,任铁柱,周俊林(957)

深度学习在细胞图像分析中的应用进展.....王尧,黄钢(963)

三维 CT 支气管血管重建技术在胸腔镜肺段切除术治疗早期肺癌中的应用
.....代祖建,林铿强,黄明翔,王世忠,叶建刚,许德新,潘闪(967)

基于密度分布特征的深度神经网络模型诊断 COVID-19 的价值
.....李文,韩冬,郭佑民,任转勤,田宏哲(972)

医学信号处理与医学仪器

电针理疗电传导机制建模与分析
.....秦雨萍,杨济宁,徐晶,余远昱,王久江(980)

脑电神经反馈训练在提高工作记忆中应用的研究与挑战
.....陈泉宇,随力,李丽(987)

基于心电图的心肌梗死识别分类研究
.....王新峰,漆梦玲,徐洪智(992)

基于神经网络的脉搏波信号血压检测算法王一飞,刘光浚,刘轩吉,陈占春,张英栋(998)

Stacking集成学习算法验证动脉损伤对糖尿病早期检测的意义张明伟,张天逸,钟鸣,程云章(1003)

利用排列小波熵评价脑电信号中的爆发抑制水平
.....袁思念,但果,叶继伦,张旭,牛航舵,马胜才,李若薇,朱子孚(1010)

医学生物物理

CT定位下经颅磁刺激对卒中后运动功能障碍的治疗效果.....徐亚辉,张晓芸,张冉,王培福(1015)

振幅整合脑电图与窒息新生儿桡动脉血气分析和头颅MRI的相关性曾利明,黄俊,杨庆(1020)

生物力学与材料

可生物降解聚合物血管支架的最新研究进展 ...崔超强,张耀明,郭婷婷,屈睿升,何文扬,周晏仪,周栋(1025)

无托槽隐形矫治器内收上颌前牙的三维有限元分析刘义琮,冯枫,李帅,商永慧,郭庆圆,刘文(1030)

医学人工智能

基于卷积神经网络的房颤患者导管消融术后复发预测徐亮,陶倩,钟菁,肖晶晶(1035)

U-Net改进及其在新冠肺炎图像分割的应用顾国浩,龙英文,吉明明(1041)

人工智能在胰腺疾病新型诊疗模式中的应用及进展陈鑫龙,叶凯,周文策(1049)

责任编辑:黄开颜

责任校对:陈丽霞 谭斯允 薛泽玲

英语校对:谭斯允

编 务:廖艳玲

期刊基本参数:CN44-1351/R * 1984 * M * A4 * 136 * zh * P * ¥ 15.0 * 800 * 23 * 2022-08

Responsible Institution

Southern Medical University

Sponsored bySouthern 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 byEditorial 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**Evaluation of Auto-Planning technique-based volumetric modulated arc therapy plan for lung cancer
.....(925)LI Huijun, WANG Linjing, WANG Ruihao, ZHOU Lu, PENG Yingying, LIAO Yuliang,
ZHANG ShuxuDosimetric evaluation of dynamical conformal arc and rapid arc in stereotactic body radiotherapy
for lung metastases(929)ZHENG Fang, CHEN Hongtao, CHEN Weisi, SHI Yabin, GAO Yan, LIANG Xiaomin,
ZHONG HeliDosimetric comparison between Hybrid-IMRT and Hybrid-VMAT using deep inspiration breath-
hold technique for left-sided breast cancer after breast-conserving surgery(936)SHI Yabin, HUANG Rong, GAO Yan, CHEN Hongtao, XU Yi, CHEN Weisi, LIANG Xiaomin,
ZHENG FangFactors associated with acute bone marrow suppression induced by short-term radiotherapy plus
sequential chemotherapy for rectal cancer(941)

YU Fuqiang, HUANG Wei, LI Ying

Effects of intensity-modulated radiotherapy combined with capecitabine on peripheral blood
CD4⁺/CD8⁺ in patients with advanced nasopharyngeal carcinoma(946)

ZHANG Fa'en

Medical imaging physics

Automatic detection algorithm for intracranial aneurysm based on 3D-RA image(950)

ZHANG Jianhua, LIU Xinke, ZHAO Yan, YANG Xu

Using nomogram model based on preoperative contrast-enhanced CT to predict R0 resection of
pancreatic ductal adenocarcinoma(957)LI Zhengxiao, LI Shenglin, XUE Caiqiang, LIU Suwei, SUN Jiachen, REN Tiezhu,
ZHOU Junlin

Advances in application of deep learning in cell image analysis(963)

WANG Yao, HUANG Gang

Application of three-dimensional computed tomography bronchography and angiography in
thoroscopic pulmonary segmentectomy for early lung cancer(967)DAI Zujian, LIN Kengqiang, HUANG Mingxiang, WANG Shizhong, YE Jiangang, XU Dexin,
PAN ShanDiagnostic value of deep neural network model based on characteristics of density distribution in
COVID-19(972)

LI Wen, HAN Dong, GUO Youmin, REN Zhuanqin, TIAN Hongzhe

Medical signal processing and medical devicesModeling and analysis of electrical signal transmission mechanism in electroacupuncture
physiotherapy(980)

QIN Yuping, YANG Jining, XU Jing, YU Yuanyu, WANG Jiujiang

Advances and challenges of EEG neurofeedback training in improving working memory	(987)
CHEN Xiaoyu, SUI Li, LI Li	
ECG-based identification and classification of myocardial infarction	(992)
WANG Xinfeng, QI Mengling, XU Hongzhi	
Neural network-based blood pressure detection algorithms for pulse wave signals	(998)
WANG Yifei, LIU Guangjun, LIU Xuanji, CHEN Zhanchun, ZHANG Yingdong	
Verifying the significance of arterial injury for early detection of diabetes by Stacking ensemble learning algorithm	(1003)
ZHANG Mingwei, ZHANG Tianyi, ZHONG Ming, CHENG Yunzhang	
Use of permutation wavelet entropy to evaluate EEG burst suppression	(1010)
YUAN Sinian, DAN Guo, YE Jilun, ZHANG Xu, NIU Hangduo, MA Shengcai, LI Ruowei, ZHU Zifu	

Medical biophysics

Therapeutic effect of transcranial magnetic stimulation under CT localization on poststroke motor dysfunction.....	(1015)
XU Yahui, ZHANG Xiaoyun, ZHANG Ran, WANG Peifu	
Correlations of amplitude-integrated electroencephalogram with radial artery blood gas analysis and cranial MRI in asphyxiated newborns	(1020)
ZENG Liming, HUANG Jun, YANG Qing	

Biomechanics and materials

Advances in application of biodegradable polymer stent	(1025)
CUI Chaoqiang, ZHANG Yaoming, GUO Tingting, QU Ruisheng, HE Wenyang, ZHOU Yanyi, ZHOU Dong	
Three-dimensional finite element analysis of clear aligner for retracting maxillary anterior teeth	(1030)
LIU Yicong, FENG Feng, LI Shuai, SHANG Yonghui, GUO Qingyuan, LIU Wen	

Medical artificial intelligence

Prediction of recurrence after catheter ablation in patients with atrial fibrillation based on convolutional neural network	(1035)
XU Liang, TAO Qian, ZHONG Jing, XIAO Jingjing	
Improved U-Net and its application in COVID-19 image segmentation	(1041)
GU Guohao, LONG Yingwen, JI Mingming	
Application of artificial intelligence in new diagnostic and therapeutic pattern of pancreatic diseases and its advances	(1049)
CHEN Xinlong, YE Kai, ZHOU Wence	

Executive Editor: HUANG Kaiyan

Executive Proofreaders: CHEN Lixia TAN Siyun XUE Zeling

English Editor: TAN Siyun

Editorial Assistant: LIAO Yanling