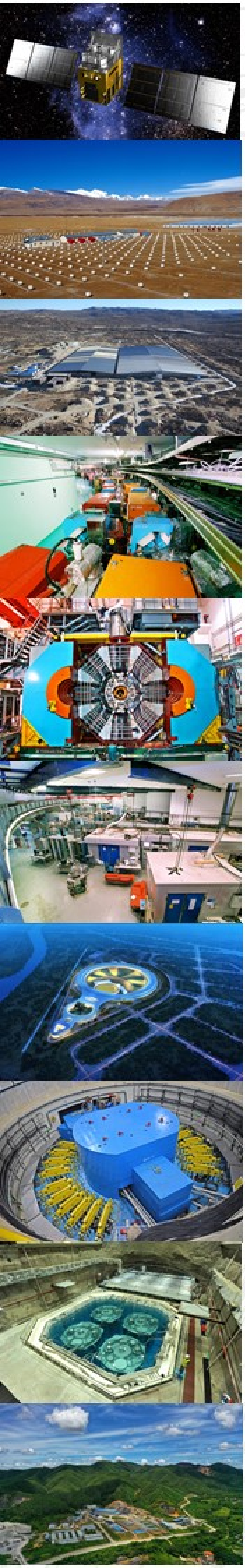

ESI热点论文简报

第XIII期

中国科学院高能物理研究所
文献信息部

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基于 ESI 数据库分领域热点论文简报 XIII

ESI 是基于汤森路透 Web of Science（SCIE/SSCI）所收录的全球 12000 多种学术期刊的 1200 多万条文献记录而建立的计量分析数据库。ESI 针对 22 个专业领域，通过论文数、论文被引频次、论文篇均被引频次、高影响论文（高被引论文和热点论文排重后的简单和）指标，成为当今世界范围内普遍用以评价高校、学术机构、国家/地区国际学术水平及影响力的重要评价指标工具之一。该数据库基于 10 年内文献数据进行综合分析评价，每两月更新一次。

热点论文：ESI 数据库统计筛选出在过去两年内发表，且在近两月内，被引用的次数进入其学术领域前 0.1%的论文。

细分领域：根据 WoS 数据库的领域划分选取了高能所发文比较集中的四个细分领域，"Physics, Particles & Fields"、 "Physics, Nuclear"、 "Astronomy & Astrophysics "和 "Materials Science, Multidisciplinary"。

目录

本次简报基于 ESI 于 2023 年 1 月 12 日更新的数据，热点论文统计范围为 2020 年 11 月-2022 年 10 月发表的论文，且在 2022 年 9-10 月被引用次数进入该领域前 0.1%的论文。

论文前的黑圈数字（如❷）表示该论文在最近 12 期热点论文简报中重复出现的次数

“Physics, Particles & Fields”热点论文 23 篇

1. ❷REVIEW OF PARTICLE PHYSICS. Workman, RL, Burkert, VD, Crede, V et al. PROGRESS OF THEORETICAL AND EXPERIMENTAL PHYSICS, 2022 (2022) 083C01. Cited: 2970. http://dx.doi.org/10.1093/ptep/ptac097
2. ❼In the realm of the Hubble tension-a review of solutions *. Di Valentino, E, Mena, O, Pan, S et al. CLASSICAL AND QUANTUM GRAVITY, 38 (2021) 153001. Cited: 378. http://dx.doi.org/10.1088/1361-6382/ac086d
3. ❿2020 global reassessment of the neutrino oscillation picture. de Salas, PF, Forero, DV, Gariazzo, S et al. JOURNAL OF HIGH ENERGY PHYSICS, (2021) 71. Cited: 203. http://dx.doi.org/10.1007/JHEP02(2021)071
4. ❽Completed SDSS-IV extended Baryon Oscillation Spectroscopic Survey: Cosmological implications from two decades of spectroscopic surveys at the Apache Point Observatory. Alam, S, Aubert, M, Avila, S et al. PHYSICAL REVIEW D, 103 (2021) 83533. Cited: 194. http://dx.doi.org/10.1103/PhysRevD.103.083533
5. ❹The AME2020 atomic mass evaluation. Wang, M, Huang, WJ, Kondev, FG et al. CHINESE PHYSICS C, 45 (2021) 30003. Cited: 188. http://dx.doi.org/10.1088/1674-1137/abddaf
6. ❸The Atacama Cosmology Telescope: DR4 maps and cosmological parameters. Aiola, S, Calabrese, E, Maurin, L et al. JOURNAL OF COSMOLOGY AND ASTROPARTICLE PHYSICS, (2020) 47. Cited: 176. http://dx.doi.org/10.1088/1475-7516/2020/12/047
7. ❹Dark Energy Survey Year 3 results: Cosmological constraints from galaxy clustering and weak lensing. Abbott, TMC, Aguena, M, Alarcon, A et al. PHYSICAL REVIEW D, 105 (2022) 23520. Cited: 99. http://dx.doi.org/10.1103/PhysRevD.105.023520
8. ❸Replica wormholes and the black hole interior. Penington, G, Shenker, SH, Stanford, D et al. JOURNAL OF HIGH ENERGY PHYSICS, (2022) 205. Cited: 65. http://dx.doi.org/10.1007/JHEP03(2022)205
9. Scalar Induced Gravitational Waves Review. Domenech, G UNIVERSE, 7 (2021) 398. Cited: 48. http://dx.doi.org/10.3390/universe7110398
10. ❷Dark Energy Survey Year 3 results: Cosmology from cosmic shear and robustness to modeling uncertainty. Secco, LF, Samuroff, S, Krause, E et al. PHYSICAL REVIEW D, 105 (2022) 23515. Cited: 47. http://dx.doi.org/10.1103/PhysRevD.105.023515
11. Quantum gravity phenomenology at the dawn of the multi-messenger era-A review. Addazi, A, Alvarez-Muniz, J, Batista, RA et al. PROGRESS IN PARTICLE AND NUCLEAR PHYSICS, 125 (2022) 103948. Cited: 19. http://dx.doi.org/10.1016/j.ppnp.2022.103948

12. Electroweak precision fit and new physics in light of the W boson mass. Lu, CT, Wu, L, Wu, YC et al. PHYSICAL REVIEW D, 106 (2022) 35034. Cited: 15. http://dx.doi.org/10.1103/PhysRevD.106.035034

13. Interpreting electroweak precision data including the W-mass CDF anomaly. Strumia, A JOURNAL OF HIGH ENERGY PHYSICS, (2022) 248. Cited: 14. http://dx.doi.org/10.1007/JHEP08(2022)248

14. Transport model comparison studies of intermediate-energy heavy-ion collisions. Wolter, H, Colonna, M, Cozma, D et al. PROGRESS IN PARTICLE AND NUCLEAR PHYSICS, 125 (2022) 103962. Cited: 14. http://dx.doi.org/10.1016/j.ppnp.2022.103962

15. MICROSCOPE. mission analysis, requirements and expected performance. Touboul, P, Rodrigues, M, Metris, G et al. CLASSICAL AND QUANTUM GRAVITY, 39 (2022) 204001. Cited: 11. http://dx.doi.org/10.1088/1361-6382/abebf1

16. MICROSCOPE instrument description and validation. Liorzou, F, Touboul, P, Rodrigues, M et al. CLASSICAL AND QUANTUM GRAVITY, 39 (2022) 204002. Cited: 10. http://dx.doi.org/10.1088/1361-6382/ac1619

17. Signs of higher multipoles and orbital precession in GW151226. Chia, HS, Olsen, S, Roulet, J et al. PHYSICAL REVIEW D, 106 (2022) 24009. Cited: 9. http://dx.doi.org/10.1103/PhysRevD.106.024009

18. Microscope instrument in-flight characterization. Chhun, R, Hardy, E, Rodrigues, M et al. CLASSICAL AND QUANTUM GRAVITY, 39 (2022) 204005. Cited: 9. http://dx.doi.org/10.1088/1361-6382/ac13b9

19. MICROSCOPE mission: data analysis principle. Berge, J, Baghi, Q, Hardy, E et al. CLASSICAL AND QUANTUM GRAVITY, 39 (2022) 204007. Cited: 9. http://dx.doi.org/10.1088/1361-6382/ac0235

20. MICROSCOPE mission scenario, ground segment and data processing. Rodrigues, M, Touboul, P, Metris, G et al. CLASSICAL AND QUANTUM GRAVITY, 39 (2022) 204004. Cited: 9. http://dx.doi.org/10.1088/1361-6382/ac4b9a

21. Result of the MICROSCOPE weak equivalence principle test. Touboul, P, Metris, G, Rodrigues, M et al. CLASSICAL AND QUANTUM GRAVITY, 39 (2022) 204009. Cited: 7. http://dx.doi.org/10.1088/1361-6382/ac84be

22. MICROSCOPE: systematic errors. Rodrigues, M, Touboul, P, Metris, G et al. CLASSICAL AND QUANTUM GRAVITY, 39 (2022) 204006. Cited: 6. http://dx.doi.org/10.1088/1361-6382/ac49f6

23. MICROSCOPE mission: statistics and impact of glitches on the test of the weak equivalence principle *. Berge, J, Baghi, Q, Robert, A et al. CLASSICAL AND QUANTUM GRAVITY, 39 (2022) 204008. Cited: 6. http://dx.doi.org/10.1088/1361-6382/ac1617

“Physics, Nuclear”热点论文 4 篇

1. ❹The AME2020 atomic mass evaluation. Wang, M, Huang, WJ, Kondev, FG et al. CHINESE PHYSICS C, 45 (2021) 30003. Cited: 188. http://dx.doi.org/10.1088/1674-1137/abddaf
2. Science Requirements and Detector Concepts for the Electron-Ion Collider. Khalek, RA, Accardi, A, Adam, J et al. NUCLEAR PHYSICS A, 1026 (2022) 122447. Cited: 24. http://dx.doi.org/10.1016/j.nuclphysa.2022.122447
3. Quantum gravity phenomenology at the dawn of the multi-messenger era-A review. Addazi, A, Alvarez-Muniz, J, Batista, RA et al. PROGRESS IN PARTICLE AND NUCLEAR PHYSICS, 125 (2022) 103948. Cited: 19. http://dx.doi.org/10.1016/j.ppnp.2022.103948
4. Transport model comparison studies of intermediate-energy heavy-ion collisions. Wolter, H, Colonna, M, Cozma, D et al. PROGRESS IN PARTICLE AND NUCLEAR PHYSICS, 125 (2022) 103962. Cited: 14. http://dx.doi.org/10.1016/j.ppnp.2022.103962

“Astronomy & Astrophysics”热点论文 48 篇

1. ❾Gaia Early Data Release 3 Summary of the contents and survey properties. Brown, AGA, Vallenari, A, Prusti, T et al. ASTRONOMY & ASTROPHYSICS, 649 (2021) A1. Cited: 851. http://dx.doi.org/10.1051/0004-6361/202039657
2. ❾Estimating Distances from Parallaxes. V. Geometric and Photogeometric Distances to 1.47 Billion Stars in Gaia Early Data Release 3. Bailer-Jones, CAL, Rybizki, J, Fouesneau, M et al. ASTRONOMICAL JOURNAL, 161 (2021) 147. Cited: 675. http://dx.doi.org/10.3847/1538-3881/abd806
3. ❼In the realm of the Hubble tension-a review of solutions *. Di Valentino, E, Mena, O, Pan, S et al. CLASSICAL AND QUANTUM GRAVITY, 38 (2021) 153001. Cited: 378. http://dx.doi.org/10.1088/1361-6382/ac086d
4. ❽The NANOGrav 12.5 yr Data Set: Search for an Isotropic Stochastic Gravitational-wave Background. Arzoumanian, Z, Baker, PT, Blumer, H et al. ASTROPHYSICAL JOURNAL LETTERS, 905 (2020) L34. Cited: 324. http://dx.doi.org/10.3847/2041-8213/abd401
5. ❽Cosmic Distances Calibrated to 1% Precision with Gaia EDR3 Parallaxes and Hubble Space Telescope Photometry of 75 Milky Way Cepheids Confirm Tension with ?CDM. Riess, AG, Casertano, S, Yuan, WL et al. ASTROPHYSICAL JOURNAL LETTERS, 908 (2021) L6. Cited: 285. http://dx.doi.org/10.3847/2041-8213/abdbaf

6. ❺Gaia Early Data Release 3 Parallax bias versus magnitude, colour, and position. Lindegren, L, Bastian, U, Biermann, M et al. ASTRONOMY & ASTROPHYSICS, 649 (2021) A4. Cited: 240. http://dx.doi.org/10.1051/0004-6361/202039653

7. ❻A NICER View of the Massive Pulsar PSR J0740+6620 Informed by Radio Timing and XMM-Newton Spectroscopy. Riley, TE, Watts, AL, Ray, PS et al. ASTROPHYSICAL JOURNAL LETTERS, 918 (2021) L27. Cited: 207. http://dx.doi.org/10.3847/2041-8213/ac0a81

8. ❻The eROSITA X-ray telescope on SRG. Predehl, P, Andritschke, R, Arefiev, V et al. ASTRONOMY & ASTROPHYSICS, 647 (2021) A1. Cited: 202. http://dx.doi.org/10.1051/0004-6361/202039313

9. ❽Completed SDSS-IV extended Baryon Oscillation Spectroscopic Survey: Cosmological implications from two decades of spectroscopic surveys at the Apache Point Observatory. Alam, S, Aubert, M, Avila, S et al. PHYSICAL REVIEW D, 103 (2021) 83533. Cited: 194. http://dx.doi.org/10.1103/PhysRevD.103.083533

10. ❼KiDS-1000 Cosmology: Multi-probe weak gravitational lensing and spectroscopic galaxy clustering constraints. Heymans, C, Troster, T, Asgari, M et al. ASTRONOMY & ASTROPHYSICS, 646 (2021) A140. Cited: 186. http://dx.doi.org/10.1051/0004-6361/202039063

11. ❸The Atacama Cosmology Telescope: DR4 maps and cosmological parameters. Aiola, S, Calabrese, E, Maurin, L et al. JOURNAL OF COSMOLOGY AND ASTROPARTICLE PHYSICS, (2020) 47. Cited: 176. http://dx.doi.org/10.1088/1475-7516/2020/12/047

12. ❻The Radius of PSR J0740+6620 from NICER and XMM-Newton Data. Miller, MC, Lamb, FK, Dittmann, AJ et al. ASTROPHYSICAL JOURNAL LETTERS, 918 (2021) L28. Cited: 169. http://dx.doi.org/10.3847/2041-8213/ac089b

13. ❹Dark Energy Survey Year 3 results: Cosmological constraints from galaxy clustering and weak lensing. Abbott, TMC, Aguena, M, Alarcon, A et al. PHYSICAL REVIEW D, 105 (2022) 23520. Cited: 99. http://dx.doi.org/10.1103/PhysRevD.105.023520

14. ❷A million binaries from Gaia eDR3: sample selection and validation of Gaia parallax uncertainties. El-Badry, K, Rix, HW, Heintz, TM et al. MONTHLY NOTICES OF THE ROYAL ASTRONOMICAL SOCIETY, 506 (2021) . Cited: 99. http://dx.doi.org/10.1093/mnras/stab323

15. ❷First Sagittarius A* Event Horizon Telescope Results. I. The Shadow of the Supermassive Black Hole in the Center of the Milky Way. Akiyama, K, Alberdi, A, Alef, W et al. ASTROPHYSICAL JOURNAL LETTERS, 930 (2022) L12. Cited: 97. http://dx.doi.org/10.3847/2041-8213/ac6674

16. Stellar Population Inference with Prospector. Johnson, BD, Leja, J, Conroy, C et al. ASTROPHYSICAL JOURNAL SUPPLEMENT SERIES, 254 (2021) 22. Cited: 86. http://dx.doi.org/10.3847/1538-4365/abef67

17. ❷The TESS Objects of Interest Catalog from the TESS Prime Mission. Guerrero, NM, Seager, S, Huang, CX et al. ASTROPHYSICAL JOURNAL SUPPLEMENT SERIES, 254 (2021) 39. Cited: 84. http://dx.doi.org/10.3847/1538-4365/abefe1

18. ❷A Comprehensive Measurement of the Local Value of the Hubble Constant with 1 km s(-1) Mpc(-1) Uncertainty from the Hubble Space Telescope and the SH0ES Team. Riess, AG, Yuan, WL, Macri, LM et al. ASTROPHYSICAL JOURNAL LETTERS, 934 (2022) L7. Cited: 75. http://dx.doi.org/10.3847/2041-8213/ac5c5b

19. The Geomagnetic Kp Index and Derived Indices of Geomagnetic Activity. Matzka, J, Stolle, C, Yamazaki, Y et al. SPACE WEATHER-THE INTERNATIONAL JOURNAL OF RESEARCH AND APPLICATIONS, 19 (2021) e2020SW002641. Cited: 73. http://dx.doi.org/10.1029/2020SW002641

20. ❸The Seventeenth Data Release of the Sloan Digital Sky Surveys: Complete Release of MaNGA, MaStar, and APOGEE-2 Data. Abdurro'uf, Accetta, K, Aerts, C et al. ASTROPHYSICAL JOURNAL SUPPLEMENT SERIES, 259 (2022) 35. Cited: 68. http://dx.doi.org/10.3847/1538-4365/ac4414

21. ❸Preliminary analysis of the Hayabusa2 samples returned from C-type asteroid Ryugu. Yada, T, Abe, M, Okada, T et al. NATURE ASTRONOMY, 6 (2022) . Cited: 59. http://dx.doi.org/10.1038/s41550-021-01550-6

22. It has to be cool: Supergiant progenitors of binary black hole mergers from common-envelope evolution. Klencki, J, Nelemans, G, Istrate, AG et al. ASTRONOMY & ASTROPHYSICS, 645 (2021) A54. Cited: 59. http://dx.doi.org/10.1051/0004-6361/202038707

23. Cosmology intertwined: A review of the particle physics, astrophysics, and cosmology associated with the cosmological tensions and anomalies. Abdalla, E, Abellan, GF, Aboubrahim, A et al. JOURNAL OF HIGH ENERGY ASTROPHYSICS, 34 (2022) . Cited: 50. http://dx.doi.org/10.1016/j.jheap.2022.04.002

24. First Sagittarius A* Event Horizon Telescope Results. VI. Testing the Black Hole Metric. Akiyama, K, Alberdi, A, Alef, W et al. ASTROPHYSICAL JOURNAL LETTERS, 930 (2022) L17. Cited: 49. http://dx.doi.org/10.3847/2041-8213/ac6756

25. Scalar Induced Gravitational Waves Review. Domenech, G UNIVERSE, 7 (2021) 398. Cited: 48. http://dx.doi.org/10.3390/universe7110398

26. The Dawes Review 9: The role of cold gas stripping on the star formation quenching of satellite galaxies. Cortese, L, Catinella, B, Smith, R et al. PUBLICATIONS OF THE ASTRONOMICAL SOCIETY OF AUSTRALIA, 38 (2021) e035. Cited: 48. http://dx.doi.org/10.1017/pasa.2021.18

27. ❷Dark Energy Survey Year 3 results: Cosmology from cosmic shear and robustness to modeling uncertainty. Secco, LF, Samuroff, S, Krause, E et al. PHYSICAL REVIEW D, 105 (2022) 23515. Cited: 47. http://dx.doi.org/10.1103/PhysRevD.105.023515

28. 3-OGC: Catalog of Gravitational Waves from Compact-binary Mergers. Nitz, AH, Capano, CD, Kumar, S et al. ASTROPHYSICAL JOURNAL, 922 (2021) 76. Cited: 43. http://dx.doi.org/10.3847/1538-4357/ac1c03

29. The International Pulsar Timing Array second data release: Search for an isotropic gravitational wave background. Antoniadis, J, Arzoumanian, Z, Babak, S et al. MONTHLY NOTICES OF THE ROYAL ASTRONOMICAL SOCIETY, 510 (2022) . Cited: 43. http://dx.doi.org/10.1093/mnras/stab3418

30. 2021 Census of Interstellar, Circumstellar, Extragalactic, Protoplanetary Disk, and Exoplanetary Molecules. McGuire, BA ASTROPHYSICAL JOURNAL SUPPLEMENT SERIES, 259 (2022) 30. Cited: 39. http://dx.doi.org/10.3847/1538-4365/ac2a48

31. ❷The synchrony of production and escape: half the bright Ly alpha emitters at z approximate to 2 have Lyman continuum escape fractions approximate to 50 per cent. Naidu, RP, Matthee, J, Oesch, PA et al. MONTHLY NOTICES OF THE ROYAL ASTRONOMICAL SOCIETY, 510 (2022) . Cited: 31. http://dx.doi.org/10.1093/mnras/stab3601

32. ❷Photo-astrometric distances, extinctions, and astrophysical parameters for Gaia EDR3 stars brighter than G=18.5. Anders, F, Khalatyan, A, Queiroz, ABA et al. ASTRONOMY & ASTROPHYSICS, 658 (2022) A91. Cited: 30. http://dx.doi.org/10.1051/0004-6361/202142369

33. Stellar and substellar companions from Gaia EDR3 Proper-motion anomaly and resolved common proper-motion pairs. Kervella, P, Arenou, F, Thevenin, F et al. ASTRONOMY & ASTROPHYSICS, 657 (2022) A7. Cited: 30. http://dx.doi.org/10.1051/0004-6361/202142146

34. CMB-S4: Forecasting Constraints on Primordial Gravitational Waves. Abazajian, K, Addison, GE, Adshead, P et al. ASTROPHYSICAL JOURNAL, 926 (2022) 54. Cited: 28. http://dx.doi.org/10.3847/1538-4357/ac1596

35. The JWST Early Release Observations. Pontoppidan, KM, Barrientes, J, Blome, C et al. ASTROPHYSICAL JOURNAL LETTERS, 936 (2022) L14. Cited: 24. http://dx.doi.org/10.3847/2041-8213/ac8a4e

36. The GLASS-JWST Early Release Science Program. I. Survey Design and Release Plans. Treu, T, Roberts-Borsani, G, Bradac, M et al. ASTROPHYSICAL JOURNAL, 935 (2022) 110. Cited: 17. http://dx.doi.org/10.3847/1538-4357/ac8158

37. Electroweak precision fit and new physics in light of the W boson mass. Lu, CT, Wu, L, Wu, YC et al. PHYSICAL REVIEW D, 106 (2022) 35034. Cited: 15. http://dx.doi.org/10.1103/PhysRevD.106.035034

38. Suspicious Siblings: The Distribution of Mass and Spin across Component Black Holes in Isolated Binary Evolution. Zevin, M and Bavera, SS ASTROPHYSICAL JOURNAL, 933 (2022) 86. Cited: 14. http://dx.doi.org/10.3847/1538-4357/ac6f5d

39. MICROSCOPE. mission analysis, requirements and expected performance. Touboul, P, Rodrigues, M, Metris, G et al. CLASSICAL AND QUANTUM GRAVITY, 39 (2022) 204001. Cited: 11. http://dx.doi.org/10.1088/1361-6382/abebf1

40. MICROSCOPE instrument description and validation. Liorzou, F, Touboul, P, Rodrigues, M et al. CLASSICAL AND QUANTUM GRAVITY, 39 (2022) 204002. Cited: 10. http://dx.doi.org/10.1088/1361-6382/ac1619

41. Signs of higher multipoles and orbital precession in GW151226. Chia, HS, Olsen, S, Roulet, J et al. PHYSICAL REVIEW D, 106 (2022) 24009. Cited: 9. http://dx.doi.org/10.1103/PhysRevD.106.024009

42. Microscope instrument in-flight characterization. Chhun, R, Hardy, E, Rodrigues, M et al. CLASSICAL AND QUANTUM GRAVITY, 39 (2022) 204005. Cited: 9. http://dx.doi.org/10.1088/1361-6382/ac13b9

43. MICROSCOPE mission: data analysis principle. Berge, J, Baghi, Q, Hardy, E et al. CLASSICAL AND QUANTUM GRAVITY, 39 (2022) 204007. Cited: 9. http://dx.doi.org/10.1088/1361-6382/ac0235

44. MICROSCOPE mission scenario, ground segment and data processing. Rodrigues, M, Touboul, P, Metris, G et al. CLASSICAL AND QUANTUM GRAVITY, 39 (2022) 204004. Cited: 9. http://dx.doi.org/10.1088/1361-6382/ac4b9a

45. Result of the MICROSCOPE weak equivalence principle test. Touboul, P, Metris, G, Rodrigues, M et al. CLASSICAL AND QUANTUM GRAVITY, 39 (2022) 204009. Cited: 7. http://dx.doi.org/10.1088/1361-6382/ac84be

46. MICROSCOPE: systematic errors. Rodrigues, M, Touboul, P, Metris, G et al. CLASSICAL AND QUANTUM GRAVITY, 39 (2022) 204006. Cited: 6. http://dx.doi.org/10.1088/1361-6382/ac49f6

47. MICROSCOPE mission: statistics and impact of glitches on the test of the weak equivalence principle *. Berge, J, Baghi, Q, Robert, A et al. CLASSICAL AND QUANTUM GRAVITY, 39 (2022) 204008. Cited: 6. http://dx.doi.org/10.1088/1361-6382/ac1617

48. No Evidence that the Majority of Black Holes in Binaries Have Zero Spin. Callister, TA, Miller, SJ, Chatziioannou, K et al. ASTROPHYSICAL JOURNAL LETTERS, 937 (2022) L13. Cited: 5. http://dx.doi.org/10.3847/2041-8213/ac847e

“Materials Science, Multidisciplinary”热点论文 322 篇

1. ❷Aptamer-Functionalized DNA-Silver Nanocluster Nanofilm for Visual Detection and Elimination of Bacteria. Yang, M, Chen, X, Zhu, LJ et al. ACS APPLIED MATERIALS & INTERFACES, 13 (2021) . Cited: 868. http://dx.doi.org/10.1021/acsami.1c05751
2. ❽Non-fullerene acceptors with branched side chains and improved molecular packing to exceed 18% efficiency in organic solar cells. Li, C, Zhou, JD, Song, JL et al. NATURE ENERGY, 6 (2021) . Cited: 694. http://dx.doi.org/10.1038/s41560-021-00820-x
3. ❻Single-Junction Organic Photovoltaic Cell with 19% Efficiency. Cui, Y, Xu, Y, Yao, HF et al. ADVANCED MATERIALS, 33 (2021) 2102420. Cited: 571. http://dx.doi.org/10.1002/adma.202102420
4. ❼Lipid nanoparticles for mRNA delivery. Hou, XC, Zaks, T, Langer, R et al. NATURE REVIEWS MATERIALS, 6 (2021) . Cited: 418. http://dx.doi.org/10.1038/s41578-021-00358-0
5. ❼Boron-doped nitrogen-deficient carbon nitride-based Z-scheme heterostructures for photocatalytic overall water splitting. Zhao, DM, Wang, YQ, Dong, CL et al. NATURE ENERGY, 6 (2021) . Cited: 390. http://dx.doi.org/10.1038/s41560-021-00795-9
6. ❻Functional Hydrogels as Wound Dressing to Enhance Wound Healing. Liang, YP, He, JH, Guo, BL et al. ACS NANO, 15 (2021) . Cited: 355. http://dx.doi.org/10.1021/acsnano.1c04206
7. ❼Hollow Engineering to Co@N-Doped Carbon Nanocages via Synergistic Protecting-Etching Strategy for Ultrahigh Microwave Absorption. Liu, PB, Gao, S, Zhang, GZ et al. ADVANCED FUNCTIONAL MATERIALS, 31 (2021) 2102812. Cited: 355. http://dx.doi.org/10.1002/adfm.202102812
8. ❼An Inorganic/Organic S-Scheme Heterojunction H-2-Production Photocatalyst and its Charge Transfer Mechanism. Cheng, C, He, BW, Fan, JJ et al. ADVANCED MATERIALS, 33 (2021) 2100317. Cited: 312. http://dx.doi.org/10.1002/adma.202100317
9. ❾Lightweight, Flexible Cellulose-Derived Carbon Aerogel@Reduced Graphene Oxide/PDMS Composites with Outstanding EMI Shielding Performances and Excellent Thermal Conductivities. Song, P, Liu, B, Liang, CB et al. NANO-MICRO LETTERS, 13 (2021) 91. Cited: 306. http://dx.doi.org/10.1007/s40820-021-00624-4
10. ❸Emerging S-Scheme Photocatalyst. Zhang, LY, Zhang, JJ, Yu, HG et al. ADVANCED MATERIALS, 34 (2022) 2107668. Cited: 302. http://dx.doi.org/10.1002/adma.202107668
11. ⓫A review on 2D MoS2 cocatalysts in photocatalytic H-2 production. Liang, ZZ, Shen, RC, Ng, YH et al. JOURNAL OF MATERIALS SCIENCE & TECHNOLOGY, 56 (2020) . Cited: 300. http://dx.doi.org/10.1016/j.jmst.2020.04.032

12. ❻Clean and Affordable Hydrogen Fuel from Alkaline Water Splitting: Past, Recent Progress, and Future Prospects. Yu, ZY, Duan, Y, Feng, XY et al. ADVANCED MATERIALS, 33 (2021) 2007100. Cited: 284. http://dx.doi.org/10.1002/adma.202007100

13. ❽The success story of graphite as a lithium-ion anode material - fundamentals, remaining challenges, and recent developments including silicon (oxide) composites. Asenbauer, J, Eisenmann, T, Kuenzel, M et al. SUSTAINABLE ENERGY & FUELS, 4 (2020) . Cited: 280. http://dx.doi.org/10.1039/d0se00175a

14. ❼Dual-Dynamic-Bond Cross-Linked Antibacterial Adhesive Hydrogel Sealants with On-Demand Removability for Post-Wound-Closure and Infected Wound Healing. Liang, YQ, Li, ZL, Huang, Y et al. ACS NANO, 15 (2021) . Cited: 279. http://dx.doi.org/10.1021/acsnano.1c00204

15. ❾Diagnostics for SARS-CoV-2 infections. Kevadiya, BD, Machhi, J, Herskovitz, J et al. NATURE MATERIALS, 20 (2021) . Cited: 277. http://dx.doi.org/10.1038/s41563-020-00906-z

16. ❻Extracellular vesicles as a next-generation drug delivery platform. Herrmann, IK, Wood, MJA, Fuhrmann, G et al. NATURE NANOTECHNOLOGY, 16 (2021) . Cited: 267. http://dx.doi.org/10.1038/s41565-021-00931-2

17. ❼Friction stir welding/processing of metals and alloys: A comprehensive review on microstructural evolution. Heidarzadeh, A, Mironov, S, Kaibyshev, R et al. PROGRESS IN MATERIALS SCIENCE, 117 (2021) 100752. Cited: 258. http://dx.doi.org/10.1016/j.pmatsci.2020.100752

18. ❺Enhanced photocatalytic degradation and H-2/H2O2 production performance of S-pCN/WO2.72 S-scheme heterojunction with appropriate surface oxygen vacancies. Li, XB, Kang, BB, Dong, F et al. NANO ENERGY, 81 (2021) 105671. Cited: 254. http://dx.doi.org/10.1016/j.nanoen.2020.105671

19. ❻Post-lithium-ion battery cell production and its compatibility with lithium-ion cell production infrastructure. Duffner, F, Kronemeyer, N, Tubke, J et al. NATURE ENERGY, 6 (2021) . Cited: 248. http://dx.doi.org/10.1038/s41560-020-00748-8

20. ❸Single-junction organic solar cells with over 19% efficiency enabled by a refined double-fibril network morphology. Zhu, L, Zhang, M, Xu, JQ et al. NATURE MATERIALS, 21 (2022) . Cited: 243. http://dx.doi.org/10.1038/s41563-022-01244-y

21. ❼Heterostructured materials: superior properties from hetero-zone interaction. Zhu, YT, Ameyama, K, Anderson, PM et al. MATERIALS RESEARCH LETTERS, 9 (2021) . Cited: 242. http://dx.doi.org/10.1080/21663831.2020.1796836

22. ❸Inside-and-Out Semiconductor Engineering for CO2 Photoreduction: From Recent Advances to New Trends. Wang, SB, Han, X, Zhang, YH et al. SMALL STRUCTURES, 2 (2021) 2000061. Cited: 239. http://dx.doi.org/10.1002/sstr.202000061

23. ❻Multifunctional Magnetic Ti3C2Tx MXene/Graphene Aerogel with Superior Electromagnetic Wave Absorption Performance. Liang, LY, Li, QM, Yan, X et al. ACS NANO, 15 (2021) . Cited: 238. http://dx.doi.org/10.1021/acsnano.0c09982

24. ❼Reduced non-radiative charge recombination enables organic photovoltaic cell approaching 19% efficiency. Bi, PQ, Zhang, SQ, Chen, ZH et al. JOULE, 5 (2021) . Cited: 236. http://dx.doi.org/10.1016/j.joule.2021.06.020

25. ❻Design concept for electrocatalysts. Wang, Y, Zheng, XB, Wang, DS et al. NANO RESEARCH, 15 (2022) . Cited: 234. http://dx.doi.org/10.1007/s12274-021-3794-0

26. ❻A high-energy and long-cycling lithium-sulfur pouch cell via a macroporous catalytic cathode with double-end binding sites. Zhao, C, Xu, GL, Yu, Z et al. NATURE NANOTECHNOLOGY, 16 (2021) . Cited: 231. http://dx.doi.org/10.1038/s41565-020-00797-w

27. ❻Electrolyte Design for In Situ Construction of Highly Zn2+-Conductive Solid Electrolyte Interphase to Enable High-Performance Aqueous Zn-Ion Batteries under Practical Conditions. Zeng, XH, Mao, JF, Hao, JN et al. ADVANCED MATERIALS, 33 (2021) . Cited: 229. https://doi.org/10.1002/adma.202007416

28. ❺Surface-Preferred Crystal Plane for a Stable and Reversible Zinc Anode. Zhou, M, Guo, S, Li, JL et al. ADVANCED MATERIALS, 33 (2021) 2100187. Cited: 228. http://dx.doi.org/10.1002/adma.202100187

29. ❼Strategies for the Stabilization of Zn Metal Anodes for Zn-Ion Batteries. Yi, ZH, Chen, GY, Hou, F et al. ADVANCED ENERGY MATERIALS, 11 (2021) 2003065. Cited: 227. http://dx.doi.org/10.1002/aenm.202003065

30. ❹A comprehensive review on the state-of-the-art of piezoelectric energy harvesting. Sezer, N and Koc, M NANO ENERGY, 80 (2021) 105567. Cited: 227. http://dx.doi.org/10.1016/j.nanoen.2020.105567

31. ❺Toward Practical High-Areal-Capacity Aqueous Zinc-Metal Batteries: Quantifying Hydrogen Evolution and a Solid-Ion Conductor for Stable Zinc Anodes. Ma, LT, Li, Q, Ying, YR et al. ADVANCED MATERIALS, 33 (2021) 2007406. Cited: 226. http://dx.doi.org/10.1002/adma.202007406

32. ❻State of the Art and Prospects for Halide Perovskite Nanocrystals. Dey, A, Ye, JZ, De, A et al. ACS NANO, 15 (2021) . Cited: 224. http://dx.doi.org/10.1021/acsnano.0c08903

33. ❻The Fe Effect: A review unveiling the critical roles of Fe in enhancing OER activity of Ni and Co based catalysts. Anantharaj, S, Kundu, S, Noda, S et al. NANO ENERGY, 80 (2021) 105514. Cited: 220. http://dx.doi.org/10.1016/j.nanoen.2020.105514

34. ❼Rapid, Ultrasensitive, and Quantitative Detection of SARS-CoV-2 Using Antisense Oligonucleotides Directed Electrochemical Biosensor Chip. Alafeef, M, Dighe, K, Moitra, P et al. ACS NANO, 14 (2020) . Cited: 218. http://dx.doi.org/10.1021/acsnano.0c06392

35. ❺Fluorinated interphase enables reversible aqueous zinc battery chemistries. Cao, LS, Li, D, Pollard, T et al. NATURE NANOTECHNOLOGY, 16 (2021) . Cited: 217. http://dx.doi.org/10.1038/s41565-021-00905-4

36. ❺Efficient Photocatalytic Overall Water Splitting Induced by the Giant Internal Electric Field of a g-C3N4/rGO/PDIP Z-Scheme Heterojunction. Chen, XJ, Wang, J, Chai, YQ et al. ADVANCED MATERIALS, 33 (2021) 2007479. Cited: 215. http://dx.doi.org/10.1002/adma.202007479

37. ❹In situ Irradiated XPS Investigation on S-Scheme TiO2@ZnIn2S4 Photocatalyst for Efficient Photocatalytic CO2 Reduction. Wang, LB, Cheng, B, Zhang, LY et al. SMALL, 17 (2021) 2103447. Cited: 212. http://dx.doi.org/10.1002/smll.202103447

38. ❼Two-dimensional Ruddlesden-Popper layered perovskite solar cells based on phase-pure thin films. Liang, C, Gu, H, Xia, YD et al. NATURE ENERGY, 6 (2021) . Cited: 211. http://dx.doi.org/10.1038/s41560-020-00721-5

39. ❹C-, N-Vacancy defect engineered polymeric carbon nitride towards photocatalysis: viewpoints and challenges. Kumar, A, Raizada, P, Hosseini-Bandegharaei, A et al. JOURNAL OF MATERIALS CHEMISTRY A, 9 (2021) . Cited: 211. http://dx.doi.org/10.1039/d0ta08384d

40. ❹Mechanical behavior of high-entropy alloys. Li, WD, Xie, D, Li, DY et al. PROGRESS IN MATERIALS SCIENCE, 118 (2021) 100777. Cited: 210. http://dx.doi.org/10.1016/j.pmatsci.2021.100777

41. ❺Poly(N-isopropylacrylamide)-based smart hydrogels: Design, properties and applications. Tang, L, Wang, L, Yang, X et al. PROGRESS IN MATERIALS SCIENCE, 115 (2021) 100702. Cited: 209. http://dx.doi.org/10.1016/j.pmatsci.2020.100702

42. ❺A Brief History of OLEDs-Emitter Development and Industry Milestones. Hong, G, Gan, XM, Leonhardt, C et al. ADVANCED MATERIALS, 33 (2021) 2005630. Cited: 208. http://dx.doi.org/10.1002/adma.202005630

43. ❹Nanocatalytic Theranostics with Glutathione Depletion and Enhanced Reactive Oxygen Species Generation for Efficient Cancer Therapy. Fu, LH, Wan, YL, Qi, C et al. ADVANCED MATERIALS, 33 (2021) 2006892. Cited: 207. http://dx.doi.org/10.1002/adma.202006892

44. ❻Lithium-ion batteries - Current state of the art and anticipated developments. Armand, M, Axmann, P, Bresser, D et al. JOURNAL OF POWER SOURCES, 479 (2020) 228708. Cited: 203. http://dx.doi.org/10.1016/j.jpowsour.2020.228708

45. ❾Recent progress of chemodynamic therapy-induced combination cancer therapy. Wang, XW, Zhong, XY, Liu, Z et al. NANO TODAY, 35 (2020) 100946. Cited: 202. http://dx.doi.org/10.1016/j.nantod.2020.100946

46. ❾Intact 2D/3D halide junction perovskite solar cells via solid-phase in-plane growth. Jang, YW, Lee, S, Yeom, KM et al. NATURE ENERGY, 6 (2021) . Cited: 201. http://dx.doi.org/10.1038/s41560-020-00749-7

47. ❼Low-Dimensional Metal Halide Perovskite Photodetectors. Wang, HP, Li, SY, Liu, XY et al. ADVANCED MATERIALS, 33 (2021) 2003309. Cited: 200. http://dx.doi.org/10.1002/adma.202003309

48. ❻Electrospinning for tissue engineering applications. Rahmati, M, Mills, DK, Urbanska, AM et al. PROGRESS IN MATERIALS SCIENCE, 117 (2021) 100721. Cited: 199. http://dx.doi.org/10.1016/j.pmatsci.2020.100721

49. ❺Metal-Organic Frameworks Derived Functional Materials for Electrochemical Energy Storage and Conversion: A Mini Review. Lu, XF, Fang, YJ, Luan, DY et al. NANO LETTERS, 21 (2021) . Cited: 199. http://dx.doi.org/10.1021/acs.nanolett.0c04898

50. ❻Flexible Sandwich-Structured Electromagnetic Interference Shielding Nanocomposite Films with Excellent Thermal Conductivities. Zhang, YL, Ruan, KP, Gu, JW et al. SMALL, 17 (2021) 2101951. Cited: 196. http://dx.doi.org/10.1002/smll.202101951

51. ❸Metal additive manufacturing in aerospace: A review. Blakey-Milner, B, Gradl, P, Snedden, G et al. MATERIALS & DESIGN, 209 (2021) 110008. Cited: 196. http://dx.doi.org/10.1016/j.matdes.2021.110008

52. ❺Tandem Organic Solar Cell with 20.2% Efficiency. Zheng, Z, Wang, JQ, Bi, PQ et al. JOULE, 6 (2022) . Cited: 196. http://dx.doi.org/10.1016/j.joule.2021.12.017

53. ❽Surface Engineering of Ambient-Air-Processed Cesium Lead Triiodide Layers for Efficient Solar Cells. Yoon, SM, Min, H, Kim, JB et al. JOULE, 5 (2021) . Cited: 195. http://dx.doi.org/10.1016/j.joule.2020.11.020

54. ❺Lipid Nanoparticles-From Liposomes to mRNA Vaccine Delivery, a Landscape of Research Diversity and Advancement. Tenchov, R, Bird, R, Curtze, AE et al. ACS NANO, 15 (2021) . Cited: 193. http://dx.doi.org/10.1021/acsnano.1c04996

55. ❺Key principles and methods for studying the endocytosis of biological and nanoparticle therapeutics. Rennick, JJ, Johnston, APR, Parton, RG et al. NATURE NANOTECHNOLOGY, 16 (2021) . Cited: 190. http://dx.doi.org/10.1038/s41565-021-00858-8

56. ❸ZnS-SnS@NC Heterostructure as Robust Lithiophilicity and Sulfiphilicity Mediator toward High-Rate and Long-Life Lithium-Sulfur Batteries. Yao, WQ, Zheng, WZ, Xu, J et al. ACS NANO, 15 (2021) . Cited: 190. http://dx.doi.org/10.1021/acsnano.1c00270

57. ❸Multifunctional Latex/Polytetrafluoroethylene-Based Triboelectric Nanogenerator for Self-Powered Organ-like MXene/Metal-Organic Framework-Derived CuO Nanohybrid Ammonia Sensor. Wang, DY, Zhang, DZ, Yang, Y et al. ACS NANO, 15 (2021) . Cited: 188. http://dx.doi.org/10.1021/acsnano.0c09015

58. ❻Permeable superelastic liquid-metal fibre mat enables biocompatible and monolithic stretchable electronics. Ma, ZJ, Huang, QY, Xu, Q et al. NATURE MATERIALS, 20 (2021) . Cited: 188. http://dx.doi.org/10.1038/s41563-020-00902-3

59. ❺The Colony Predation Algorithm. Tu, J, Chen, HL, Wang, MJ et al. JOURNAL OF BIONIC ENGINEERING, 18 (2021) . Cited: 185. http://dx.doi.org/10.1007/s42235-021-0050-y

60. ❺The current landscape of nucleic acid therapeutics. Kulkarni, JA, Witzigmann, D, Thomson, SB et al. NATURE NANOTECHNOLOGY, 16 (2021) . Cited: 185. http://dx.doi.org/10.1038/s41565-021-00898-0

61. ❹On the sustainability of lithium ion battery industry-A review and perspective. Yang, Y, Okonkwo, EG, Huang, GY et al. ENERGY STORAGE MATERIALS, 36 (2021) . Cited: 185. http://dx.doi.org/10.1016/j.ensm.2020.12.019

62. ❹Graphene bilayers with a twist. Andrei, EY and MacDonald, AH NATURE MATERIALS, 19 (2020) . Cited: 184. http://dx.doi.org/10.1038/s41563-020-00840-0

63. ❸Engineering organoids. Hofer, M and Lutolf, MP NATURE REVIEWS MATERIALS, 6 (2021) . Cited: 184. http://dx.doi.org/10.1038/s41578-021-00279-y

64. ❺Defects in additive manufactured metals and their effect on fatigue performance: A state-of-the-art review. Sanaei, N and Fatemi, A PROGRESS IN MATERIALS SCIENCE, 117 (2021) 100724. Cited: 182. http://dx.doi.org/10.1016/j.pmatsci.2020.100724

65. ❸Opportunities and Challenges of Lithium Ion Batteries in Automotive Applications. Masias, A, Marcicki, J, Paxton, WA et al. ACS ENERGY LETTERS, 6 (2021) . Cited: 181. http://dx.doi.org/10.1021/acsenergylett.0c02584

66. ❻Fabrication, mechanisms and perspectives of conductive polymer composites with multiple interfaces for electromagnetic interference shielding: A review. Wang, M, Tang, XH, Cai, JH et al. CARBON, 177 (2021) . Cited: 180. http://dx.doi.org/10.1016/j.carbon.2021.02.047

67. ❹Rational Design and General Synthesis of Multimetallic Metal-Organic Framework Nano-Octahedra for Enhanced Li-S Battery. Li, WT, Guo, XT, Geng, PB et al. ADVANCED MATERIALS, 33 (2021) 2105163. Cited: 178. http://dx.doi.org/10.1002/adma.202105163

68. ❷A review on graphitic carbon nitride (g-C3N4) based nanocomposites: Synthesis, categories, and their application in photocatalysis. Ismael, M JOURNAL OF ALLOYS AND COMPOUNDS, 846 (2020) 156446. Cited: 178. http://dx.doi.org/10.1016/j.jallcom.2020.156446

69. ❸Recent advances in anion doped g-C3N4 photocatalysts: A review. Patnaik, S, Sahoo, DP, Parida, K et al. CARBON, 172 (2021) . Cited: 177. http://dx.doi.org/10.1016/j.carbon.2020.10.073

70. ❺Machine learning in additive manufacturing: State-of-the-art and perspectives. Wang, C, Tan, XP, Tor, SB et al. ADDITIVE MANUFACTURING, 36 (2020) 101538. Cited: 177. http://dx.doi.org/10.1016/j.addma.2020.101538

71. ❸Recent Progress on Nanocellulose Aerogels: Preparation, Modification, Composite Fabrication, Applications. Chen, YM, Zhang, L, Yang, Y et al. ADVANCED MATERIALS, 33 (2021) 2005569. Cited: 176. http://dx.doi.org/10.1002/adma.202005569

72. ❼Unconventional chiral charge order in kagome superconductor KV3Sb5. Jiang, YX, Yin, JX, Denner, MM et al. NATURE MATERIALS, 20 (2021) . Cited: 176. http://dx.doi.org/10.1038/s41563-021-01034-y

73. ❺Ten Years of Progress in the Synthesis and Development of MXenes. Naguib, M, Barsoum, MW, Gogotsi, Y et al. ADVANCED MATERIALS, 33 (2021) 2103393. Cited: 175. http://dx.doi.org/10.1002/adma.202103393

74. ❹Fundamentals, status and promise of sodium-based batteries. Usiskin, R, Lu, YX, Popovic, J et al. NATURE REVIEWS MATERIALS, 6 (2021) . Cited: 174. http://dx.doi.org/10.1038/s41578-021-00324-w

75. ❷Anode Materials for Aqueous Zinc Ion Batteries: Mechanisms, Properties, and Perspectives. Wang, TT, Li, CP, Xie, XS et al. ACS NANO, 14 (2020) . Cited: 173. http://dx.doi.org/10.1021/acsnano.0c07041

76. ❹Realizing 19.05% Efficiency Polymer Solar Cells by Progressively Improving Charge Extraction and Suppressing Charge Recombination. Chong, KE, Xu, XP, Meng, HF et al. ADVANCED MATERIALS, 34 (2022) 2109516. Cited: 172. http://dx.doi.org/10.1002/adma.202109516

77. ❹Step-scheme CdS/TiO2 nanocomposite hollow microsphere with enhanced photocatalytic CO2 reduction activity. Wang, ZL, Chen, YF, Zhang, LY et al. JOURNAL OF MATERIALS SCIENCE & TECHNOLOGY, 56 (2020) . Cited: 171. http://dx.doi.org/10.1016/j.jmst.2020.02.062

78. ❺Electrolyte Strategies toward Better Zinc-Ion Batteries. Liu, CX, Xie, XS, Lu, BG et al. ACS ENERGY LETTERS, 6 (2021) . Cited: 171. http://dx.doi.org/10.1021/acsenergylett.0c02684

79. ❺Review on the electromagnetic interference shielding properties of carbon based materials and their novel composites: Recent progress, challenges and prospects. Wu, NN, Hu, Q, Wei, RB et al. CARBON, 176 (2021) . Cited: 167. http://dx.doi.org/10.1016/j.carbon.2021.01.124

80. ❸Solid-State Li-Metal Batteries: Challenges and Horizons of Oxide and Sulfide Solid Electrolytes and Their Interfaces. Kim, KJ, Balaish, M, Wadaguchi, M et al. ADVANCED ENERGY MATERIALS, 11 (2021) 2002689. Cited: 167. http://dx.doi.org/10.1002/aenm.202002689

81. ❺Tailoring electrolyte solvation for Li metal batteries cycled at ultra-low temperature. Holoubek, J, Liu, HD, Wu, ZH et al. NATURE ENERGY, 6 (2021) . Cited: 165. http://dx.doi.org/10.1038/s41560-021-00783-z

82. ❸Metal Halide Perovskites for X-ray Imaging Scintillators and Detectors. Zhou, Y, Chen, J, Bakr, OM et al. ACS ENERGY LETTERS, 6 (2021) . Cited: 164. http://dx.doi.org/10.1021/acsenergylett.0c02430

83. ❼Achieving over 17% efficiency of ternary all-polymer solar cells with two well-compatible polymer acceptors. Sun, R, Wang, W, Yu, H et al. JOULE, 5 (2021) . Cited: 164. http://dx.doi.org/10.1016/j.joule.2021.04.007

84. ❺Pt Single Atoms Supported on N-Doped Mesoporous Hollow Carbon Spheres with Enhanced Electrocatalytic H-2-Evolution Activity. Kuang, PY, Wang, YR, Zhu, BC et al. ADVANCED MATERIALS, 33 (2021) 2008599. Cited: 164. http://dx.doi.org/10.1002/adma.202008599

85. ❸MIL-101-Derived Mesoporous Carbon Supporting Highly Exposed Fe Single-Atom Sites as Efficient Oxygen Reduction Reaction Catalysts. Xie, XY, Peng, LS, Yang, HZ et al. ADVANCED MATERIALS, 33 (2021) 2101038. Cited: 162. http://dx.doi.org/10.1002/adma.202101038

86. ❹A review on the recent advances in hybrid supercapacitors. Chatterjee, DP and Nandi, AK JOURNAL OF MATERIALS CHEMISTRY A, 9 (2021) . Cited: 162. http://dx.doi.org/10.1039/d1ta02505h

87. ❷Thermoelectric cooling materials. Mao, J, Chen, G, Ren, ZF et al. NATURE MATERIALS, 20 (2021) . Cited: 161. http://dx.doi.org/10.1038/s41563-020-00852-w

88. ❹Photoluminescent and Chromic Nanomaterials for Anticounterfeiting Technologies: Recent Advances and Future Challenges. Abdollahi, A, Roghani-Mamaqani, H, Razavi, B et al. ACS NANO, 14 (2020) . Cited: 159. http://dx.doi.org/10.1021/acsnano.0c07289

89. ❷Hydrogen production from water electrolysis: role of catalysts. Wang, S, Lu, AL, Zhong, CJ et al. NANO CONVERGENCE, 8 (2021) 4. Cited: 159. http://dx.doi.org/10.1186/s40580-021-00254-x

90. ❸Alleviation of Dendrite Formation on Zinc Anodes via Electrolyte Additives. Guo, XX, Zhang, ZY, Li, JW et al. ACS ENERGY LETTERS, 6 (2021) . Cited: 159. http://dx.doi.org/10.1021/acsenergylett.0c02371

91. ❸Advances in Lithium-Sulfur Batteries: From Academic Research to Commercial Viability. Chen, Y, Wang, TY, Tian, HJ et al. ADVANCED MATERIALS, 33 (2021) 2003666. Cited: 158. http://dx.doi.org/10.1002/adma.202003666

92. ❺Nanozymes: A clear definition with fuzzy edges. Wei, H, Gao, LZ, Fan, KL et al. NANO TODAY, 40 (2021) 101269. Cited: 156. http://dx.doi.org/10.1016/j.nantod.2021.101269

93. ❸Nanochemistry approach for the fabrication of Fe and N co-decorated biomass-derived activated carbon frameworks: a promising oxygen reduction reaction electrocatalyst in neutral media. Karimi-Maleh, H, Karaman, C, Karaman, O et al. JOURNAL OF NANOSTRUCTURE IN CHEMISTRY, 12 (2022) . Cited: 156. http://dx.doi.org/10.1007/s40097-022-00492-3

94. ❻Construction of 1D Heterostructure NiCo@C/ZnO Nanorod with Enhanced Microwave Absorption. Wang, JW, Jia, ZR, Liu, XH et al. NANO-MICRO LETTERS, 13 (2021) 175. Cited: 156. http://dx.doi.org/10.1007/s40820-021-00704-5

95. ❷Rare-Earth Single-Atom La-N Charge-Transfer Bridge on Carbon Nitride for Highly Efficient and Selective Photocatalytic CO2 Reduction. Chen, P, Lei, B, Dong, XA et al. ACS NANO, 14 (2020) . Cited: 156. http://dx.doi.org/10.1021/acsnano.0c07083

96. ❷Redox flow batteries: Status and perspective towards sustainable stationary energy storage. Sanchez-Diez, E, Ventosa, E, Guarnieri, M et al. JOURNAL OF POWER SOURCES, 481 (2021) 228804. Cited: 156. http://dx.doi.org/10.1016/j.jpowsour.2020.228804

97. ❸Recent Development of Oxygen Evolution Electrocatalysts in Acidic Environment. An, L, Wei, C, Lu, M et al. ADVANCED MATERIALS, 33 (2021) 2006328. Cited: 156. http://dx.doi.org/10.1002/adma.202006328

98. ❸Synergistic Manipulation of Zn2+ Ion Flux and Desolvation Effect Enabled by Anodic Growth of a 3D ZnF2 Matrix for Long-Lifespan and Dendrite-Free Zn Metal Anodes. Yang, Y, Liu, CY, Lv, ZH et al. ADVANCED MATERIALS, 33 (2021) 2007388. Cited: 151. http://dx.doi.org/10.1002/adma.202007388

99. ❷Intermolecular interaction characteristics of the all-carboatomic ring, cyclo[18]carbon: Focusing on molecular adsorption and stacking. Liu, ZY, Lu, T, Chen, QX et al. CARBON, 171 (2021) . Cited: 151. http://dx.doi.org/10.1016/j.carbon.2020.09.048

100. ❻Polycrystalline SnSe with a thermoelectric figure of merit greater than the single crystal. Zhou, CJ, Lee, YK, Yu, Y et al. NATURE MATERIALS, 20 (2021) . Cited: 150. http://dx.doi.org/10.1038/s41563-021-01064-6

101. ❸Tailoring inorganic-polymer composites for the mass production of solid-state batteries. Fan, LZ, He, HC, Nan, CW et al. NATURE REVIEWS MATERIALS, 6 (2021) . Cited: 149. http://dx.doi.org/10.1038/s41578-021-00320-0

102. ❸Emerging of Heterostructure Materials in Energy Storage: A Review. Li, Y, Zhang, JW, Chen, QG et al. ADVANCED MATERIALS, 33 (2021) 2100855. Cited: 149. http://dx.doi.org/10.1002/adma.202100855

103. ❷Self-Powered MXene/GaN van der Waals Heterojunction Ultraviolet Photodiodes with Superhigh Efficiency and Stable Current Outputs. Song, WD, Chen, JX, Li, ZL et al. ADVANCED MATERIALS, 33 (2021) 2101059. Cited: 147. http://dx.doi.org/10.1002/adma.202101059

104. ❸Janus (BNNS/ANF)-(AgNWs/ANF) thermal conductivity composite films with superior electromagnetic interference shielding and Joule heating performances. Han, YX, Ruan, KP, Gu, JW et al. NANO RESEARCH, 15 (2022) . Cited: 147. http://dx.doi.org/10.1007/s12274-022-4159-z

105. ❷Molecular Imprinting: Green Perspectives and Strategies. Arabi, M, Ostovan, A, Li, JH et al. ADVANCED MATERIALS, 33 (2021) 2100543. Cited: 146. http://dx.doi.org/10.1002/adma.202100543

106. Designing MOF Nanoarchitectures for Electrochemical Water Splitting. Zhang, B, Zheng, YJ, Ma, T et al. ADVANCED MATERIALS, 33 (2021) 2006042. Cited: 145. http://dx.doi.org/10.1002/adma.202006042

107. ❸Rational Design of Multi-Color-Emissive Carbon Dots in a Single Reaction System by Hydrothermal. Wang, BY, Yu, JK, Sui, LZ et al. ADVANCED SCIENCE, 8 (2021) 2001453. Cited: 143. http://dx.doi.org/10.1002/advs.202001453

108. ❹Heterointerface Engineering in Electromagnetic Absorbers: New Insights and Opportunities. Liang, LL, Gu, WH, Wu, Y et al. ADVANCED MATERIALS, 34 (2022) 2106195. Cited: 143. http://dx.doi.org/10.1002/adma.202106195

109. ❷Advances in the Synthesis of 2D MXenes. Wei, Y, Zhang, P, Soomro, RA et al. ADVANCED MATERIALS, 33 (2021) 2103148. Cited: 142. http://dx.doi.org/10.1002/adma.202103148

110. ❷Integrated S-Scheme Heterojunction of Amine-Functionalized 1D CdSe Nanorods Anchoring on Ultrathin 2D SnNb2O6 Nanosheets for Robust Solar-Driven CO2 Conversion. Ke, XC, Zhang, JF, Dai, K et al. SOLAR RRL, 5 (2021) 2000805. Cited: 142. http://dx.doi.org/10.1002/solr.202000805

111. ❸Solutions to the Drawbacks of Photothermal and Photodynamic Cancer Therapy. Deng, XY, Shao, ZW, Zhao, YL et al. ADVANCED SCIENCE, 8 (2021) 2002504. Cited: 142. http://dx.doi.org/10.1002/advs.202002504

112. ❹Chemical vapour deposition of Fe-N-C oxygen reduction catalysts with full utilization of dense Fe-N-4 sites. Jiao, L, Li, JK, Richard, LL et al. NATURE MATERIALS, 20 (2021) . Cited: 141. http://dx.doi.org/10.1038/s41563-021-01030-2

113. ❺Fast Charging of Lithium-Ion Batteries: A Review of Materials Aspects. Weiss, M, Ruess, R, Kasnatscheew, J et al. ADVANCED ENERGY MATERIALS, 11 (2021) 2101126. Cited: 140. http://dx.doi.org/10.1002/aenm.202101126

114. ❺pH-Buffer Contained Electrolyte for Self-Adjusted Cathode-Free Zn-MnO2 Batteries with Coexistence of Dual Mechanisms. Liu, ZX, Yang, YQ, Liang, SQ et al. SMALL STRUCTURES, 2 (2021) 2100119. Cited: 140. http://dx.doi.org/10.1002/sstr.202100119

115. Hard Carbon Anodes: Fundamental Understanding and Commercial Perspectives for Na-Ion Batteries beyond Li-Ion and K-Ion Counterparts. Zhao, LF, Hu, Z, Lai, WH et al. ADVANCED ENERGY MATERIALS, 11 (2021) 2002704. Cited: 139. http://dx.doi.org/10.1002/aenm.202002704

116. Manipulating Crystallographic Orientation of Zinc Deposition for Dendrite-free Zinc Ion Batteries. Cao, J, Zhang, DD, Gu, C et al. ADVANCED ENERGY MATERIALS, 11 (2021) 2101299. Cited: 138. http://dx.doi.org/10.1002/aenm.202101299

117. ❹Ti3C2Tx/rGO porous composite films with superior electromagnetic interference shielding performances. Zhang, YL, Ruan, KP, Shi, XT et al. CARBON, 175 (2021) . Cited: 138. http://dx.doi.org/10.1016/j.carbon.2020.12.084

118. ❸Challenges and Recent Advances in High Capacity Li-Rich Cathode Materials for High Energy Density Lithium-Ion Batteries. He, W, Guo, WB, Wu, HL et al. ADVANCED MATERIALS, 33 (2021) 2005937. Cited: 137. http://dx.doi.org/10.1002/adma.202005937

119. ❹Nanogenerators for smart cities in the era of 5G and Internet of Things. Zhao, X, Askari, H, Chen, J et al. JOULE, 5 (2021) . Cited: 135. http://dx.doi.org/10.1016/j.joule.2021.03.013

120. ❷Electrospinning of Flexible Poly(vinyl alcohol)/MXene Nanofiber-Based Humidity Sensor Self-Powered by Monolayer Molybdenum Diselenide Piezoelectric Nanogenerator. Wang, DY, Zhang, DZ, Li, P et al. NANO-MICRO LETTERS, 13 (2021) 57. Cited: 133. http://dx.doi.org/10.1007/s40820-020-00580-5

121. ❸An Artificial Polyacrylonitrile Coating Layer Confining Zinc Dendrite Growth for Highly Reversible Aqueous Zinc-Based Batteries. Chen, P, Yuan, XH, Xia, YB et al. ADVANCED SCIENCE, 8 (2021) 2100309. Cited: 133. http://dx.doi.org/10.1002/advs.202100309

122. ❷2D g-C3N4 for advancement of photo-generated carrier dynamics: Status and challenges. Li, YH, Gu, ML, Zhang, XM et al. MATERIALS TODAY, 41 (2020) . Cited: 132. http://dx.doi.org/10.1016/j.mattod.2020.09.004

123. ❺Perovskite Light-Emitting Diodes with EQE Exceeding 28% through a Synergetic Dual-Additive Strategy for Defect Passivation and Nanostructure Regulation. Liu, Z, Qiu, WD, Peng, XM et al. ADVANCED MATERIALS, 33 (2021) 2103268. Cited: 131. http://dx.doi.org/10.1002/adma.202103268

124. Realizing an All-Round Hydrogel Electrolyte toward Environmentally Adaptive Dendrite-Free Aqueous Zn-MnO2 Batteries. Chen, MF, Chen, JZ, Zhou, WJ et al. ADVANCED MATERIALS, 33 (2021) 2007559. Cited: 130. http://dx.doi.org/10.1002/adma.202007559

125. ❷Dimensional Design and Core-Shell Engineering of Nanomaterials for Electromagnetic Wave Absorption. Wu, ZC, Cheng, HW, Jin, C et al. ADVANCED MATERIALS, 34 (2022) 2107538. Cited: 130. http://dx.doi.org/10.1002/adma.202107538

126. ❷A Critical Review on Ultraviolet Disinfection Systems against COVID-19 Outbreak: Applicability, Validation, and Safety Considerations. Raeiszadeh, M and Adeli, B ACS PHOTONICS, 7 (2020) . Cited: 130. http://dx.doi.org/10.1021/acsphotonics.0c01245

127. ❸Heterogeneous 2D/3D Tin-Halides Perovskite Solar Cells with Certified Conversion Efficiency Breaking 14%. Yu, BB, Chen, ZH, Zhu, YD et al. ADVANCED MATERIALS, 33 (2021) 2102055. Cited: 129. http://dx.doi.org/10.1002/adma.202102055

128. ❺Epitaxial growth of wafer-scale molybdenum disulfide semiconductor single crystals on sapphire. Li, TT, Guo, W, Ma, L et al. NATURE NANOTECHNOLOGY, 16 (2021) . Cited: 129. http://dx.doi.org/10.1038/s41565-021-00963-8

129. ❻The Main Progress of Perovskite Solar Cells in 2020-2021. Wu, TH, Qin, ZZ, Wang, YB et al. NANO-MICRO LETTERS, 13 (2021) 152. Cited: 128. http://dx.doi.org/10.1007/s40820-021-00672-w

130. ❷Structural engineering and surface modification of MOF-derived cobalt-based hybrid nanosheets for flexible solid-state supercapacitors. Liu, SD, Kang, L, Zhang, J et al. ENERGY STORAGE MATERIALS, 32 (2020) . Cited: 127. http://dx.doi.org/10.1016/j.ensm.2020.07.017

131. Recent Progress in Organic Photodetectors and their Applications. Ren, H, Chen, JD, Li, YQ et al. ADVANCED SCIENCE, 8 (2021) 2002418. Cited: 126. http://dx.doi.org/10.1002/advs.202002418

132. ❻Structural Design Strategies of Polymer Matrix Composites for Electromagnetic Interference Shielding: A Review. Liang, CB, Gu, ZJ, Zhang, YL et al. NANO-MICRO LETTERS, 13 (2021) 181. Cited: 126. http://dx.doi.org/10.1007/s40820-021-00707-2

133. ❷Multifunctional applications of biochar beyond carbon storage. Bolan, N, Hoang, SA, Beiyuan, JZ et al. INTERNATIONAL MATERIALS REVIEWS, 67 (2022) . Cited: 126. http://dx.doi.org/10.1080/09506608.2021.1922047

134. ❸Nanoarchitectonics: what's coming next after nanotechnology?. Ariga, K NANOSCALE HORIZONS, 6 (2021) . Cited: 124. http://dx.doi.org/10.1039/d0nh00680g

135. ❷Surface post-treatments for metal additive manufacturing: Progress, challenges, and opportunities. Maleki, E, Bagherifard, S, Bandini, M et al. ADDITIVE MANUFACTURING, 37 (2021) 101619. Cited: 123. http://dx.doi.org/10.1016/j.addma.2020.101619

136. ❹Reactive boride infusion stabilizes Ni-rich cathodes for lithium-ion batteries. Yoon, M, Dong, YH, Hwang, J et al. NATURE ENERGY, 6 (2021) . Cited: 122. http://dx.doi.org/10.1038/s41560-021-00782-0

137. ❸pH/Glucose Dual Responsive Metformin Release Hydrogel Dressings with Adhesion and Self-Healing via Dual-Dynamic Bonding for Athletic Diabetic Foot Wound Healing. Liang, YP, Li, M, Yang, YT et al. ACS NANO, 16 (2022) . Cited: 122. http://dx.doi.org/10.1021/acsnano.1c11040

138. ❸High-Capacity and Kinetically Accelerated Lithium Storage in MoO3 Enabled by Oxygen Vacancies and Heterostructure. Zhang, YY, Chen, P, Wang, QY et al. ADVANCED ENERGY MATERIALS, 11 (2021) 2101712. Cited: 122. http://dx.doi.org/10.1002/aenm.202101712

139. ❸Electromagnetic absorber converting radiation for multifunction. Zhang, M, Cao, MS, Shu, JC et al. MATERIALS SCIENCE & ENGINEERING R-REPORTS, 145 (2021) 100627. Cited: 122. http://dx.doi.org/10.1016/j.mser.2021.100627

140. ❸Direct Observation on p- to n-Type Transformation of Perovskite Surface Region during Defect Passivation Driving High Photovoltaic Efficiency. Xiong, SB, Hou, ZY, Zou, SJ et al. JOULE, 5 (2021) . Cited: 122. http://dx.doi.org/10.1016/j.joule.2020.12.009

141. ❹Advanced Nanocellulose-Based Composites for Flexible Functional Energy Storage Devices. Xu, T, Du, HS, Liu, HY et al. ADVANCED MATERIALS, 33 (2021) 2101368. Cited: 122. http://dx.doi.org/10.1002/adma.202101368

142. ❺Ultra-high-voltage Ni-rich layered cathodes in practical Li metal batteries enabled by a sulfonamide-based electrolyte. Xue, WJ, Huang, MJ, Li, YT et al. NATURE ENERGY, 6 (2021) . Cited: 121. http://dx.doi.org/10.1038/s41560-021-00792-y

143. ❷The light of carbon dots: From mechanism to applications. Wang, BY and Lu, SY MATTER, 5 (2022) . Cited: 121. http://dx.doi.org/10.1016/j.matt.2021.10.016

144. Hydrogel soft robotics. Lee, Y, Song, WJ, Sun, JY et al. MATERIALS TODAY PHYSICS, 15 (2020) 100258. Cited: 121. http://dx.doi.org/10.1016/j.mtphys.2020.100258

145. High-Entropy Metal Sulfide Nanoparticles Promise High-Performance Oxygen Evolution Reaction. Cui, MJ, Yang, CP, Li, BY et al. ADVANCED ENERGY MATERIALS, 11 (2021) 2002887. Cited: 120. http://dx.doi.org/10.1002/aenm.202002887

146. Hierarchical Co and Nb dual-doped MoS2 nanosheets shelled micro-TiO2 hollow spheres as effective multifunctional electrocatalysts for HER, OER, and ORR. Nguyen, DC, Doan, TLL, Prabhakaran, S et al. NANO ENERGY, 82 (2021) 105750. Cited: 118. http://dx.doi.org/10.1016/j.nanoen.2021.105750

147. ❷Single-Junction Organic Solar Cells with 19.17% Efficiency Enabled by Introducing One Asymmetric Guest Acceptor. Sun, R, Wu, Y, Yang, XR et al. ADVANCED MATERIALS, 34 (2022) 2110147. Cited: 117. http://dx.doi.org/10.1002/adma.202110147

148. ❹The point defect and electronic structure of K doped LaCo0.9Fe0.1O3 perovskite with enhanced microwave absorbing ability. Wang, F, Gu, WH, Chen, JB et al. NANO RESEARCH, 15 (2022) . Cited: 117. http://dx.doi.org/10.1007/s12274-021-3955-1

149. ❸MIL-96-Al for Li-S Batteries: Shape or Size?. Geng, PB, Wang, L, Du, M et al. ADVANCED MATERIALS, 34 (2022) 2107836. Cited: 117. http://dx.doi.org/10.1002/adma.202107836

150. Theoretical Insights into the Mechanism of Selective Nitrate-to-Ammonia Electroreduction on Single-Atom Catalysts. Niu, H, Zhang, ZF, Wang, XT et al. ADVANCED FUNCTIONAL MATERIALS, 31 (2021) 2008533. Cited: 116. http://dx.doi.org/10.1002/adfm.202008533

151. ❹Volatilizable Solid Additive-Assisted Treatment Enables Organic Solar Cells with Efficiency over 18.8% and Fill Factor Exceeding 80%. Bao, SN, Yang, H, Fan, HY et al. ADVANCED MATERIALS, 33 (2021) 2105301. Cited: 116. http://dx.doi.org/10.1002/adma.202105301

152. ❸Stability challenges of electrocatalytic oxygen evolution reaction: From mechanistic understanding to reactor design. Chen, FY, Wu, ZY, Adler, Z et al. JOULE, 5 (2021) . Cited: 115. http://dx.doi.org/10.1016/j.joule.2021.05.005

153. Stabilizing Zinc Anodes by Regulating the Electrical Double Layer with Saccharin Anions. Huang, C, Zhao, X, Liu, S et al. ADVANCED MATERIALS, 33 (2021) 2100445. Cited: 115. http://dx.doi.org/10.1002/adma.202100445

154. A-Site Management Prompts the Dynamic Reconstructed Active Phase of Perovskite Oxide OER Catalysts. Sun, Y, Li, R, Chen, XX et al. ADVANCED ENERGY MATERIALS, 11 (2021) 2003755. Cited: 114. http://dx.doi.org/10.1002/aenm.202003755

155. ❹Pt/Fe2O3 with Pt-Fe pair sites as a catalyst for oxygen reduction with ultralow Pt loading. Gao, RJ, Wang, J, Huang, ZF et al. NATURE ENERGY, 6 (2021) . Cited: 112. http://dx.doi.org/10.1038/s41560-021-00826-5

156. Halide Perovskite Semiconductor Lasers: Materials, Cavity Design, and Low Threshold. Zhang, Q, Shang, QY, Su, R et al. NANO LETTERS, 21 (2021) . Cited: 112. http://dx.doi.org/10.1021/acs.nanolett.0c03593

157. ❷Thermally modulated lithium iron phosphate batteries for mass-market electric vehicles. Yang, XG, Liu, T, Wang, CY et al. NATURE ENERGY, 6 (2021) . Cited: 110. http://dx.doi.org/10.1038/s41560-020-00757-7

158. ❷Understanding Co roles towards developing Co-free Ni-rich cathodes for rechargeable batteries. Liu, TC, Yu, L, Liu, JJ et al. NATURE ENERGY, 6 (2021) . Cited: 110. http://dx.doi.org/10.1038/s41560-021-00776-y

159. ❹Photothermal nanofibres enable safe engineering of therapeutic cells. Xiong, RH, Hua, DW, Van Hoeck, J et al. NATURE NANOTECHNOLOGY, 16 (2021) . Cited: 109. http://dx.doi.org/10.1038/s41565-021-00976-3

160. ❸Bioplastics for a circular economy. Rosenboom, JG, Langer, R, Traverso, G et al. NATURE REVIEWS MATERIALS, 7 (2022) . Cited: 108. http://dx.doi.org/10.1038/s41578-021-00407-8

161. Oxygen Vacant Semiconductor Photocatalysts. Hao, L, Huang, HW, Zhang, YH et al. ADVANCED FUNCTIONAL MATERIALS, 31 (2021) 2100919. Cited: 107. http://dx.doi.org/10.1002/adfm.202100919

162. ❷Understanding the structure-performance relationship of active sites at atomic scale. Li, RZ and Wang, DS NANO RESEARCH, 15 (2022) . Cited: 106. http://dx.doi.org/10.1007/s12274-022-4371-x

163. ❹Multifunctional Photoactive Hydrogels for Wound Healing Acceleration. Maleki, A, He, JH, Bochani, S et al. ACS NANO, 15 (2021) . Cited: 105. http://dx.doi.org/10.1021/acsnano.1c08334

164. Beyond the Visible: Bioinspired Infrared Adaptive Materials. Yang, JJ, Zhang, XF, Zhang, X et al. ADVANCED MATERIALS, 33 (2021) 2004754. Cited: 104. http://dx.doi.org/10.1002/adma.202004754

165. Multifunctional poly(vinyl alcohol)/Ag nanofibers-based triboelectric nanogenerator for self-powered MXene/tungsten oxide nanohybrid NO2 gas sensor. Wang, DY, Zhang, DZ, Guo, JY et al. NANO ENERGY, 89 (2021) 106410. Cited: 103. http://dx.doi.org/10.1016/j.nanoen.2021.106410

166. ❷Dielectric Loss Mechanism in Electromagnetic Wave Absorbing Materials. Qin, M, Zhang, LM, Wu, HJ et al. ADVANCED SCIENCE, 9 (2022) 2105553. Cited: 103. http://dx.doi.org/10.1002/advs.202105553

167. Shedding Light on Extracellular Vesicle Biogenesis and Bioengineering. Teng, F and Fussenegger, M ADVANCED SCIENCE, 8 (2021) 2003505. Cited: 103. http://dx.doi.org/10.1002/advs.202003505

168. ❷Nickel ferrocyanide as a high-performance urea oxidation electrocatalyst. Geng, SK, Zheng, Y, Li, SQ et al. NATURE ENERGY, 6 (2021) . Cited: 101. http://dx.doi.org/10.1038/s41560-021-00899-2

169. ❷Engineering d-p Orbital Hybridization in Single-Atom Metal-Embedded Three-Dimensional Electrodes for Li-S Batteries. Han, ZY, Zhao, SY, Xiao, JW et al. ADVANCED MATERIALS, 33 (2021) 2105947. Cited: 101. http://dx.doi.org/10.1002/adma.202105947

170. Rationally designed Ta3N5/BiOCl S-scheme heterojunction with oxygen vacancies for elimination of tetracycline antibiotic and Cr(VI): Performance, toxicity evaluation and mechanism insight. Li, SJ, Cai, MJ, Wang, CC et al. JOURNAL OF MATERIALS SCIENCE & TECHNOLOGY, 123 (2022) . Cited: 100. http://dx.doi.org/10.1016/j.jmst.2022.02.012

171. Atomic Fe-Zn dual-metal sites for high-efficiency pH-universal oxygen reduction catalysis. Xu, J, Lai, SH, Qi, DF et al. NANO RESEARCH, 14 (2021) . Cited: 99. http://dx.doi.org/10.1007/s12274-020-3186-x

172. Dual-Function Electrolyte Additive for Highly Reversible Zn Anode. Zhang, SJ, Hao, JN, Luo, D et al. ADVANCED ENERGY MATERIALS, 11 (2021) 2102010. Cited: 99. http://dx.doi.org/10.1002/aenm.202102010

173. ❷New development of ultra-high-performance concrete (UHPC). Du, J, Meng, WN, Khayat, KH et al. COMPOSITES PART B-ENGINEERING, 224 (2021) 109220. Cited: 97. http://dx.doi.org/10.1016/j.compositesb.2021.109220

174. ❹Microwave absorbing properties of ferrites and their composites: A review. Houbi, A, Aldashevich, ZA, Atassi, Y et al. JOURNAL OF MAGNETISM AND MAGNETIC MATERIALS, 529 (2021) 167839. Cited: 97. http://dx.doi.org/10.1016/j.jmmm.2021.167839

175. ❷One-pot calcination synthesis of Cd0.5Zn0.5S/g-C3N4 photocatalyst with a step-scheme heterojunction structure. Qin, DR, Xia, Y, Li, Q et al. JOURNAL OF MATERIALS SCIENCE & TECHNOLOGY, 56 (2020) . Cited: 97. http://dx.doi.org/10.1016/j.jmst.2020.03.034

176. The design space for long-duration energy storage in decarbonized power systems. Sepulveda, NA, Jenkins, JD, Edington, A et al. NATURE ENERGY, 6 (2021) . Cited: 97. http://dx.doi.org/10.1038/s41560-021-00796-8

177. ❹High-performing commercial Fe-N-C cathode electrocatalyst for anion-exchange membrane fuel cells. Adabi, H, Shakouri, A, Ul Hassan, N et al. NATURE ENERGY, 6 (2021) . Cited: 94. http://dx.doi.org/10.1038/s41560-021-00878-7

178. ❷Study on In Situ Stress Distribution Law of the Deep Mine: Taking Linyi Mining Area as an Example. Li, XL, Chen, SJ, Wang, S et al. ADVANCES IN MATERIALS SCIENCE AND ENGINEERING, 2021 (2021) 5594181. Cited: 93. http://dx.doi.org/10.1155/2021/5594181

179. ❹Data Analytics for the Identification of Fake Reviews Using Supervised Learning. Alsubari, SN, Deshmukh, SN, Alqarni, AA et al. CMC-COMPUTERS MATERIALS & CONTINUA, 70 (2022) . Cited: 93. http://dx.doi.org/10.32604/cmc.2022.019625

180. Conquering the Hypoxia Limitation for Photodynamic Therapy. Wan, YL, Fu, LH, Li, CY et al. ADVANCED MATERIALS, 33 (2021) 2103978. Cited: 92. http://dx.doi.org/10.1002/adma.202103978

181. Effects of polyethylene glycol on the surface of nanoparticles for targeted drug delivery. Shi, LW, Zhang, JQ, Zhao, M et al. NANOSCALE, 13 (2021) . Cited: 91. http://dx.doi.org/10.1039/d1nr02065j

182. A Strategic Review on Gallium Oxide Based Deep-Ultraviolet Photodetectors: Recent Progress and Future Prospects. Kaur, D and Kumar, M ADVANCED OPTICAL MATERIALS, 9 (2021) 2002160. Cited: 91. http://dx.doi.org/10.1002/adom.202002160

183. A Flexible Multifunctional Triboelectric Nanogenerator Based on MXene/PVA Hydrogel. Luo, XX, Zhu, LP, Wang, YC et al. ADVANCED FUNCTIONAL MATERIALS, 31 (2021) 2104928. Cited: 90. http://dx.doi.org/10.1002/adfm.202104928

184. ❷A Brief Review on Solid Electrolyte Interphase Composition Characterization Technology for Lithium Metal Batteries: Challenges and Perspectives. Shan, XY, Zhong, Y, Zhang, LJ et al. JOURNAL OF PHYSICAL CHEMISTRY C, 125 (2021) . Cited: 89. http://dx.doi.org/10.1021/acs.jpcc.1c06277

185. ❷Charge Relays via Dual Carbon-Actions on Nanostructured BiVO4 for High Performance Photoelectrochemical Water Splitting. Wang, YX, Chen, DM, Zhang, JN et al. ADVANCED FUNCTIONAL MATERIALS, 32 (2022) 2112738. Cited: 88. http://dx.doi.org/10.1002/adfm.202112738

186. A High-Performance, Sensitive, Wearable Multifunctional Sensor Based on Rubber/CNT for Human Motion and Skin Temperature Detection. Lin, MZ, Zheng, ZJ, Yang, L et al. ADVANCED MATERIALS, 34 (2022) 2107309. Cited: 86. http://dx.doi.org/10.1002/adma.202107309

187. Flexible Transparent Supercapacitors: Materials and Devices. Zhao, WW, Jiang, MY, Wang, WK et al. ADVANCED FUNCTIONAL MATERIALS, 31 (2021) 2009136. Cited: 86. http://dx.doi.org/10.1002/adfm.202009136

188. A multifunctional chemical toolbox to engineer carbon dots for biomedical and energy applications. Dordevic, L, Arcudi, F, Cacioppo, M et al. NATURE NANOTECHNOLOGY, 17 (2022) . Cited: 85. http://dx.doi.org/10.1038/s41565-021-01051-7

189. ❸Recent advances on improved optical, thermal, and radiative characteristics of plasmonic nanofluids: Academic insights and perspectives. Said, Z, Arora, S, Farooq, S et al. SOLAR ENERGY MATERIALS AND SOLAR CELLS, 236 (2022) 111504. Cited: 84. http://dx.doi.org/10.1016/j.solmat.2021.111504

190. Piezoelectric Materials for Energy Harvesting and Sensing Applications: Roadmap for Future Smart Materials. Das Mahapatra, S, Mohapatra, PC, Aria, AI et al. ADVANCED SCIENCE, 8 (2021) 2100864. Cited: 84. http://dx.doi.org/10.1002/advs.202100864

191. Advances in healthcare wearable devices. Iqbal, SMA, Mahgoub, I, Du, E et al. NPJ FLEXIBLE ELECTRONICS, 5 (2021) 9. Cited: 84. http://dx.doi.org/10.1038/s41528-021-00107-x

192. High-Density Anisotropy Magnetism Enhanced Microwave Absorption Performance in Ti3C2Tx MXene@Ni Microspheres. Wen, CY, Li, X, Zhang, RX et al. ACS NANO, 16 (2022) . Cited: 84. http://dx.doi.org/10.1021/acsnano.1c08957

193. Biomass-Based Carbon Dots: Current Development and Future Perspectives. Wareing, TC, Gentile, P, Phan, AN et al. ACS NANO, 15 (2021) . Cited: 84. http://dx.doi.org/10.1021/acsnano.1c03886

194. ❷Desired open-circuit voltage increase enables efficiencies approaching 19% in symmetric-asymmetric molecule ternary organic photovoltaics. Zhan, LL, Li, SX, Li, YK et al. JOULE, 6 (2022) . Cited: 83. http://dx.doi.org/10.1016/j.joule.2022.02.001

195. ❸A guest-assisted molecular-organization approach for >17% efficiency organic solar cells using environmentally friendly solvents. Chen, HY, Zhang, R, Chen, XB et al. NATURE ENERGY, 6 (2021) . Cited: 82. http://dx.doi.org/10.1038/s41560-021-00923-5

196. ❸Multifunctional T3C2Tx-(Fe3O4/polyimide composite films with Janus structure for outstanding electromagnetic interference shielding and superior visual thermal management. Zhang, YL, Ma, ZL, Ruan, KP et al. NANO RESEARCH, 15 (2022) . Cited: 82. http://dx.doi.org/10.1007/s12274-022-4358-7

197. Regulating electrodeposition morphology in high-capacity aluminium and zinc battery anodes using interfacial metal-substrate bonding. Zheng, JX, Bock, DC, Tang, T et al. NATURE ENERGY, 6 (2021) . Cited: 80. http://dx.doi.org/10.1038/s41560-021-00797-7

198. ❷Interfacial Engineering Strategy for High-Performance Zn Metal Anodes. Li, B, Zhang, XT, Wang, TL et al. NANO-MICRO LETTERS, 14 (2022) 6. Cited: 79. http://dx.doi.org/10.1007/s40820-021-00764-7

199. Lithium Induced Nano-Sized Copper with Exposed Lithiophilic Surfaces to Achieve Dense Lithium Deposition for Lithium Metal Anode. Qian, J, Wang, S, Li, Y et al. ADVANCED FUNCTIONAL MATERIALS, 31 (2021) 2006950. Cited: 79. http://dx.doi.org/10.1002/adfm.202006950

200. ❸Rational solvent molecule tuning for high-performance lithium metal battery electrolytes. Yu, Z, Rudnicki, PE, Zhang, ZW et al. NATURE ENERGY, 7 (2022) . Cited: 79. http://dx.doi.org/10.1038/s41560-021-00962-y

201. ❷Moving beyond 99.9% Coulombic efficiency for lithium anodes in liquid electrolytes. Hobold, GM, Lopez, J, Guo, R et al. NATURE ENERGY, 6 (2021) . Cited: 78. http://dx.doi.org/10.1038/s41560-021-00910-w

202. Thermally-tailoring dielectric genes in graphene-based heterostructure to manipulate electromagnetic response. Wang, XX, Zhang, M, Shu, JC et al. CARBON, 184 (2021) . Cited: 78. http://dx.doi.org/10.1016/j.carbon.2021.07.099

203. ❷Advanced Flame-Retardant Methods for Polymeric Materials. Liu, BW, Zhao, HB, Wang, YZ et al. ADVANCED MATERIALS, 34 (2022) 2107905. Cited: 78. http://dx.doi.org/10.1002/adma.202107905

204. ❷Tailored Lattice Tape to Confine Tensile Interface for 11.08%-Efficiency All-Inorganic CsPbBr3 Perovskite Solar Cell with an Ultrahigh Voltage of 1.702 V. Zhou, QW, Duan, JL, Du, J et al. ADVANCED SCIENCE, 8 (2021) 2101418. Cited: 77. http://dx.doi.org/10.1002/advs.202101418

205. Diversity of Synthetic Dyes from Textile Industries, Discharge Impacts and Treatment Methods. Ben Slama, H, Bouket, AC, Pourhassan, Z et al. APPLIED SCIENCES-BASEL, 11 (2021) 6255. Cited: 77. http://dx.doi.org/10.3390/app11146255

206. Recent Advances in Design of Electrocatalysts for High-Current-Density Water Splitting. Luo, YT, Zhang, ZY, Chhowalla, M et al. ADVANCED MATERIALS, 34 (2022) 2108133. Cited: 76. http://dx.doi.org/10.1002/adma.202108133

207. ❸Achieving high efficiency and well-kept ductility in ternary all-polymer organic photovoltaic blends thanks to two well miscible donors. Ma, RJ, Zhou, KK, Sun, YN et al. MATTER, 5 (2022) . Cited: 73. http://dx.doi.org/10.1016/j.matt.2021.12.002

208. Recent Advance in Ionic-Liquid-Based Electrolytes for Rechargeable Metal-Ion Batteries. Zhou, WJ, Zhang, M, Kong, XY et al. ADVANCED SCIENCE, 8 (2021) 2004490. Cited: 73. http://dx.doi.org/10.1002/advs.202004490

209. ❷Magnetic NiFe2O4/Polypyrrole nanocomposites with enhanced electromagnetic wave absorption. Guo, J, Li, X, Chen, ZR et al. JOURNAL OF MATERIALS SCIENCE & TECHNOLOGY, 108 (2022) . Cited: 72. http://dx.doi.org/10.1016/j.jmst.2021.08.049

210. ❷Numerical investigation of solar system equipped with innovative turbulator and hybrid nanofluid. Sheikholeslami, M SOLAR ENERGY MATERIALS AND SOLAR CELLS, 243 (2022) 111786. Cited: 71. http://dx.doi.org/10.1016/j.solmat.2022.111786

211. ❸Magnetic manganese-based composites with multiple loss mechanisms towards broadband absorption. Liu, Y, Jia, ZR, Zhan, QQ et al. NANO RESEARCH, 15 (2022) . Cited: 70. http://dx.doi.org/10.1007/s12274-022-4287-5

212. ❸Multi-layer deposition mechanism in ultra high-frequency pulsed wire arc additive manufacturing (WAAM) of NiTi shape memory alloys. Ke, W, Oliveira, JP, Cong, B et al. ADDITIVE MANUFACTURING, 50 (2022) 102513. Cited: 69. http://dx.doi.org/10.1016/j.addma.2021.102513

213. Simultaneous Interfacial Modification and Crystallization Control by Biguanide Hydrochloride for Stable Perovskite Solar Cells with PCE of 24.4%. Xiong, Z, Chen, X, Zhang, B et al. ADVANCED MATERIALS, 34 (2022) 2106118. Cited: 69. http://dx.doi.org/10.1002/adma.202106118

214. Engineering Bioactive M2 Macrophage-Polarized Anti-Inflammatory, Antioxidant, and Antibacterial Scaffolds for Rapid Angiogenesis and Diabetic Wound Repair. Tu, ZL, Chen, M, Wang, M et al. ADVANCED FUNCTIONAL MATERIALS, () 2100924. Cited: 69. http://dx.doi.org/10.1002/adfm.202100924

215. Fluorescent Carbon Dots: Fantastic Electroluminescent Materials for Light-Emitting Diodes. Zhao, B and Tan, ZA ADVANCED SCIENCE, 8 (2021) 2001977. Cited: 68. http://dx.doi.org/10.1002/advs.202001977

216. ❷Regulations of active moiety in single atom catalysts for electrochemical hydrogen evolution reaction. Zhu, P, Xiong, X, Wang, DS et al. NANO RESEARCH, 15 (2022) . Cited: 68. http://dx.doi.org/10.1007/s12274-022-4265-y

217. Multifunctional Hyphae Carbon Powering Lithium-Sulfur Batteries. Huang, L, Shen, SH, Zhong, Y et al. ADVANCED MATERIALS, 34 (2022) 2107415. Cited: 68. http://dx.doi.org/10.1002/adma.202107415

218. Cotton-derived cellulose film as a dendrite-inhibiting separator to stabilize the zinc metal anode of aqueous zinc ion batteries. Zhou, WJ, Chen, MF, Tian, QH et al. ENERGY STORAGE MATERIALS, 44 (2022) . Cited: 66. http://dx.doi.org/10.1016/j.ensm.2021.10.002

219. ❷Porous and Ultra-Flexible Crosslinked MXene/Polyimide Composites for Multifunctional Electromagnetic Interference Shielding. Zeng, ZH, Wu, N, Wei, JJ et al. NANO-MICRO LETTERS, 14 (2022) 59. Cited: 66. http://dx.doi.org/10.1007/s40820-022-00800-0

220. ❷Multifunctional Superelastic, Superhydrophilic, and Ultralight Nanocellulose-Based Composite Carbon Aerogels for Compressive Supercapacitor and Strain Sensor. Liu, HY, Xu, T, Cai, CY et al. ADVANCED FUNCTIONAL MATERIALS, 32 (2022) 2113082. Cited: 65. http://dx.doi.org/10.1002/adfm.202113082

221. Soft actuators for real-world applications. Li, M, Pal, A, Aghakhani, A et al. NATURE REVIEWS MATERIALS, 7 (2022) . Cited: 62. http://dx.doi.org/10.1038/s41578-021-00389-7

222. Porous Janus materials with unique asymmetries and functionality. Yan, LL, Yang, XB, Zhang, YQ et al. MATERIALS TODAY, 51 (2021) . Cited: 62. http://dx.doi.org/10.1016/j.mattod.2021.07.001

223. ❸High areal capacity, long cycle life 4 V ceramic all-solid-state Li-ion batteries enabled by chloride solid electrolytes. Zhou, LD, Zuo, TT, Kwok, CY et al. NATURE ENERGY, 7 (2022) . Cited: 61. http://dx.doi.org/10.1038/s41560-021-00952-0

224. ❷Oxygen vacancy-based metal oxides photoanodes in photoelectrochemical water splitting. Wang, YY, Zhang, JN, Balogun, MS et al. MATERIALS TODAY SUSTAINABILITY, 18 (2022) 100118. Cited: 61. http://dx.doi.org/10.1016/j.mtsust.2022.100118

225. Binary Organic Solar Cells Breaking 19% via Manipulating the Vertical Component Distribution. Wei, YA, Chen, ZH, Lu, GY et al. ADVANCED MATERIALS, 34 (2022) 2204718. Cited: 60. http://dx.doi.org/10.1002/adma.202204718

226. Lithiophilic N-doped carbon bowls induced Li deposition in layered graphene film for advanced lithium metal batteries. Feng, XY, Wu, HH, Gao, B et al. NANO RESEARCH, 15 (2022) . Cited: 60. http://dx.doi.org/10.1007/s12274-021-3482-0

227. Carbonaceous Anode Materials for Non-aqueous Sodium- and Potassium-Ion Hybrid Capacitors. Liu, SD, Kang, L, Zhang, J et al. ACS ENERGY LETTERS, 6 (2021) . Cited: 59. http://dx.doi.org/10.1021/acsenergylett.1c01855

228. Chemodynamic Therapy via Fenton and Fenton-Like Nanomaterials: Strategies and Recent Advances. Jia, CY, Guo, YX, Wu, FG et al. SMALL, 18 (2022) 2103868. Cited: 59. http://dx.doi.org/10.1002/smll.202103868

229. Recent advances in humidity sensors for human body related humidity detection. Duan, ZH, Jiang, YD, Tai, HL et al. JOURNAL OF MATERIALS CHEMISTRY C, 9 (2021) . Cited: 59. http://dx.doi.org/10.1039/d1tc04180k

230. Insight on Organic Molecules in Aqueous Zn-Ion Batteries with an Emphasis on the Zn Anode Regulation. Wang, DH, Li, Q, Zhao, YW et al. ADVANCED ENERGY MATERIALS, 12 (2022) 2102707. Cited: 59. http://dx.doi.org/10.1002/aenm.202102707

231. H2O2 Self-Producing Single-Atom Nanozyme Hydrogels as Light-Controlled Oxidative Stress Amplifier for Enhanced Synergistic Therapy by Transforming Cold Tumors. Zhu, DM, Chen, H, Huang, CY et al. ADVANCED FUNCTIONAL MATERIALS, 32 (2022) 2110268. Cited: 58. http://dx.doi.org/10.1002/adfm.202110268

232. ❸Synergistic regulation of dielectric-magnetic dual-loss and triple heterointerface polarization via magnetic MXene for high-performance electromagnetic wave absorption. Sun, CH, Jia, ZR, Xu, S et al. JOURNAL OF MATERIALS SCIENCE & TECHNOLOGY, 113 (2022) . Cited: 58. http://dx.doi.org/10.1016/j.jmst.2021.11.006

233. ❷A hyperbranched P/N/B-containing oligomer as multifunctional flame retardant for epoxy resins. Huo, SQ, Sai, T, Ran, SY et al. COMPOSITES PART B-ENGINEERING, 234 (2022) 109701. Cited: 58. http://dx.doi.org/10.1016/j.compositesb.2022.109701

234. ❸A Few Shot Classification Methods Based on Multiscale Relational Networks. Zheng, WF, Tian, X, Yang, B et al. APPLIED SCIENCES-BASEL, 12 (2022) 4059. Cited: 57. http://dx.doi.org/10.3390/app12084059

235. Crystalline-Amorphous Interfaces Coupling of CoSe2/CoP with Optimized d-Band Center and Boosted Electrocatalytic Hydrogen Evolution. Shen, SJ, Wang, ZP, Lin, ZP et al. ADVANCED MATERIALS, 34 (2022) 2110631. Cited: 57. http://dx.doi.org/10.1002/adma.202110631

236. Nanoparticles for Cancer Therapy: Current Progress and Challenges. Gavas, S, Quazi, S, Karpinski, TM et al. NANOSCALE RESEARCH LETTERS, 16 (2021) 173. Cited: 57. http://dx.doi.org/10.1186/s11671-021-03628-6

237. In situ grown Fe3O4 particle on stainless steel: A highly efficient electrocatalyst for nitrate reduction to ammonia. Fan, XY, Xie, LS, Liang, J et al. NANO RESEARCH, 15 (2022) . Cited: 57. http://dx.doi.org/10.1007/s12274-021-3951-5

238. ❷Emerging low-nuclearity supported metal catalysts with atomic level precision for efficient heterogeneous catalysis. Zheng, XB, Li, BB, Wang, QS et al. NANO RESEARCH, 15 (2022) . Cited: 56. http://dx.doi.org/10.1007/s12274-022-4429-9

239. Computational Framework of Magnetized MgO-Ni/Water-Based Stagnation Nanoflow Past an Elastic Stretching Surface: Application in Solar Energy Coatings. Bhatti, MM, Beg, OA, Abdelsalam, SI et al. NANOMATERIALS, 12 (2022) 1049. Cited: 56. http://dx.doi.org/10.3390/nano12071049

240. Critical Review on Low-Temperature Li-Ion/Metal Batteries. Zhang, N, Deng, T, Zhang, SQ et al. ADVANCED MATERIALS, 34 (2022) 2107899. Cited: 55. http://dx.doi.org/10.1002/adma.202107899

241. Microstructure and mechanical properties of micro laser welding NiTiNb/Ti6Al4V dissimilar alloys lap joints with nickel interlayer. Zhong, Y, Xie, JL, Chen, YH et al. MATERIALS LETTERS, 306 (2022) 130896. Cited: 55. http://dx.doi.org/10.1016/j.matlet.2021.130896

242. ❷Realizing Negatively Charged Metal Atoms through Controllable d-Electron Transfer in Ternary Ir1-xRhxSb Intermetallic Alloy for Hydrogen Evolution Reaction. Lin, ZP, Xiao, BB, Huang, M et al. ADVANCED ENERGY MATERIALS, 12 (2022) 2200855. Cited: 55. http://dx.doi.org/10.1002/aenm.202200855

243. In-situ constructing visible light CdS/Cd-MOF photocatalyst with enhanced photodegradation of methylene blue. Jing, C, Zhang, YF, Zheng, JJ et al. PARTICUOLOGY, 69 (2022) . Cited: 55. http://dx.doi.org/10.1016/j.partic.2021.11.013

244. ❷Microenvironment-Responsive Prodrug-Induced Pyroptosis Boosts Cancer Immunotherapy. Xiao, Y, Zhang, T, Ma, XB et al. ADVANCED SCIENCE, 8 (2021) 2101840. Cited: 54. http://dx.doi.org/10.1002/advs.202101840

245. Transition metal-based layered double hydroxides for photo(electro)chemical water splitting: a mini review. Gao, R, Zhu, J, Yan, DP et al. NANOSCALE, 13 (2021) . Cited: 54. http://dx.doi.org/10.1039/d1nr03409j

246. Construction of Six-Oxygen-Coordinated Single Ni Sites on g-C3N4 with Boron-Oxo Species for Photocatalytic Water-Activation-Induced CO2 Reduction. Wang, YY, Qu, Y, Qu, BH et al. ADVANCED MATERIALS, 33 (2021) 2105482. Cited: 54. http://dx.doi.org/10.1002/adma.202105482

247. ❷Employing Ni-Embedded Porous Graphitic Carbon Fibers for High-Efficiency Lithium-Sulfur Batteries. Wang, CH, Li, YH, Cao, F et al. ACS APPLIED MATERIALS & INTERFACES, 14 (2022) . Cited: 53. http://dx.doi.org/10.1021/acsami.1c24755

248. Concept Review of a Cloud-Based Smart Battery Management System for Lithium-Ion Batteries: Feasibility, Logistics, and Functionality. Tran, MK, Panchal, S, Khang, TD et al. BATTERIES-BASEL, 8 (2022) 19. Cited: 53. http://dx.doi.org/10.3390/batteries8020019

249. ❷Effect of fin number on the melting phase change in a horizontal finned shell-and-tube thermal energy storage unit. Yang, XH, Wang, XY, Liu, Z et al. SOLAR ENERGY MATERIALS AND SOLAR CELLS, 236 (2022) 111527. Cited: 53. http://dx.doi.org/10.1016/j.solmat.2021.111527

250. Design principle of S-scheme heterojunction photocatalyst. Xu, QL, Wageh, S, Al-Ghamdi, AA et al. JOURNAL OF MATERIALS SCIENCE & TECHNOLOGY, 124 (2022) . Cited: 52. http://dx.doi.org/10.1016/j.jmst.2022.02.016

251. ❸State-of-the-Art Review of Electrospun Gelatin-Based Nanofiber Dressings for Wound Healing Applications. Li, T, Sun, MC, Wu, SH et al. NANOMATERIALS, 12 (2022) 784. Cited: 52. http://dx.doi.org/10.3390/nano12050784

252. ❷Thermal assessment on solid-liquid energy storage tube packed with non-uniform angled fins. Guo, JF, Wang, XY, Yang, B et al. SOLAR ENERGY MATERIALS AND SOLAR CELLS, 236 (2022) 111526. Cited: 52. http://dx.doi.org/10.1016/j.solmat.2021.111526

253. ❷The Combination of Two-Dimensional Nanomaterials with Metal Oxide Nanoparticles for Gas Sensors: A Review. Li, T, Yin, W, Gao, SW et al. NANOMATERIALS, 12 (2022) 982. Cited: 51. http://dx.doi.org/10.3390/nano12060982

254. A Zr-MOF nanoflower sensor and its mixed-matrix membrane for the highly sensitive detection of nitroaromatics. Xu, H, Zhong, FY, Chen, FQ et al. JOURNAL OF MATERIALS CHEMISTRY C, 10 (2022) . Cited: 51. http://dx.doi.org/10.1039/d2tc00920j

255. In-Depth Study of Heavy Metal Removal by an Etidronic Acid-Functionalized Layered Double Hydroxide. Zhu, SD, Chen, YX, Khan, MA et al. ACS APPLIED MATERIALS & INTERFACES, 14 (2022) . Cited: 51. http://dx.doi.org/10.1021/acsami.1c22035

256. Hierarchically Porous ZnO/g-C3N4S-Scheme Heterojunction Photocatalyst for Efficient H2O2 Production. Liu, BW, Bie, CB, Zhang, Y et al. LANGMUIR, 37 (2021) . Cited: 51. http://dx.doi.org/10.1021/acs.langmuir.1c02360

257. CsPbBr3 Nanocrystal Induced Bilateral Interface Modification for Efficient Planar Perovskite Solar Cells. Zhang, JJ, Wang, LX, Jiang, CH et al. ADVANCED SCIENCE, 8 (2021) 2102648. Cited: 49. http://dx.doi.org/10.1002/advs.202102648

258. A Review of Degradation Mechanisms and Recent Achievements for Ni-Rich Cathode-Based Li-Ion Batteries. Jiang, M, Danilov, DL, Eichel, RA et al. ADVANCED ENERGY MATERIALS, 11 (2021) 2103005. Cited: 49. http://dx.doi.org/10.1002/aenm.202103005

259. ❷Gas diffusion electrodes, reactor designs and key metrics of low-temperature CO2 electrolysers. Wakerley, D, Lamaison, S, Wicks, J et al. NATURE ENERGY, 7 (2022) . Cited: 49. http://dx.doi.org/10.1038/s41560-021-00973-9

260. Strengthening the very early-age structure of cementitious composites with coal fly ash via incorporating a novel nanoadmixture based on C-S-H phase activators. Golewski, GL and Szostak, B CONSTRUCTION AND BUILDING MATERIALS, 312 (2021) 125426. Cited: 48. http://dx.doi.org/10.1016/j.conbuildmat.2021.125426

261. ❷A Deep Fusion Matching Network Semantic Reasoning Model. Zheng, WF, Zhou, Y, Liu, S et al. APPLIED SCIENCES-BASEL, 12 (2022) 3416. Cited: 48. http://dx.doi.org/10.3390/app12073416

262. ❸Effectiveness of hybrid steel-basalt fiber reinforced concrete under compression. Khan, M, Cao, ML, Xie, CP et al. CASE STUDIES IN CONSTRUCTION MATERIALS, 16 (2022) e00941. Cited: 47. http://dx.doi.org/10.1016/j.cscm.2022.e00941

263. Surface Design for Antibacterial Materials: From Fundamentals to Advanced Strategies. Li, WL, Thian, ES, Wang, M et al. ADVANCED SCIENCE, 8 (2021) 2100368. Cited: 46. http://dx.doi.org/10.1002/advs.202100368

264. Lithium-Sulfur Batteries Meet Electrospinning: Recent Advances and the Key Parameters for High Gravimetric and Volume Energy Density. Zhang, YS, Zhang, XL, Silva, SRP et al. ADVANCED SCIENCE, 9 (2022) 2103879. Cited: 45. http://dx.doi.org/10.1002/advs.202103879

265. Ultrasound-assisted catalytic activation of peroxydisulfate on Ti3GeC2 MAX phase for efficient removal of hazardous pollutants. Ansarian, Z, Khataee, A, Arefi-Oskoui, S et al. MATERIALS TODAY CHEMISTRY, 24 (2022) 100818. Cited: 45. http://dx.doi.org/10.1016/j.mtchem.2022.100818

266. Deciphering the lithium storage chemistry in flexible carbon fiber-based self-supportive electrodes. Yang, H, Xiong, TZ, Zhu, ZX et al. CARBON ENERGY, 4 (2022) . Cited: 44. http://dx.doi.org/10.1002/cey2.173

267. An overview of recent progress in nanostructured carbon-based supercapacitor electrodes: From zero to bi-dimensional materials. Kumar, R, Joanni, E, Sahoo, S et al. CARBON, 193 (2022) . Cited: 44. http://dx.doi.org/10.1016/j.carbon.2022.03.023

268. Analysis of magnetorheological clutch with double cup-shaped gap excited by Halbach array based on finite element method and experiment. Zhang, G, Chen, JY, Zhang, Z et al. SMART MATERIALS AND STRUCTURES, 31 (2022) 75008. Cited: 44. http://dx.doi.org/10.1088/1361-665X/ac701a

269. Advanced Point-of-Care Testing Technologies for Human Acute Respiratory Virus Detection. Zhang, ZW, Ma, P, Ahmed, R et al. ADVANCED MATERIALS, 34 (2022) 2103646. Cited: 44. http://dx.doi.org/10.1002/adma.202103646

270. Energy, exergy, economic and environmental (4E) analysis of a parabolic trough solar collector using MXene based silicone oil nanofluids. Said, Z, Ghodbane, M, Boumeddane, B et al. SOLAR ENERGY MATERIALS AND SOLAR CELLS, 239 (2022) 111633. Cited: 43. http://dx.doi.org/10.1016/j.solmat.2022.111633

271. Record-Efficiency Flexible Perovskite Solar Cells Enabled by Multifunctional Organic Ions Interface Passivation. Yang, L, Feng, JS, Liu, ZK et al. ADVANCED MATERIALS, 34 (2022) 2201681. Cited: 43. http://dx.doi.org/10.1002/adma.202201681

272. Investigating the output performance of triboelectric nanogenerators with single/double-sided interlayer. Xin, CF, Li, ZJ, Zhang, Q et al. NANO ENERGY, 100 (2022) 107448. Cited: 43. http://dx.doi.org/10.1016/j.nanoen.2022.107448

273. Neutrophil-erythrocyte hybrid membrane-coated hollow copper sulfide nanoparticles for targeted and photothermal/anti-inflammatory therapy of osteoarthritis. Xue, X, Liu, H, Wang, SC et al. COMPOSITES PART B-ENGINEERING, 237 (2022) 109855. Cited: 42. http://dx.doi.org/10.1016/j.compositesb.2022.109855

274. Design and Synthesis of Hollow Nanostructures for Electrochemical Water Splitting. Yang, M, Zhang, CH, Li, NW et al. ADVANCED SCIENCE, 9 (2022) 2105135. Cited: 42. http://dx.doi.org/10.1002/advs.202105135

275. Properties and applications of additively manufactured metallic cellular materials: A review. du Plessis, A, Razavi, SMJ, Benedetti, M et al. PROGRESS IN MATERIALS SCIENCE, 125 (2022) 100918. Cited: 40. http://dx.doi.org/10.1016/j.pmatsci.2021.100918

276. ❷Sulfur-doped g-C3N4/g-C3N4 isotype step-scheme heterojunction for photocatalytic H-2 evolution. Jiang, JZ, Xiong, ZG, Wang, HT et al. JOURNAL OF MATERIALS SCIENCE & TECHNOLOGY, 118 (2022) . Cited: 39. http://dx.doi.org/10.1016/j.jmst.2021.12.018

277. Influence of temperature difference on performance of solid-liquid triboelectric nanogenerators. Shen, F, Zhang, D, Zhang, Q et al. NANO ENERGY, 99 (2022) 107431. Cited: 39. http://dx.doi.org/10.1016/j.nanoen.2022.107431

278. ❷The impact of electrode with carbon materials on safety performance of lithium-ion batteries: A review. Jiang, XM, Chen, YJ, Meng, XK et al. CARBON, 191 (2022) . Cited: 38. http://dx.doi.org/10.1016/j.carbon.2022.02.011

279. ❷Graphene-wrapped multiloculated nickel ferrite: A highly efficient electromagnetic attenuation material for microwave absorbing and green shielding. Wang, YC, Yao, LH, Zheng, Q et al. NANO RESEARCH, 15 (2022) . Cited: 38. http://dx.doi.org/10.1007/s12274-022-4428-x

280. ❷Structure characteristics and microwave dielectric properties of Pr-2(Zr1-xTix)(3)(MoO4)(9) solid solution ceramic with a stable temperature coefficient. Tian, HR, Zheng, JJ, Liu, LT et al. JOURNAL OF MATERIALS SCIENCE & TECHNOLOGY, 116 (2022) . Cited: 38. http://dx.doi.org/10.1016/j.jmst.2021.10.051

281. Experimental Analysis of Engine Performance and Exhaust Pollutant on a Single-Cylinder Diesel Engine Operated Using Moringa Oleifera Biodiesel. Soudagar, MEM, Khan, HM, Khan, TMY et al. APPLIED SCIENCES-BASEL, 11 (2021) 7071. Cited: 37. http://dx.doi.org/10.3390/app11157071

282. In Situ Construction a Stable Protective Layer in Polymer Electrolyte for Ultralong Lifespan Solid-State Lithium Metal Batteries. Zhang, DC, Liu, ZB, Wu, YW et al. ADVANCED SCIENCE, 9 (2022) 2104277. Cited: 37. http://dx.doi.org/10.1002/advs.202104277

283. ❷Improving the ductility in laser welded joints of CoCrFeMnNi high entropy alloy to 316 stainless steel. Oliveira, JP, Shamsolhodaei, A, Shen, JJ et al. MATERIALS & DESIGN, 219 (2022) 110717. Cited: 36. http://dx.doi.org/10.1016/j.matdes.2022.110717

284. Heat transfer characteristics and compatibility of molten salt/ceramic porous composite phase change material. Zhang, S, Li, ZY, Yao, YP et al. NANO ENERGY, 100 (2022) 107476. Cited: 36. http://dx.doi.org/10.1016/j.nanoen.2022.107476

285. ❷In-situ fabrication of Bi2S3/BiVO4/Mn0.5Cd0.5 S-DETA ternary S-scheme heterostructure with effective interface charge separation and CO2 reduction performance. Zhao, ZW, Li, XF, Dai, K et al. JOURNAL OF MATERIALS SCIENCE & TECHNOLOGY, 117 (2022) . Cited: 33. http://dx.doi.org/10.1016/j.jmst.2021.11.046

286. Dislocation-strained MoS2 nanosheets for high efficiency hydrogen evolution reaction. Wang, SH, Wang, LL, Xie, LB et al. NANO RESEARCH, 15 (2022) . Cited: 32. http://dx.doi.org/10.1007/s12274-022-4158-0

287. Synergistic photocatalytic dye mitigation and bacterial disinfection using carbon quantum dots decorated dual Z-scheme Manganese Indium Sulfide/Cuprous Oxide/Silver oxide heterojunction. Sharma, S, Dutta, V, Raizada, P et al. MATERIALS LETTERS, 313 (2022) 131716. Cited: 31. http://dx.doi.org/10.1016/j.matlet.2022.131716

288. Effect of carbonate additive on the microstructure and corrosion resistance of plasma electrolytic oxidation coating on Mg-9Li-3Al alloy. Jin, SY, Ma, XC, Wu, RZ et al. INTERNATIONAL JOURNAL OF MINERALS METALLURGY AND MATERIALS, 29 (2022) . Cited: 30. http://dx.doi.org/10.1007/s12613-021-2377-0

289. Stable Zinc Anodes Enabled by a Zincophilic Polyanionic Hydrogel Layer. Yang, JL, Li, J, Zhao, JW et al. ADVANCED MATERIALS, 34 (2022) 2202382. Cited: 30. http://dx.doi.org/10.1002/adma.202202382

290. In Silico Contact Pressure of Metal-on-Metal Total Hip Implant with Different Materials Subjected to Gait Loading. Jamari, J, Ammarullah, MI, Santoso, G et al. METALS, 12 (2022) 1241. Cited: 28. http://dx.doi.org/10.3390/met12081241

291. ❷Kinetics-driven design of 3D VN/MXene composite structure for superior zinc storage and charge transfer. Du, WY, Miao, L, Song, ZY et al. JOURNAL OF POWER SOURCES, 536 (2022) 231512. Cited: 27. http://dx.doi.org/10.1016/j.jpowsour.2022.231512

292. Recent Progress of Y6-Derived Asymmetric Fused Ring Electron Acceptors. Zhang, YD, Ji, YT, Zhang, YY et al. ADVANCED FUNCTIONAL MATERIALS, 32 (2022) 2205115. Cited: 27. http://dx.doi.org/10.1002/adfm.202205115

293. Progresses on electrospun metal-organic frameworks nanofibers and their wastewater treatment applications. Liu, YA, Lv, H, Liu, Y et al. MATERIALS TODAY CHEMISTRY, 25 (2022) 100974. Cited: 27. http://dx.doi.org/10.1016/j.mtchem.2022.100974

294. Annealing coordinates the deformation of shear band to improve the microstructure difference and simultaneously promote the strength-plasticity of composite plate. Huo, PD, Li, F, Wang, Y et al. MATERIALS & DESIGN, 219 (2022) 110696. Cited: 26. http://dx.doi.org/10.1016/j.matdes.2022.110696

295. MXene/metal and polymer nanocomposites: Preparation, properties, and applications. Jasim, SA, Hadi, JM, Opulencia, MJC et al. JOURNAL OF ALLOYS AND COMPOUNDS, 917 (2022) 165404. Cited: 26. http://dx.doi.org/10.1016/j.jallcom.2022.165404

296. Application of nanostructured mesoporous silica/bismuth vanadate composite catalysts for the degradation of methylene blue and brilliant green. El-Hakam, SA, ALShorifi, FT, Salama, RS et al. JOURNAL OF MATERIALS RESEARCH AND TECHNOLOGY-JMR&T, 18 (2022) . Cited: 26. http://dx.doi.org/10.1016/j.jmrt.2022.03.067

297. Experimental Analysis of Bearing Capacity of Basalt Fiber Reinforced Concrete Short Columns under Axial Compression. Wang, XZ, Yang, YM, Yang, RH et al. COATINGS, 12 (2022) 654. Cited: 25. http://dx.doi.org/10.3390/coatings12050654

298. ❷Enhanced N-2-to-NH3 conversion efficiency on Cu3P nanoribbon electrocatalyst. Liu, Q, Lin, YT, Gu, S et al. NANO RESEARCH, 15 (2022) . Cited: 25. http://dx.doi.org/10.1007/s12274-022-4568-z

299. Thermoelectric coolers: Infinite potentials for finite localized microchip cooling. Chen, ZG and Liu, WD JOURNAL OF MATERIALS SCIENCE & TECHNOLOGY, 121 (2022) . Cited: 25. http://dx.doi.org/10.1016/j.jmst.2021.12.069

300. Anisotropic Charge Transport Enabling High-Throughput and High-Aspect-Ratio Wet Etching of Silicon Carbide. Shi, DC, Chen, Y, Li, ZJ et al. SMALL METHODS, 6 (2022) 2200329. Cited: 24. http://dx.doi.org/10.1002/smtd.202200329

301. Research progress on lunar and Martian concrete. Hu, ZJ, Shi, T, Cen, MQ et al. CONSTRUCTION AND BUILDING MATERIALS, 343 (2022) 128117. Cited: 24. http://dx.doi.org/10.1016/j.conbuildmat.2022.128117

302. Multi-scale defects in powder-based additively manufactured metals and alloys. Fu, J, Li, H, Song, X et al. JOURNAL OF MATERIALS SCIENCE & TECHNOLOGY, 122 (2022) . Cited: 23. http://dx.doi.org/10.1016/j.jmst.2022.02.015

303. Concrete Containing Waste Glass as an Environmentally Friendly Aggregate: A Review on Fresh and Mechanical Characteristics. Qaidi, S, Najm, HM, Abed, SM et al. MATERIALS, 15 (2022) 6222. Cited: 22. http://dx.doi.org/10.3390/ma15186222

304. ZnWO4-ZnIn2S4 S-scheme heterojunction for enhanced photocatalytic H-2 evolution. Dai, M, He, ZL, Zhang, P et al. JOURNAL OF MATERIALS SCIENCE & TECHNOLOGY, 122 (2022) . Cited: 22. http://dx.doi.org/10.1016/j.jmst.2022.02.014

305. Electronic structure, magnetic properties and magnetocaloric performance in rare earths (RE) based RE2BaZnO5 (RE = Gd, Dy, Ho, and Er) compounds. Xu, P, Hu, L, Zhang, ZQ et al. ACTA MATERIALIA, 236 (2022) 118114. Cited: 22. http://dx.doi.org/10.1016/j.actamat.2022.118114

306. Analyzing and optimizing the power generation performance of thermoelectric generators based on an industrial environment. Miao, Z, Meng, XN, Liu, L et al. JOURNAL OF POWER SOURCES, 541 (2022) 231699. Cited: 21. http://dx.doi.org/10.1016/j.jpowsour.2022.231699

307. Improving stability MXenes. Jiang, JZ, Bai, SS, Zou, J et al. NANO RESEARCH, 15 (2022) . Cited: 21. http://dx.doi.org/10.1007/s12274-022-4312-8

308. Reliability-based analysis of the flexural strength of concrete beams reinforced with hybrid BFRP and steel rebars. Zhang, W, Liu, X, Huang, YQ et al. ARCHIVES OF CIVIL AND MECHANICAL ENGINEERING, 22 (2022) 171. Cited: 20. http://dx.doi.org/10.1007/s43452-022-00493-7

309. A Step towards Sustainable Concrete with Substitution of Plastic Waste in Concrete: Overview on Mechanical, Durability and Microstructure Analysis. Ahmad, J, Majdi, A, Elhag, AB et al. CRYSTALS, 12 (2022) 944. Cited: 17. http://dx.doi.org/10.3390/cryst12070944

310. Natural ultralong hemicelluloses phosphorescence. Lu, BZ, Gao, Q, Li, PY et al. CELL REPORTS PHYSICAL SCIENCE, 3 (2022) 101015. Cited: 15. http://dx.doi.org/10.1016/j.xcrp.2022.101015

311. Potassium citrate assisted synthesis of hierarchical porous carbon materials for high performance supercapacitors. Zheng, JJ, Yan, B, Feng, L et al. DIAMOND AND RELATED

MATERIALS, 128 (2022) 109247. Cited: 15. http://dx.doi.org/10.1016/j.diamond.2022.109247

312. Particleboard from agricultural biomass and recycled wood waste: a review. Lee, SH, Lum, WC, Boon, JG et al. JOURNAL OF MATERIALS RESEARCH AND TECHNOLOGY-JMR&T, 20 (2022) . Cited: 15. http://dx.doi.org/10.1016/j.jmrt.2022.08.166

313. Gyrotactic Motile Microorganisms Impact on Pseudoplastic Nanofluid Flow over a Moving Riga Surface with Exponential Heat Flux. Waqas, H, Oreijah, M, Guedri, K et al. CRYSTALS, 12 (2022) 1308. Cited: 15. http://dx.doi.org/10.3390/cryst12091308

314. Excellent magnetocaloric performance in the carbide compounds RE2Cr2C3 (RE = Er, Ho, and Dy) and their composites. Zhang, YK, Li, S, Hu, L et al. MATERIALS TODAY PHYSICS, 27 (2022) 100786. Cited: 13. http://dx.doi.org/10.1016/j.mtphys.2022.100786

315. An analytical review on Spark Plasma Sintering of metals and alloys: from processing window, phase transformation, and property perspective. Abedi, M, Sovizi, S, Azarniya, A et al. CRITICAL REVIEWS IN SOLID STATE AND MATERIALS SCIENCES, () . Cited: 13. http://dx.doi.org/10.1080/10408436.2022.2049441

316. A Brief Assessment on Recent Developments in Efficient Electrocatalytic Nitrogen Reduction with 2D Non-Metallic Nanomaterials. Shahid, M, Javed, HMA, Ahmad, MI et al. NANOMATERIALS, 12 (2022) 3413. Cited: 12. http://dx.doi.org/10.3390/nano12193413

317. Fluidic rolling robot using voltage-driven oscillating liquid. Mao, ZB, Asai, Y, Yamanoi, A et al. SMART MATERIALS AND STRUCTURES, 31 (2022) 105006. Cited: 11. http://dx.doi.org/10.1088/1361-665X/ac895a

318. Battery state-of-charge estimation amid dynamic usage with physics-informed deep learning. Tian, JP, Xiong, R, Lu, JH et al. ENERGY STORAGE MATERIALS, 50 (2022) . Cited: 10. http://dx.doi.org/10.1016/j.ensm.2022.06.007

319. Biodegradable magnesium metal matrix composites for biomedical implants: synthesis, mechanical performance, and corrosion behavior-a review. Krishnan, R, Pandiaraj, S, Muthusamy, S et al. JOURNAL OF MATERIALS RESEARCH AND TECHNOLOGY-JMR&T, 20 (2022) . Cited: 10. http://dx.doi.org/10.1016/j.jmrt.2022.06.178

320. Heterogeneous Nucleation Mechanisms in Systems with Large Lattice Misfit Demonstrated by the Pb(l)/Cu(s) System. Men, H and Fan, ZY METALS, 12 (2022) 1583. Cited: 8. http://dx.doi.org/10.3390/met12101583

321. Solitary wave solutions for a strain wave equation in a microstructured solid. Rehman, HU, Awan, AU, Habib, A et al. RESULTS IN PHYSICS, 39 (2022) 105755. Cited: 8. http://dx.doi.org/10.1016/j.rinp.2022.105755

322. Heterogeneous Nucleation and Grain Initiation on a Single Substrate. Fan, ZY and Men, H METALS, 12 (2022) 1454. Cited: 6. http://dx.doi.org/10.3390/met12091454