

CONTENTS - *Continued*

PHYSICAL REVIEW E

THIRD SERIES, VOLUME 110, NUMBER 5

NOVEMBER 2024

 One-dimensional mapping of femtosecond laser filaments using coherent microwave scattering (<i>7 pages</i>)	055206
Nicholas Babusis, Adam Patel, Rokas Jutas, Zahra Manzoor, Mikhail N. Shneider, Audrius Pugzlys, Andrius Baltuska, and Alexey Shashurin	
Evidence of dual energy transfer driven by magnetic reconnection at subion scales (<i>7 pages</i>)	055207
Raffaello Foldes, Silvio Sergio Cerri, Raffaele Marino, and Enrico Camporeale	
Computational Physics	
Closure equation and higher-order moment relations in the Gauss-Hermite lattice Boltzmann method (<i>7 pages</i>)	055301
Mahyar Madadi, Joseph T. Johnson, Yong Shi, and John E. Sader	
 Application of the shift-invert Lanczos algorithm to a nonequilibrium Green's function for transport problems (<i>8 pages</i>)	055302
K. Uzawa and K. Hagino	
Numerical modeling of heterogeneous stimuli-responsive hydrogels (<i>14 pages</i>)	055303
Amin Rahmat, Berk Altunkeyik, Mostafa Safdari Shadloo, and Tom Montenegro-Johnson	
Efficient simulations of Hartree-Fock equations by an accelerated gradient descent method (<i>22 pages</i>)	055304
Y. Ohno, A. Del Maestro, and T. I. Lakoba	
Interaction of complex particles: A framework for the rapid and accurate approximation of pair potentials using neural networks (<i>15 pages</i>)	055305
Gusten Isfeldt, Fredrik Lundell, and Jakob Wohler	
Partially unitary learning (<i>18 pages</i>)	055306
Mikhail Gennadievich Belov and Vladislav Gennadievich Malyshev	
Cross validation in stochastic analytic continuation (<i>17 pages</i>)	055307
Gabe Schumm, Sibin Yang, and Anders W. Sandvik	

Granular Materials

Onsager variational principle for granular fluids (<i>11 pages</i>)	054901
M. Noirhomme, E. Opsomer, and N. Vandewalle	
Discrete element method model of soot aggregates (<i>12 pages</i>)	054902
Egor V. Demidov, Gennady Y. Gor, and Alexei F. Khalizov	

Fluid Dynamics

Mass transfer in developing flow of a reactive mixture through a curved cylindrical tube (<i>9 pages</i>)	055101
Minyoung Kim and Ali Borhan	
Current-vortex-sheet model of the magnetic Rayleigh-Taylor instability (<i>14 pages</i>)	055102
Seunghyeon Baek and Sung-Ik Sohn	
Dipole-to-monopole-flow transition in bubbly thermal convection (<i>13 pages</i>)	055103
Rajaram Lakkaraju, Dinesh Kumar Chandraker, and Gautam Biswas	
Symmetry breaking and gait transition induced by hydrodynamic sensory feedback in an anguilliform swimming robot (<i>12 pages</i>)	055104
Johann Herault, Laura Paez, Kamilo Melo, Robin Thandiackal, Vincent Lebastard, Frédéric Boyer, and Auke Ijspeert	
Rigorous hydrodynamics from linear Boltzmann equations and viscosity-capillarity balance (<i>11 pages</i>)	055105
Florian Kogelbauer and Ilya Karlin	
Contrasting thermodynamic and hydrodynamic entropy (<i>10 pages</i>)	055106
Mahendra K. Verma, Rodion Stepanov, and Alexandre Delache	
α effect in three-dimensional vortex of conducting rotating liquid (<i>12 pages</i>)	055107
L. L. Ogorodnikov and S. S. Vergeles	

Plasma Physics

Competition between merging and bifurcation in the generalized Rayleigh-Taylor instability (<i>13 pages</i>)	055201
Q. Cauvet, B. Bernecker, and B. Canaud	
Proton radiography inversions with source extraction and comparison to mesh methods (<i>15 pages</i>)	055202
J. Griff-McMahon, V. Valenzuela-Villaseca, S. Malko, G. Fiksel, M. J. Rosenberg, D. B. Schaeffer, and W. Fox	
Separated reactant mix width across diffusion-dominated and hydrodynamically dominated interface mix in inertial confinement fusion implosions (<i>11 pages</i>)	055203
K. D. Meaney, Y. Kim, N. M. Hoffman, Z. L. Mohamed, W. T. Taitano, H. W. Herrmann, H. Geppert-Kleinrath, M. P. Springstead, A. B. Zylstra, A. Leatherland, L. Wilson, V. Yu. Glebov, and C. Forrest	
Weak collisionless shocks mediated by ion gyroviscosity (<i>14 pages</i>)	055204
Brett D. Keenan	
Modeling of warm dense hydrogen via explicit real-time electron dynamics: Dynamic structure factors (<i>16 pages</i>)	055205
Pontus Svensson, Yusuf Aziz, Tobias Dornheim, Sam Azadi, Patrick Hollebon, Amy Skelt, Sam M. Vinko, and Gianluca Gregori	

(Continued)

Power spectral density imaging for polymeric films using <i>ex-situ</i> solid-state magnetic resonance with needlelike ferromagnet (7 pages)	054503
Natsuki Kawabata, Naoki Asakawa, and Teruo Kanki	
Colloids, Complex Fluids, and Active Matter	
Role of hydrogen-bond coordination defects in the structural relaxation of supercooled water (10 pages)	054601
Nicolás A. Loubet, Alejandro R. Verde, Sebastián R. Accordino, Laureano M. Alarcón, and Gustavo A. Appignanesi	
Suppression of bubbles in unstable active liquids via fast evaporation (6 pages)	054602
Qiyun Tang, Chuan Tang, Yifan Huang, Marcus Müller, and Yu-Qiang Ma	
Nonlinear microrheology with time-dependent forces: Application to recoils in viscoelastic fluids (15 pages)	054603
Nikolas Ditz, Antonio M. Puertas, and Matthias Fuchs	
 Theory of capillary tension and interfacial dynamics of motility-induced phases (8 pages)	054604
Luke Langford and Ahmad K. Omar	
Mechanochemical topological defects in an active nematic (10 pages)	054605
Michael M. Norton and Piyush Grover	
Intermediate scattering function of a gravitactic circle swimmer (16 pages)	054606
Regina Rusch, Oleksandr Chepizhko, and Thomas Franosch	
Phase separation in ordered polar active fluids: A completely different universality class from that of equilibrium fluids (21 pages)	054607
Maxx Miller and John Toner	
Dipolar gels formed by aggregation of magnetized beads (7 pages)	054608
A. Wafflard, E. Opsomer, and N. Vandewalle	
Planar network statistics for two-dimensional rupturing foams (10 pages)	054609
Joseph Klobusicky, Elif Onat, and Vasilios Konstantinou	
Liquid Crystals	
Cell theories for the chiral crystal phase of hard equilateral triangles (13 pages)	054701
Yuri Martínez-Ratón and Enrique Velasco	
Paired correlations of dipolar liquid crystals: A mean-force-potentials approach (6 pages)	054702
Izabela Śliwa, Pavel V. Maslennikov, and Alex V. Zakharov	
Effect of smectic polymers on cholesteric liquid crystals (6 pages)	054703
Zhaoifei Zheng and Francesca Serra	
Behavior of chemically powered Janus colloids in lyotropic chromonic liquid crystal (10 pages)	054704
Devika Gireesan Sudha, Hend Baza, David P. Rivas, Sambeeta Das, Oleg D. Lavrentovich, and Linda S. Hirst	
Films and Interfaces	
Exciton spectra in disordered quantum wells (9 pages)	054801
V. A. Stephanovich, W. Olchawa, A. Bartecka, and A. Baćłowski	

(Continued)

CONTENTS - *Continued*

PHYSICAL REVIEW E

THIRD SERIES, VOLUME 110, NUMBER 5

NOVEMBER 2024

Gaussian level-set percolation on complex networks (<i>11 pages</i>)	054312
Reimer Kühn	
Biological Physics	
Topology-mediated organization of <i>Escherichia coli</i> chromosome in fast-growth conditions (<i>22 pages</i>)	054401
Shreerang Pande, Debarshi Mitra, and Apratim Chatterji	
Mechanosensitive dose response of the bacterial flagellar motor (<i>12 pages</i>)	054402
Shaoying Zhu, Rui He, Rongjing Zhang, and Junhua Yuan	
Complexity-stability relationships in competitive disordered dynamical systems (<i>6 pages</i>)	054403
Onofrio Mazzarisi and Matteo Smerlak	
Buckling by disordered growth (<i>12 pages</i>)	054405
Rahul G. Ramachandran, Ricard Alert, and Pierre A. Haas	
Perturbation therapies for neurodegenerative disorders: How attractors of excitable networks can help (<i>19 pages</i>)	054406
Mariia Popova, Claus C. Hilgetag, and Marc-Thorsten Hütt	
Computational microscopy beyond perfect lenses (<i>7 pages</i>)	054407
Xingyuan Lu, Minh Pham, Elisa Negrini, Damek Davis, Stanley J. Osher, and Jianwei Miao	
Hidden length lets collagen buffer mechanical and chemical stress (<i>18 pages</i>)	054408
Benedikt Rennekamp, Helmut Grubmüller, and Frauke Gräter	
Localized spatiotemporal dynamics in active fluids (<i>10 pages</i>)	054409
Luca Barberi and Karsten Kruse	
Active curling of epithelial monolayers dominated by actin cytoskeleton mechanics (<i>10 pages</i>)	054410
Huan Wang, Jiu-Tao Hang, and Guang-Kui Xu	
Interplay of geometry and mechanics in epithelial wound healing (<i>8 pages</i>)	054411
Nandhu Krishna Babu, M. Sreepadmanabh, Sayantan Dutta, and Tapomoy Bhattacharjee	
☞ Error thresholds in the presence of epistatic interactions (<i>12 pages</i>)	054412
D. A. Herrera-Martí	
Optimal crawling: From mechanical to chemical actuation (<i>14 pages</i>)	054413
P. Recho and L. Truskinovsky	
Emergence of biphasic versus monotonic response of actin retrograde flow and cell traction force with varying substrate rigidity (<i>11 pages</i>)	054414
Partho Sakha De and Rumi De	
Polymers	
Crumpled-to-flat transition of quenched disordered membranes at two-loop order (<i>7 pages</i>)	054501
L. Delzescaux, D. Mouhanna, and M. Tissier	
Entropically driven phase separation and effective multibody interactions in block copolymers (<i>9 pages</i>)	054502
Xinyue Zhang, Mingge Zhao, and Junhan Cho	

(Continued)

CONTENTS - Continued

PHYSICAL REVIEW E

THIRD SERIES, VOLUME 110, NUMBER 5

NOVEMBER 2024

Fate of vortex-synchronized state in oscillator networks with node defects (<i>12 pages</i>)	054210
Dixian Ruan, Junjie Liu, and Changqin Wu	
Heterogeneity-provoked pulse generation in coupled excitable elements (<i>7 pages</i>)	054211
Hitoshi Mahara, Yuki Kimura, P. Parmananda, Atsushi Nomura, Tohru Tsujikawa, and Tatsunari Sakurai	
Energy cascade and Burgers turbulence in the Fermi-Pasta-Ulam-Tsingou chain (<i>14 pages</i>)	054212
Matteo Gallone, Antonio Ponso, and Stefano Ruffo	
Noise-induced stochastic internal resonance in nonlinear energy harvesting (<i>10 pages</i>)	054213
Martín E. Giuliano and Matías G. dell’Erba	
Chimera states in pulse-coupled oscillator systems (<i>9 pages</i>)	054214
Arke Vogell, Udo Schilcher, Jorge F. Schmidt, and Christian Bettstetter	

PART B

Networks and Complex Systems

Self-consistent autocorrelation of a disordered Kuramoto model in the asynchronous state (<i>9 pages</i>)	054301
Yagmur Kati, Jonas Ranft, and Benjamin Lindner	
Learning of networked spreading models from noisy and incomplete data (<i>20 pages</i>)	054302
Mateusz Wilinski and Andrey Y. Lokhov	
 Fault-tolerant neural networks from biological error correction codes (<i>15 pages</i>)	054303
Alexander Zlokapa, Andrew K. Tan, John M. Martyn, Ila R. Fiete, Max Tegmark, and Isaac L. Chuang	
Metaplasticity and memory in multilevel recurrent feed-forward networks (<i>12 pages</i>)	054304
Gianmarco Zanardi, Paolo Bettotti, Jules Morand, Lorenzo Pavesi, and Luca Tubiana	
Dynamical system model of gentrification: Exploring a simple rent control strategy (<i>14 pages</i>)	054305
Jonathan D. Shaw, Juan G. Restrepo, and Nancy Rodríguez	
Explicit solutions of the Bass and susceptible-infected models on hypernetworks (<i>9 pages</i>)	054306
Gadi Fibich, Juan G. Restrepo, and Guy Rothmann	
Effects of clustering heterogeneity on the spectral density of sparse networks (<i>13 pages</i>)	054307
Tuan Minh Pham, Thomas Peron, and Fernando L. Metz	
Maximum entropy in dynamic complex networks (<i>15 pages</i>)	054308
Noam Abadi and Franco Ruzzenenti	
Transitions in growing networks using a structural complexity approach (<i>12 pages</i>)	054309
A. A. Snarskii	
Adversarial training and attribution methods enable evaluation of robustness and interpretability of deep learning models for image classification (<i>15 pages</i>)	054310
Flávio A. O. Santos, Cleber Zanchettin, Weihua Lei, and Luís A. Nunes Amaral	
Limited trust in social network games (<i>16 pages</i>)	054311
Timothy Murray, Jugal Garg, and Rakesh Nagi	

(Continued)

CONTENTS - *Continued*

PHYSICAL REVIEW E

THIRD SERIES, VOLUME 110, NUMBER 5

NOVEMBER 2024

Scaling behavior of cross-entropy loss in the identification of percolation phase transitions (<i>12 pages</i>)	054133
Huiyao Li, Yu Zhao, and Bo Yang	
Mahler measures, elliptic curves, and L -functions for the free energy of the Ising model (<i>7 pages</i>)	054134
Gandhimohan M. Viswanathan	
Recurrence solution of monomer-polymer models on two-dimensional rectangular lattices (<i>7 pages</i>)	054135
Yong Kong	
Thermodynamic Langevin equations (<i>10 pages</i>)	054136
Amilcare Porporato, Salvatore Calabrese, and Lamberto Rondoni	
Hyperballistic transport in dense systems of charged particles under ac electric fields (<i>11 pages</i>)	054137
Daniele Gamba, Bingyu Cui, and Alessio Zaccane	
Shortcuts to adiabaticity in harmonic traps: A quantum-classical analog (<i>14 pages</i>)	054138
Vincent Hardel, Giovanni Manfredi, Paul-Antoine Hervieux, and Rémi Goerlich	
Diffusion of fast and slow excitons with an exchange in quasi-two-dimensional systems (<i>11 pages</i>)	054139
Oluwafemi P. Adejumbi, Vladimir N. Mantsevich, and Vladimir V. Palyulin	
Scaling limit of domino tilings on a pentagonal domain (<i>9 pages</i>)	054140
Filippo Colomo and Andrei G. Pronko	
Nonlinear Dynamics and Chaos	
Buzz pollination: A theoretical analysis via scaling invariance (<i>6 pages</i>)	054201
Daniel Borin, Vinicius Lourenço Garcia de Brito, Edson Denis Leonel, and Matheus Hansen	
Dynamical localization in nonideal kicked rotors driven by two competing pulsatile modulations (<i>10 pages</i>)	054202
F. Revuelta, R. Chacón, and F. Borondo	
Signatures of self-organized dynamics in rapidly driven critical sandpiles (<i>11 pages</i>)	054203
Bosiljka Tadić, Alexander Shapoval, and Mikhail Shnirman	
Momentum-dependent quantum Ruelle-Pollicott resonances in translationally invariant many-body systems (<i>13 pages</i>)	054204
Marko Žnidarič	
Forced one-dimensional swarmalator model (<i>10 pages</i>)	054205
Md Sayeed Anwar, Dibakar Ghosh, and Kevin O’Keeffe	
Master-slave coupling scheme for synchronization and parameter estimation in the generalized Kuramoto-Sivashinsky equation (<i>14 pages</i>)	054206
Joaquín Míguez, Harold Molina-Bulla, and Inés P. Mariño	
Statistics of random walks in geologically relevant conductance fields (<i>14 pages</i>)	054207
Shayan Jalalmanesh, Muhammad Sahimi, and Felipe P. J. de Barros	
Wave-driven phase wave patterns in a ring of FitzHugh-Nagumo oscillators (<i>13 pages</i>)	054208
Daniel Cebrián-Lacasa, Marcin Leda, Andrew B. Goryachev, and Lendert Gelens	
Pattern dynamics of the nonreciprocal Swift-Hohenberg model (<i>9 pages</i>)	054209
Yuta Tateyama, Hiroaki Ito, Shigeyuki Komura, and Hiroyuki Kitahata	

(Continued)

CONTENTS - *Continued*

PHYSICAL REVIEW E

THIRD SERIES, VOLUME 110, NUMBER 5

NOVEMBER 2024

Effect of external potential on the energy transport in harmonically driven segmented Frenkel-Kontorova lattices (<i>8 pages</i>)	054115
M. Romero-Bastida	
Complete positivity and thermal relaxation in quadratic quantum master equations (<i>12 pages</i>)	054116
F. Nicacio and T. Koide	
Dynamics of non-Markovian systems: Markovian embedding versus effective mass approach (<i>9 pages</i>)	054117
Mateusz Wiśniewski and Jakub Spiechowicz	
Inviscid fixed point of the multidimensional Burgers–Kardar–Parisi–Zhang equation (<i>17 pages</i>)	054118
Liubov Gosteva, Malo Tarpin, Nicolás Wschebor, and Léonie Canet	
Solution of the space-fractional diffusion equation on bounded domains of superdiffusive phenomena (<i>9 pages</i>)	054119
Diego A. Monroy and Ernesto P. Raposo	
Noise-induced peak intensity fluctuations in class B laser systems (<i>9 pages</i>)	054120
Jason Hindes and Ira B. Schwartz	
Transition-path sampling for run-and-tumble particles (<i>14 pages</i>)	054121
Thomas Kiechl, Thomas Franosch, and Michele Caraglio	
Minimizing the profligacy of searches with reset (<i>11 pages</i>)	054122
John C. Sunil, Richard A. Blythe, Martin R. Evans, and Satya N. Majumdar	
Transition from ballistic to diffusive heat transfer in a chain with breaks (<i>16 pages</i>)	054123
Anton M. Krivtsov, Vitaly A. Kuzkin, and Vadim A. Tsaplin	
Active motion can be beneficial for target search with resetting in a thermal environment (<i>10 pages</i>)	054124
P. S. Pal, Jong-Min Park, Arnab Pal, Hyunggyu Park, and Jae Sung Lee	
Thermodynamics of underdamped Brownian collisional engines: General features and resonant phenomena (<i>10 pages</i>)	054125
Gustavo A. L. Forão, Fernando S. Filho, Bruno A. N. Akasaki, and Carlos E. Fiore	
Heat production in a stochastic system with nonlinear time-delayed feedback (<i>14 pages</i>)	054126
Robin A. Kopp and Sabine H. L. Klapp	
🔗 Narrow escape with imperfect reactions (<i>12 pages</i>)	054127
Anıl Cengiz and Sean D. Lawley	
Emergence of self-organized criticality and phase transition in the Olami-Feder-Christensen model with a single defect (<i>4 pages</i>)	054129
Tetsuto Otani and Nobuki Kame	
Exactly solvable dual bus-route model (<i>9 pages</i>)	054130
Ngo Phuoc Nguyen Ngoc, Huynh Anh Thi, and Nguyen Van Vinh	
Evidence that the de Almeida–Thouless transition disappears below six dimensions (<i>11 pages</i>)	054131
Bharadwaj Vedula, M. A. Moore, and Auditya Sharma	
Geometrically frustrated self-assembly of hyperbolic crystals from icosahedral nanoparticles (<i>11 pages</i>)	054132
Nan Cheng, Kai Sun, and Xiaoming Mao	

(Continued)

CONTENTS - *Continued*

PHYSICAL REVIEW E

THIRD SERIES, VOLUME 110, NUMBER 5

NOVEMBER 2024

Fluid Dynamics

- Probing the contact time of droplet impacts: From the Hertz collision to oscillation regimes (*6 pages*) L053101
Shiji Lin, Dachuang Shi, Le Zhou, Longquan Chen, and Zhigang Li

ARTICLES

Statistical Physics

- Quasiuniversal behavior of shear relaxation times in simple fluids (*8 pages*) 054101
S. A. Khrapak and A. G. Khrapak
- Topological fingerprints in Liouvillian gaps (*16 pages*) 054102
K. Kavanagh, J. K. Slingerland, S. Dooley, and G. Kells
- Clausius' theorem and the second law in the process of isoenergetic thermalization (*7 pages*) 054103
Vansh Narang, Renuka Rai, and Ramandeep S. Johal
- Availability, storage capacity, and diffusion: Stationary states of an asymmetric exclusion process connected to two reservoirs (*26 pages*) 054104
Sourav Pal, Parna Roy, and Abhik Basu
- Exact time-dependent thermodynamic relations for a Brownian particle moving in a ratchet potential coupled with quadratically decreasing temperature (*14 pages*) 054105
Mesfin Asfaw Taye
- Probability density functions for photon propagation in a binary (isotropic-Poisson) statistical mixture with unmatched positive and negative refractive indexes (*11 pages*) 054106
Tiziano Binzoni and Alain Mazzolo
- Collective dynamics on constrained three-lane exclusion process (*12 pages*) 054107
Atul Kumar Verma and Priyanka N. C.
- Thermodynamic constraints and exact scaling exponents of flocking matter (*11 pages*) 054108
Andrea Amoretti, Daniel K. Brattan, and Luca Martinoia
- Dynamical phase transitions in the *XY* model: A Monte Carlo and mean-field-theory study (*16 pages*) 054109
Mainak Pal, William D. Baez, Pushan Majumdar, Arnab Sen, and Trinanjan Datta
- 🔗 Legislative rebellions and impeachments in a neural network society (*20 pages*) 054110
Juan Neirotti and Nestor Caticha
- Random search with resetting in heterogeneous environments (*10 pages*) 054111
Luiz Menon, Jr. and Celia Anteneodo
- In and beyond the Griffiths phase: A large-deviation study of the magnetic susceptibility of the two-dimensional bond-diluted Ising model (*14 pages*) 054112
L. Münster, A. K. Hartmann, and M. Weigel
- Second law of thermodynamics: Spontaneous cold-to-hot heat transfer in a nonchaotic medium (*14 pages*) 054113
Yu Qiao and Zhaoru Shang
- Irreversible dynamics of a continuum driven by active matter (*11 pages*) 054114
John C. Neu and Stephen W. Teitsworth

(Continued)

The Table of Contents is a total listing of Parts A and B.
Part A consists of pages L052101–054214, and Part B pages 054301–055307.

PART A

LETTERS

Statistical Physics

Relativistic theory of the viscosity of fluids across the entire energy spectrum (7 pages)	L052101
Alessio Zaccone	
Finite-time measurement-driven Otto cycle (7 pages)	L052102
Youlin Wang, Shihao Xia, Xinqiao Lin, Ousi Pan, Jincan Chen, and Shanhe Su	
Current fluctuations in the symmetric zero-range process below and at critical density (5 pages)	L052103
Tanmoy Chakraborty, Punyabrata Pradhan, and Kavita Jain	

Nonlinear Dynamics and Chaos

Kardar-Parisi-Zhang universality class in the synchronization of oscillator lattices with time-dependent noise (6 pages)	L052201
Ricardo Gutiérrez and Rodolfo Cuerno	
Laminar chaotic saddle within a turbulent attractor (5 pages)	L052202
Hibiki Kato, Miki U. Kobayashi, Yoshitaka Saiki, and James A. Yorke	
Asymmetric limit cycles within Lorenz chaos induce anomalous mobility for a memory-driven active particle (6 pages)	L052203
Rahil N. Valani and Bruno S. Dandogbessi	

Networks and Complex Systems

Exact cluster dynamics of indirect reciprocity in complete graphs (5 pages)	L052301
Minwoo Bae, Takashi Shimada, and Seung Ki Baek	

Polymers

Compressible dielectric elastomer actuators in high hydrostatic pressures: Models and experiments (7 pages)	L052501
Xianghan Wang, Bingxu Hu, Yang Zhang, Chongjing Cao, and Guorui Li	

Colloids, Complex Fluids, and Active Matter

Response of chemically active dimer motor in phase-separating binary fluid mixture: Motility regulation and self-aggregation (5 pages)	L052601
Surabhi Jaiswal and Snigdha Thakur	



(Continued)



2470-0045(202411)110:5:B;1-2