Radiation Detection Technology and Methods

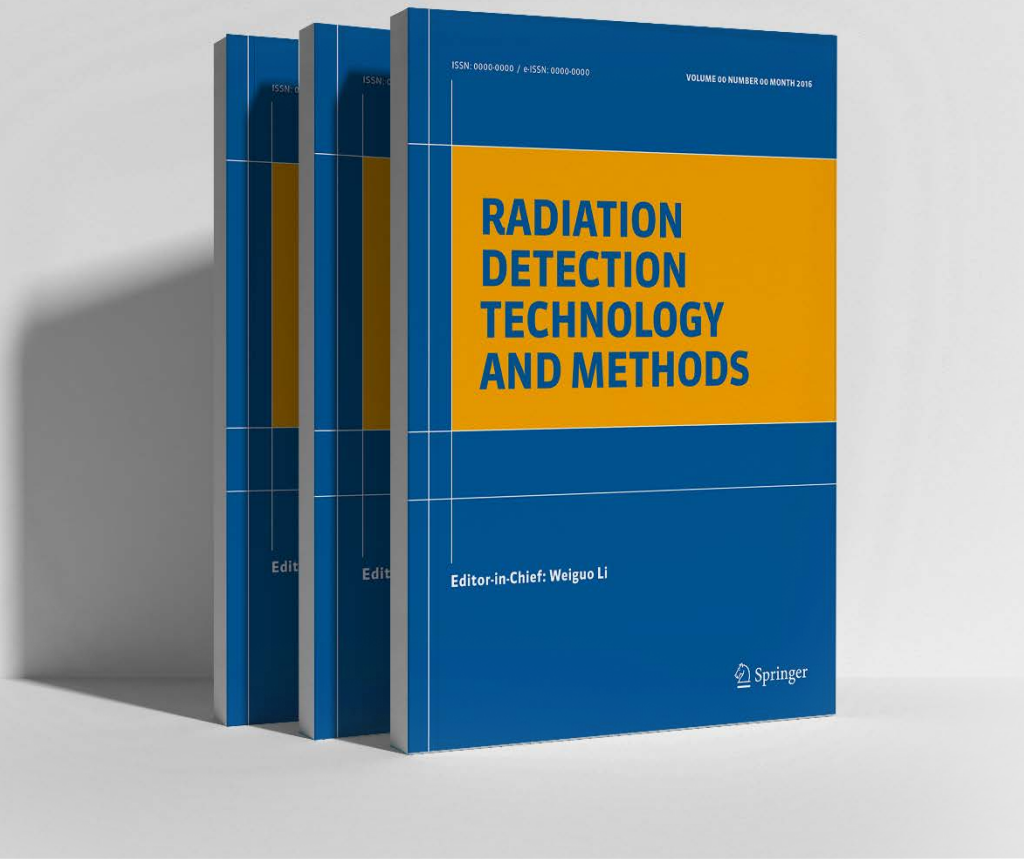
31st International Seminar on Interaction of Neutrons with Nuclei 2025

Yanjin Wang & Xiaolin Bian

1. Journal Introduction

2. Journal Publication Achievements and Measures

About Us



- **Journal Name:** *Radiation detection technology and methods* (RDTM)
- **Founded by**: Institute of High Energy Physics, CAS; Chinese Nuclear Society, division of Nuclear Electronics and Nuclear Detection Techniques
- **Published by**: Springer Nature, quarterly issued
- **Article Types:** Original papers and reviews
- **Journal Coverage**: Detection technology and methods, computer technology applications, particle acceleration technology, electronics and system design, synchrotron-radiation based techniques and methods, astroparticle technology, and imaging and radiology.
- **Indexed in**: Emerging Sources Citation Index (ESCI), Scopus, INSPEC, CSCD, Google Scholar, CNKI, EBSCO Discovery Service, OCLC, PubScholar, and so on.
- **Journal Website**: https://www.springer.com/journal/41605
  http://rdtm.ihep.ac.cn/
- **Contact the Editorial Office**: RDTM@ihep.ac.cn

About Us

2017

Journal establishment

2017.11

Indexed in Emerging Sources Citation Index (ESCI)

2018.06

Selected for the "China Association for Science and Technology's Project for Enhancing the International Impact of Chinese Scientific Journals, Phase II, 2018 Category D Project."

2019.02

Approved with the domestic unified serial publication number CN10-1633/TL

2019.04

Indexed in Chinese Science Citation Database (CSCD)

2019.05

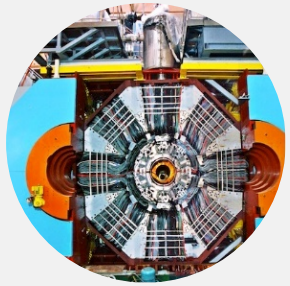
Indexed in Scopus

2024.10

Indexed in PubScholar

Journal Coverage

Article Type: Original papers and reviews

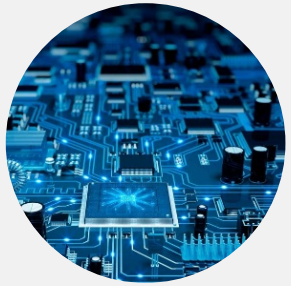


Detection technology and methods

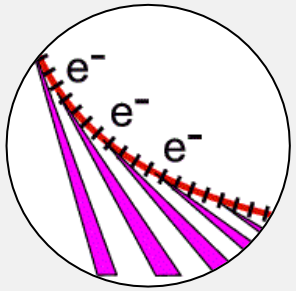
Computer technology applications

Particle acceleration technology

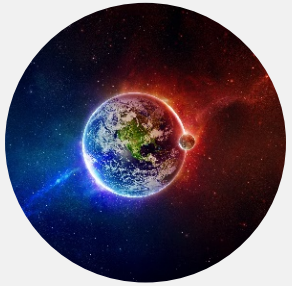
Imaging and radiology



Electronics and system design



Synchrotron-radiation based techniques and methods



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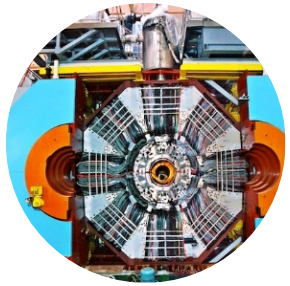

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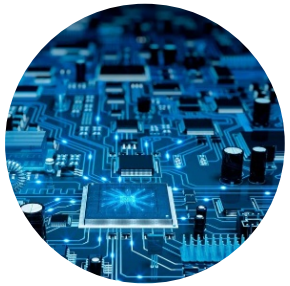

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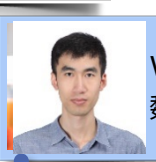

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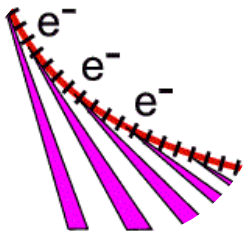

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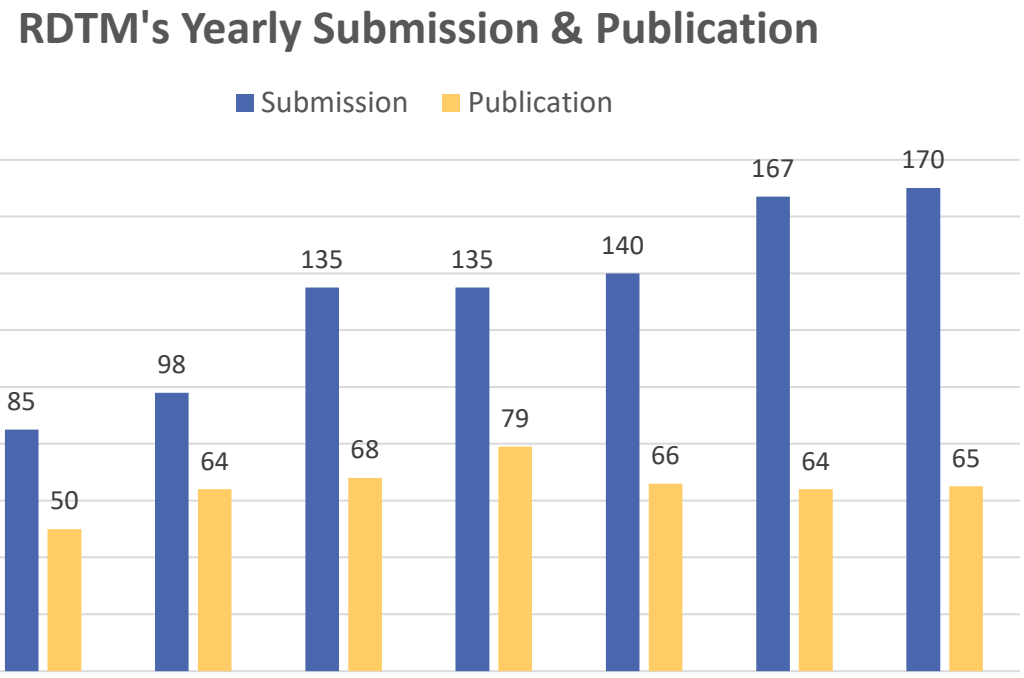
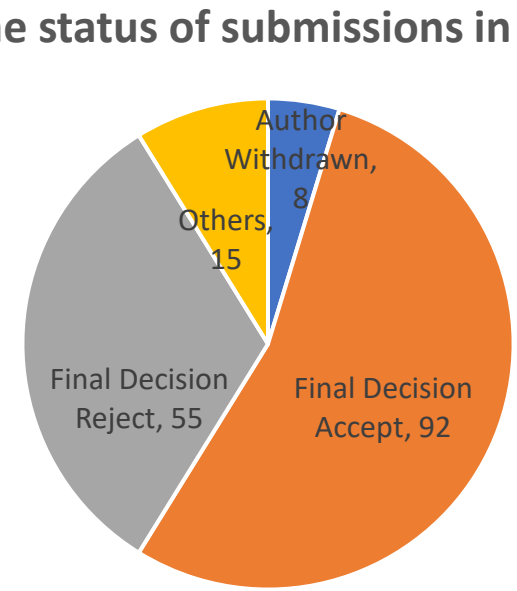


	2017	2018	2019	2020	2021	2022	2023	2024
Submission	66	85	98	135	135	140	167	170
Publication	26	50	64	68	79	66	64	65

- The number of submissions continues to increase;
- We have maintained a relatively stable number of publications at 60-70.



- Out of the 170 submissions received in 2024, 92 manuscripts have been accepted for publication, while 55 have been rejected.
- The rejection rate is approximately 32%.

Journal Metrics

2024 SPEED

Submission to first decision (average)
13.1 days

Submission to first decision (median)
8.0 days

Acceptance to publication (average)
40.1 days

Acceptance to publication (median)
36.0 days

Submission to accept (average)
91.8 days

Submission to accept (median)
81.5 days

2024 USAGE

Downloads
45,748

Social media mentions
10

IMPACT

Impact factor
1.0 (2023)

Ranking within categories in IF Year 2023

Category Name	Total Journals in Category	Journal Rank in Category	Quartile in Category
Nuclear Science & Technology	40	26	Q3

CiteScore
1.5 (2023)

Ranking within categories in CiteScore Year 2023

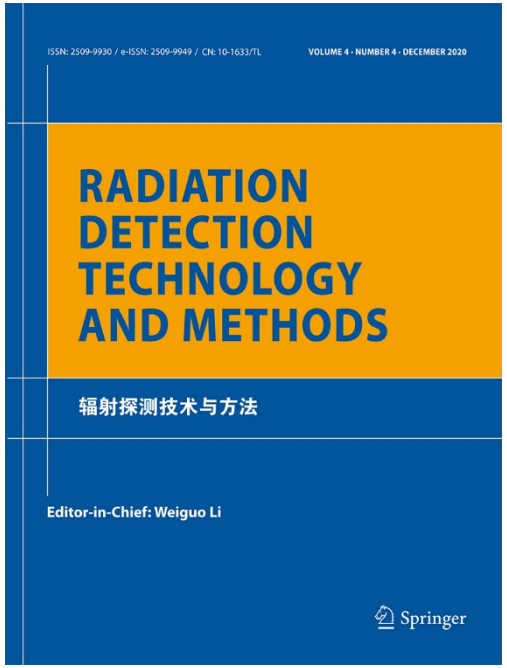
Category	Category Name	Rank	Percentile
Energy	Nuclear Energy and Engineering	#45/77	42nd
Physics and Astronomy	Nuclear and High Energy Physics	#57/87	35th

1. Journal Introduction

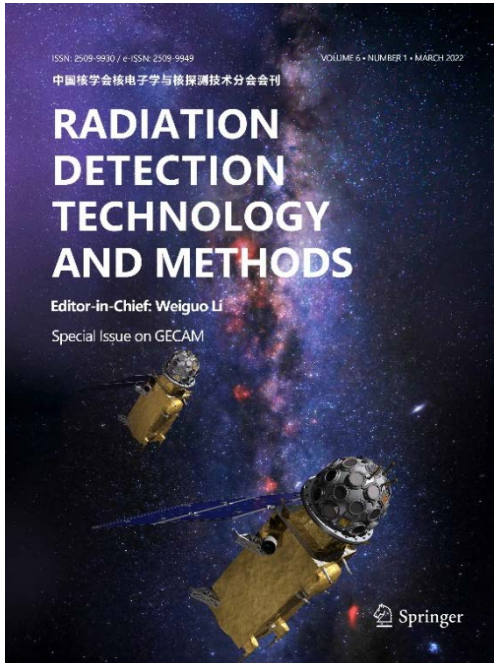
2. Journal Publication Achievements and Measures

Journal Publication Achievements

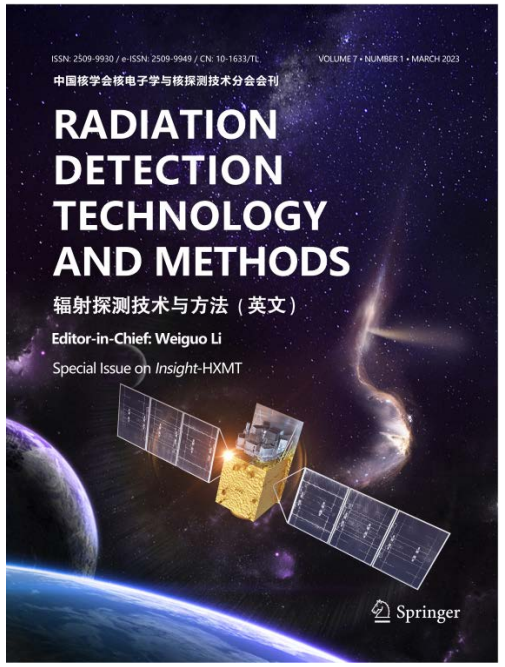
Special Issue



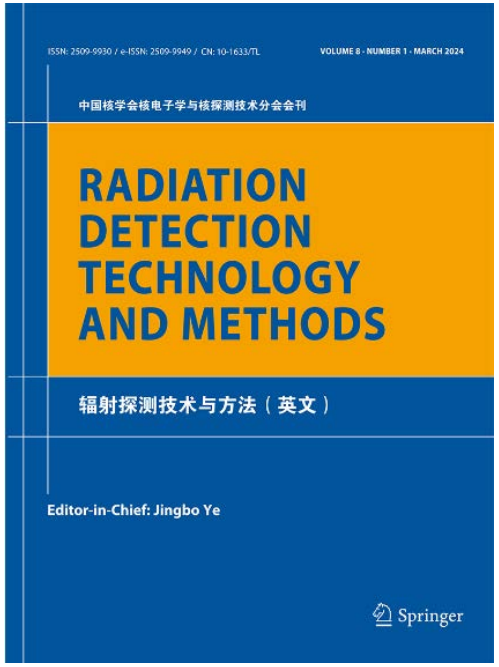
Volume 4, Issue 4 (2020)
Special Issue on HEPS



Volume 6, Issue 1 (2022)
Special Issue on GECAM



Volume 7, Issue 1 (2023)
Special Issue on HXMT



Volume 8, Issue 1 (2024)
Special Issue on CEPC
TDR: Accelerator

Journal Publication Achievements

Highly-cited Papers

Huihai He, Design of the LHAASO detectors

Volume 2, article number 7, (2018)

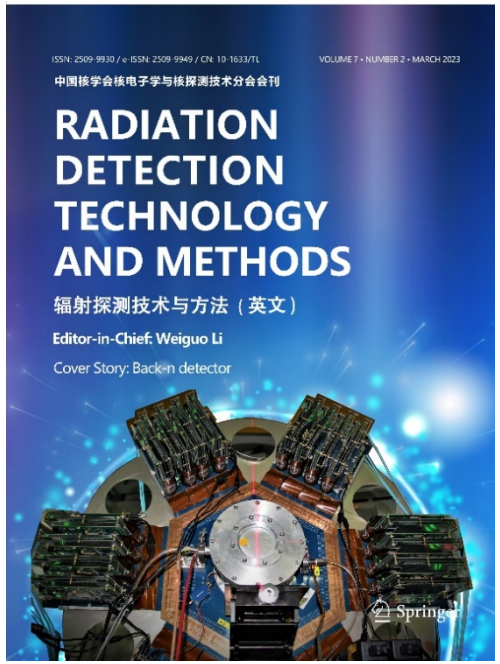
Accesses: 2510
Citations: 94

Xin Li et al., Study of MRPC technology for BESIII endcap-TOF upgrade

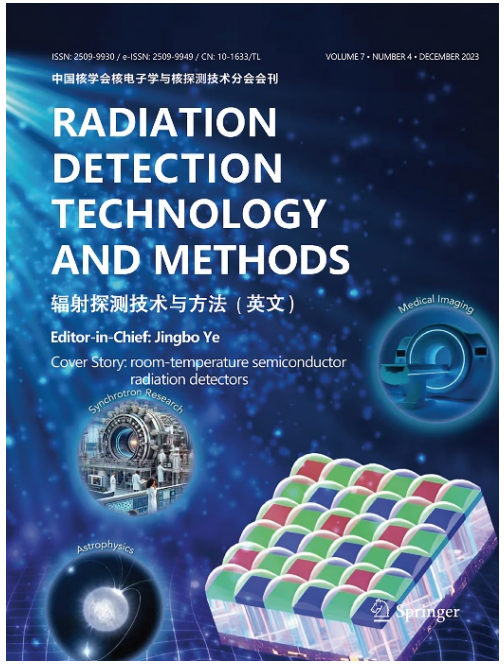
Volume 1, article number 13, (2017)

Accesses: 1830
Citations: 253

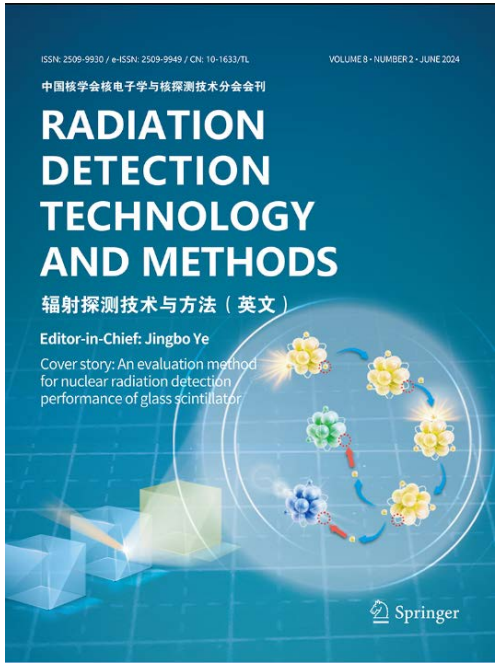
Cover Story



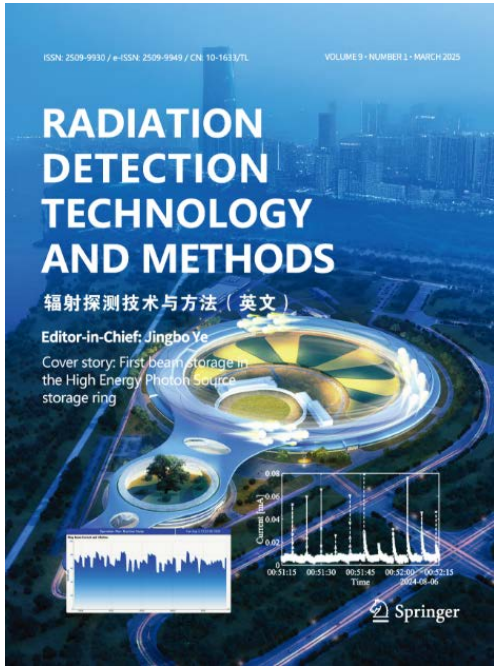
Volume 7, Issue 2 (2023)
Cover Story: Back-n Detector



Volume 7, Issue 4 (2023)
Cover Story: room-temperature semiconductor radiation detectors



Volume 8, Issue 2 (2024)
Cover Story: An evaluation method for nuclear radiation detection performance of glass scintillator



Volume 9, Issue 1 (2025)
Cover Story: First beam storage in the High Energy Photon Source storage ring

Journal Publication Achievements

High-demand Papers

Top 10 Full-Text Article Requests in Recent Years

Title	Author	Article Types	Article Grant Type	Volume	Issue	Year*	Article Requests 2024
CEPC Technical Design Report: Accelerator	Jie Gao	OriginalPaper	OpenChoice	8	1	2024	1500
Time-resolved optical fiber measurements: a review of scintillator materials and applications	Farhad Moradi, David Andrew Bradley, Zubair Hassan Tarif, Amin Khodaei, Azmi Basaif, Siti Azlida Ibrahim, Hairul Azhar Abdul-Rashid	ReviewPaper	OpenChoice	9	1	2025	1386
Correction: CEPC Technical Design Report: Accelerator	Waleed Abdallah et al.	Erratum	OpenChoice	9	1	2025	1155
A study on the ambient electromagnetic radiation level of 5G base stations in typical scenarios	Qing Wei, Xiaoyang Ge, Jiaxue Liu, Haijie Li	ORIGINALPAPER	OpenChoice	8	3	2024	418
Detector development at the Back-n white neutron source	The CSNS Back-n Collaboration	ORIGINALPAPER	OpenChoice	7	2	2023	273
Equilibrium electron beam parameters of the High Energy Photon Source	Haisheng Xu et al.	ORIGINALPAPER	OpenChoice	7	2	2023	244
An image reconstruction algorithm based on three-dimensional DBSCAN for energy-resolved neutron imaging	Haoning Gao, Yadong Wei, Xingfen Jiang, Jianrong Zhou, Wenqin Yang, Jie Liu, XiaoJuan Zhou, Lin Zhu, XiuKu Wang, Kai Deng, Zhijia Sun, Yuanbo Chen	OriginalPaper	OpenChoice			2025	226
First beam storage in the High Energy Photon Source storage ring	Haisheng Xu, Xiaohao Cui, Zhe Duan, Yuanyuan Guo, Xiyang Huang, Daheng Ji, Hongfei Ji, Yi Jiao, Nan Li, Xiaoyu Li, Xiaohan Lu, Cai Meng, Yuemei Peng, Saike Tian, Na Wang, Yuanyuan Wei, Yaliang Zhao, Wei Bao, Siyu Lin, Liyan Qin, Mengyu Su, Fancong Zeng, Zihang Zhao, Jianshe Cao, Yuhui Dong, Ping He, Wen Kang, Jian Li, Jingyi Li, Weimin Pan, Huamin Qu, Jiuqing Wang, Gang Xu, Jing Zhang	OriginalPaper	Regular	9	1	2025	201
An evaluation method for nuclear radiation detection performance of glass scintillator	Zhehao Hua et al.	ORIGINALPAPER	Subscription	8	2	2024	183
Design of the LHAASO detectors	For the LHAASO Collaboration	REVIEWPAPER	Subscription	2	1	2018	177

Best Papers of 2024

The new AMS facility at Tianjin University

Preliminary assessment of natural radioactivity and associated radiation hazards in a phosphate mining site in southern area of Togo

Physics design of the HEPS LINAC

The technology for detection of gamma-ray burst with GECAM satellite

The design and performance of GRD onboard the GECAM satellite

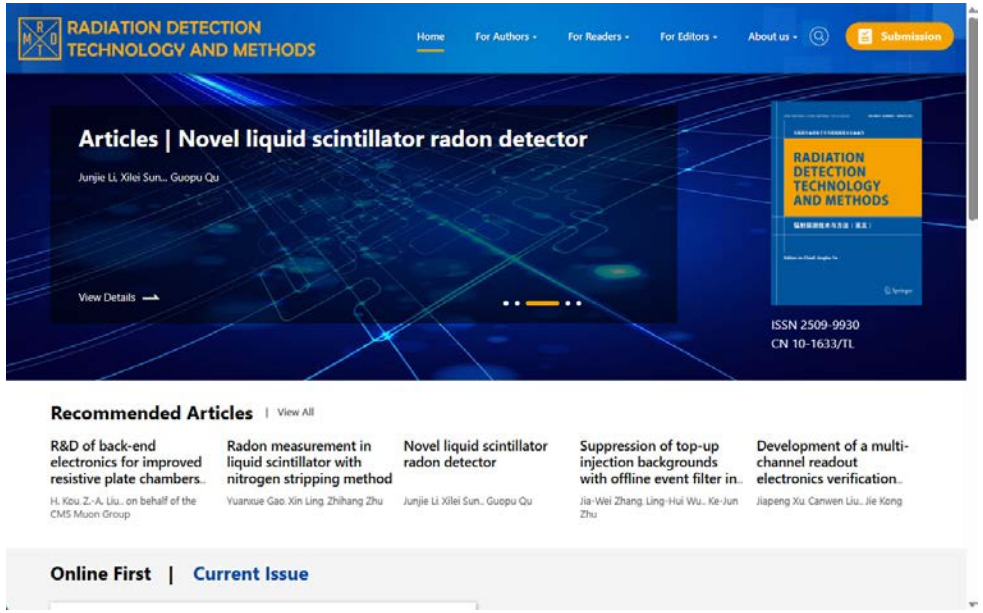
Reconstruction of Cherenkov image by multiple telescopes of LHAASO-WFCTA

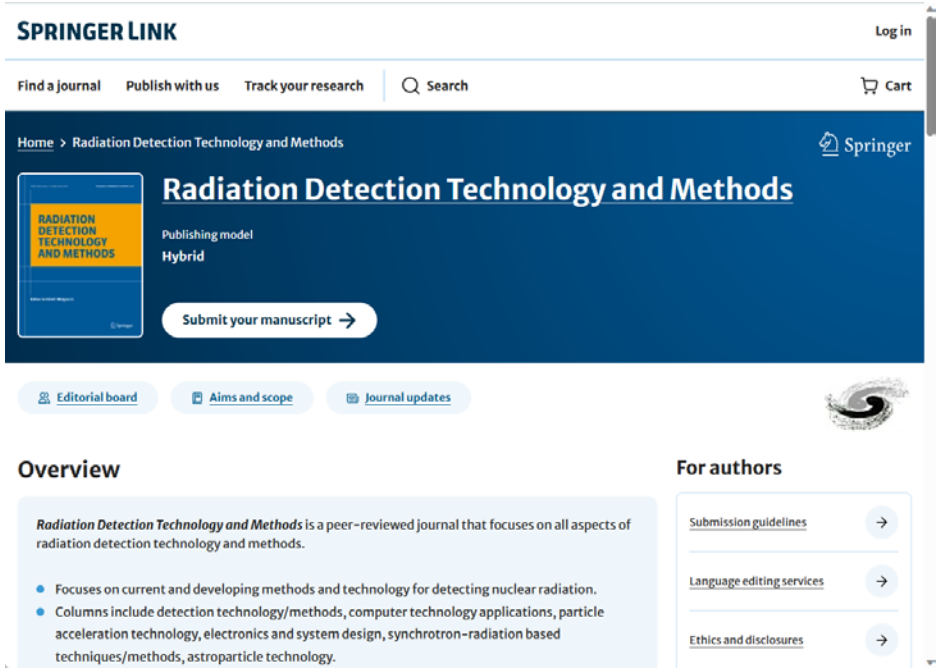
Periodic Evaluations for Best papers and reviewers

RDTM Best Paper Award of 2024

RDTM Outstanding Reviewer Award of 2024

Journal ‘s Website





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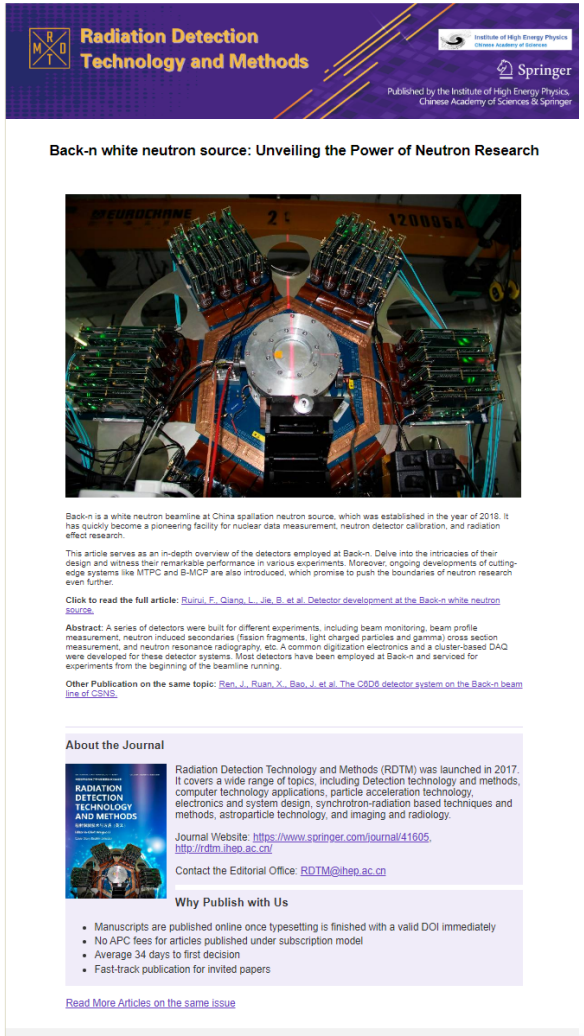

Radiation Detection Technology and Methods

Published by the Institute of High Energy Physics, Chinese Academy of Sciences & Springer

Back-n white neutron source: Unveiling the Power of Neutron Research

Back-n is a white neutron beamline at China spallation neutron source, which was established in the year of 2018. It has quickly become a pioneering facility for nuclear data measurement, neutron detector calibration, and radiation effect research.

This article serves as an in-depth overview of the detectors employed at Back-n. Delve into the intricacies of their design and witness their remarkable performance in various experiments. Moreover, ongoing developments of cutting-edge systems like MTPC and B-MCP are also introduced, which promise to push the boundaries of neutron research even further.

Click to read the full article: Ruirui, F., Qiang, L., Jie, B. et al. Detector development at the Back-n white neutron source.

Abstract: A series of detectors were built for different experiments, including beam monitoring, beam profile measurement, neutron induced secondaries (fission fragments, light charged particles and gamma) cross section measurement, and neutron resonance radiography, etc. A common digitization electronics and a cluster-based DAQ were developed for these detector systems. Most detectors have been employed at Back-n and serviced for experiments from the beginning of the beamline running.

Other Publication on the same topic: Ren, J., Ruan, X., Bao, J. et al. The C6D6 detector system on the Back-n beam line of CSNS.

About the Journal

Radiation Detection Technology and Methods (RDTM) was launched in 2017. It covers a wide range of topics, including Detection technology and methods, computer technology applications, particle acceleration technology, electronics and system design, synchrotron-radiation based techniques and methods, astroparticle technology, and imaging and radiology.

Journal Website: https://www.springer.com/journal/41605, http://rdtm.ihep.ac.cn/

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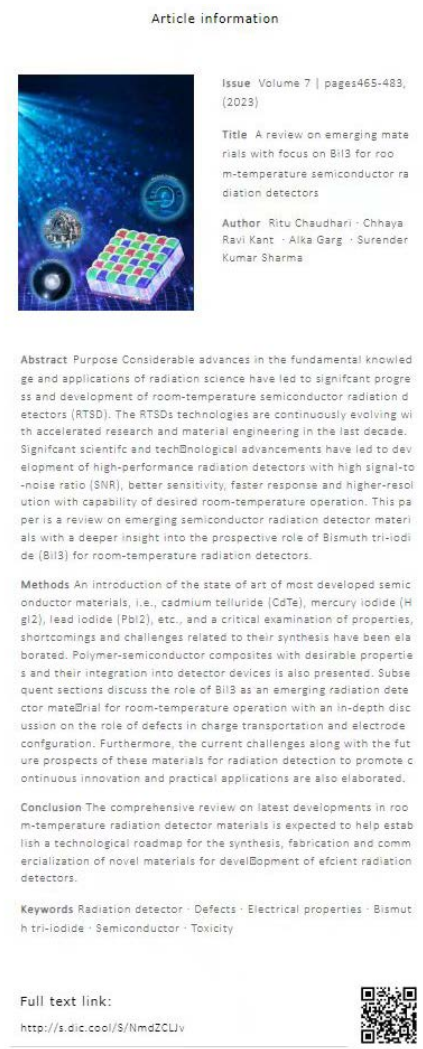


Article information

Issue Volume 7 | pages465-483, (2023)

Title A review on emerging materials with focus on BiI3 for room-temperature semiconductor radiation detectors

Author Ritu Chaudhari · Chhaya Ravi Kant · Alka Garg · Surender Kumar Sharma

Abstract Purpose Considerable advances in the fundamental knowledge and applications of radiation science have led to signifcant progress and development of room-temperature semiconductor radiation detectors (RTSD). The RTSDs technologies are continuously evolving with accelerated research and material engineering in the last decade. Signifcant scientifc and tech□nological advancements have led to development of high-performance radiation detectors with high signal-to-noise ratio (SNR), better sensitivity, faster response and higher-resolution with capability of desired room-temperature operation. This paper is a review on emerging semiconductor radiation detector materials with a deeper insight into the prospective role of Bismuth tri-iodide (BiI3) for room-temperature radiation detectors.

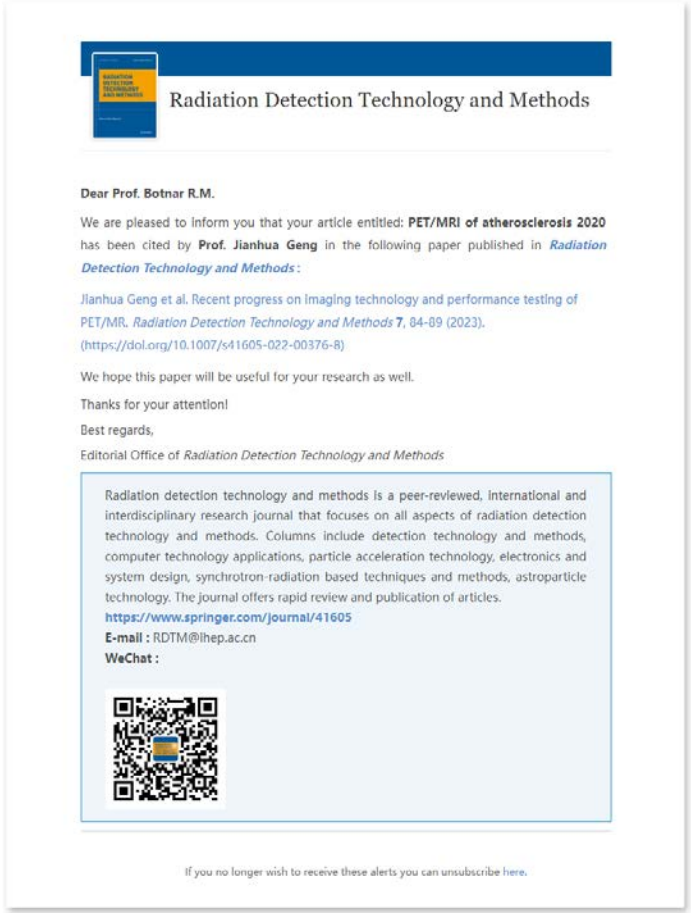
Methods An introduction of the state of art of most developed semiconductor materials, i.e., cadmium telluride (CdTe), mercury iodide (HgI2), lead iodide (PbI2), etc., and a critical examination of properties, shortcomings and challenges related to their synthesis have been elaborated. Polymer-semiconductor composites with desirable properties and their integration into detector devices is also presented. Subsequent sections discuss the role of BiI3 as an emerging radiation detector mate□rial for room-temperature operation with an in-depth discussion on the role of defects in charge transportation and electrode confguration. Furthermore, the current challenges along with the future prospects of these materials for radiation detection to promote continuous innovation and practical applications are also elaborated.

Conclusion The comprehensive review on latest developments in room-temperature radiation detector materials is expected to help establish a technological roadmap for the synthesis, fabrication and commercialization of novel materials for devel□opment of efcient radiation detectors.

Keywords Radiation detector · Defects · Electrical properties · Bismuth tri-iodide · Semiconductor · Toxicity

Full text link:

http://s.dic.cool/S/NmdZCLJv



Radiation Detection Technology and Methods

Dear Prof. Botnar R.M.

We are pleased to inform you that your article entitled: **PET/MRI of atherosclerosis 2020** has been cited by **Prof. Jianhua Geng** in the following paper published in *Radiation Detection Technology and Methods*:

Jianhua Geng et al. Recent progress on imaging technology and performance testing of PET/MR. *Radiation Detection Technology and Methods* **7**, 84-89 (2023). (https://doi.org/10.1007/s41605-022-00376-8)

We hope this paper will be useful for your research as well.

Thanks for your attention!

Best regards,

Editorial Office of *Radiation Detection Technology and Methods*

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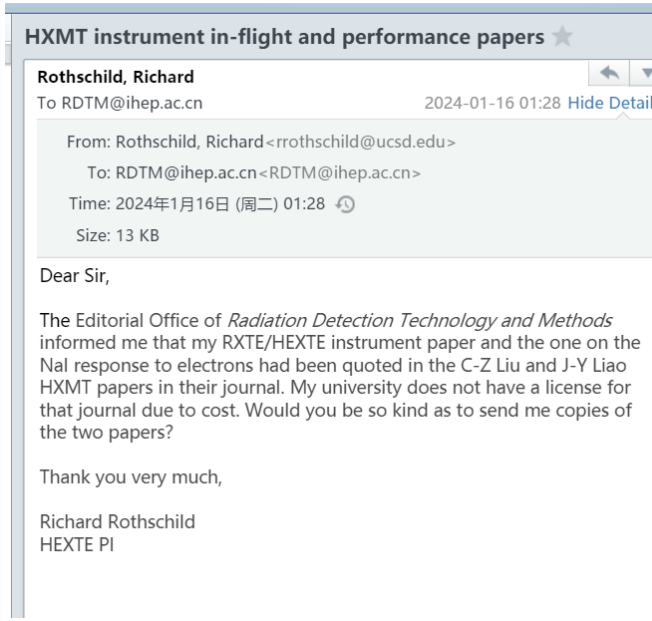

HXMT instrument in-flight and performance papers

Rothschild, Richard

To RDTM@ihep.ac.cn 2024-01-16 01:28 Hide Detail

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Time: 2024年1月16日 (周二) 01:28

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Dear Sir,

The Editorial Office of *Radiation Detection Technology and Methods* informed me that my RXTE/HEXTE instrument paper and the one on the NaI response to electrons had been quoted in the C-Z Liu and J-Y Liao HXMT papers in their journal. My university does not have a license for that journal due to cost. Would you be so kind as to send me copies of the two papers?

Thank you very much,

Richard Rothschild
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- For Chinese authors, accepted articles will incur a page fee of €50 or 350 Chinese yuan (RMB) per page.