



ESI热点论文简报

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基于 ESI 数据库分领域热点论文简报 XVI

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”。

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本次简报基于 ESI 于 2023 年 7 月 13 日更新的数据，热点论文统计范围为 2021 年 5 月 -2023 年 4 月发表的论文，且在 2023 年 3-4 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②）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 9 篇

1. ⑩ In 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: 515.
<http://dx.doi.org/10.1088/1361-6382/ac086d>
2. ⑤ Replica wormholes and the black hole interior. Penington, G, Shenker, SH, Stanford, D et al. JOURNAL OF HIGH ENERGY PHYSICS, (2022) 205. Cited: 103.
[http://dx.doi.org/10.1007/JHEP03\(2022\)205](http://dx.doi.org/10.1007/JHEP03(2022)205)
3. ② Scalar Induced Gravitational Waves Review. Domenech, G UNIVERSE, 7 (2021) 398. Cited: 91. <http://dx.doi.org/10.3390/universe7110398>
4. ⑦ Dark 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: 87. <http://dx.doi.org/10.1103/PhysRevD.105.023520>
5. ④ REVIEW OF PARTICLE PHYSICS. Workman, RL, Burkert, VD, Crede, V et al. PROGRESS OF THEORETICAL AND EXPERIMENTAL PHYSICS, 2022 (2022) 083C01. Cited: 74. <http://dx.doi.org/10.1093/ptep/ptac097>
6. ③ Rates of compact object coalescences. Mandel, I and Broekgaarden, FS LIVING REVIEWS IN RELATIVITY, 25 (2022) 1. Cited: 67. <http://dx.doi.org/10.1007/s41114-021-00034-3>
7. FLAG Review 2021. Aoki, Y, Blum, T, Colangelo, G et al. EUROPEAN PHYSICAL JOURNAL C, 82 (2022) 869. Cited: 38. <http://dx.doi.org/10.1140/epjc/s10052-022-10536-1>
8. Search for singly and pair-produced leptoquarks coupling to third-generation fermions in proton-proton collisions at root s=13 TeV. Sirunyan, AM, Tumasyan, A, Adam, W et al. PHYSICS LETTERS B, 819 (2021) 136446. Cited: 35.
<http://dx.doi.org/10.1016/j.physletb.2021.136446>
9. Noninvertible duality defects in 3+1 dimensions. Choi, Y, Cordova, C, Hsin, PS et al. PHYSICAL REVIEW D, 105 (2022) 125016. Cited: 29.
<http://dx.doi.org/10.1103/PhysRevD.105.125016>

“Physics, Nuclear”热点论文 2 篇

1. ④ 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: 80.
<http://dx.doi.org/10.1016/j.nuclphysa.2022.122447>

2. Search for singly and pair-produced leptoquarks coupling to third-generation fermions in proton-proton collisions at root s=13 TeV. Sirunyan, AM, Tumasyan, A, Adam, W et al. PHYSICS LETTERS B, 819 (2021) 136446. Cited: 35.
<http://dx.doi.org/10.1016/j.physletb.2021.136446>

“Astronomy & Astrophysics”热点论文 33 篇

1. ⑩ In 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: 515.
<http://dx.doi.org/10.1088/1361-6382/ac086d>
2. ④ Population Properties of Compact Objects from the Second LIGO-Virgo Gravitational-Wave Transient Catalog. Abbott, R, Abbott, TD, Abraham, S et al. ASTROPHYSICAL JOURNAL LETTERS, 913 (2021) L7. Cited: 320. <http://dx.doi.org/10.3847/2041-8213/abe949>
3. ⑨ A 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: 296. <http://dx.doi.org/10.3847/2041-8213/ac0a81>
4. ⑨ The 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: 266. <http://dx.doi.org/10.3847/2041-8213/ac089b>
5. ⑤ First 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: 214.
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6. ⑤ A 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: 197. <http://dx.doi.org/10.3847/2041-8213/ac5c5b>
7. ④ Measurements of the Hubble Constant: Tensions in Perspective*. Freedman, WL ASTROPHYSICAL JOURNAL, 919 (2021) 16. Cited: 163. <http://dx.doi.org/10.3847/1538-4357/ac0e95>
8. ④ Stellar Population Inference with Prospector. Johnson, BD, Leja, J, Conroy, C et al. ASTROPHYSICAL JOURNAL SUPPLEMENT SERIES, 254 (2021) 22. Cited: 148.
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9. ④ Gaia EDR3 view on galactic globular clusters. Vasiliev, E and Baumgardt, H MONTHLY NOTICES OF THE ROYAL ASTRONOMICAL SOCIETY, 505 (2021) . Cited: 147.
<http://dx.doi.org/10.1093/mnras/stab1475>
10. ② The Astropy Project: Sustaining and Growing a Community-oriented Open-source Project and the Latest Major Release (v5.0) of the Core Package*. Price-Whelan, AM, Lim, PL, Earl, N et al. ASTROPHYSICAL JOURNAL, 935 (2022) 167. Cited: 134.
<http://dx.doi.org/10.3847/1538-4357/ac7c74>
11. ③ On the Evidence for a Common-spectrum Process in the Search for the Nanohertz Gravitational-wave Background with the Parkes Pulsar Timing Array. Goncharov, B, Shannon, RM, Reardon, DJ et al. ASTROPHYSICAL JOURNAL LETTERS, 917 (2021) L19. Cited: 124. <http://dx.doi.org/10.3847/2041-8213/ac17f4>
12. ③ Cosmology intertwined: A review of the particle physics, astrophysics, and cosmology associated with the cosmological tensions and anomalies. Abdalla, E, Abellán, GF, Aboubrahim, A et al. JOURNAL OF HIGH ENERGY ASTROPHYSICS, 34 (2022) . Cited: 115. <http://dx.doi.org/10.1016/j.jhep.2022.04.002>
13. ② Challenges for Λ CDM: An update. Perivolaropoulos, L and Skara, F NEW ASTRONOMY REVIEWS, 95 (2022) 101659. Cited: 99. <http://dx.doi.org/10.1016/j.newar.2022.101659>
14. ② First Sagittarius A* Event Horizon Telescope Results. III. Imaging of the Galactic Center Supermassive Black Hole. Akiyama, K, Alberdi, A, Alef, W et al. ASTROPHYSICAL JOURNAL LETTERS, 930 (2022) L14. Cited: 98. <http://dx.doi.org/10.3847/2041-8213/ac6429>
15. ② Scalar Induced Gravitational Waves Review. Domenech, G UNIVERSE, 7 (2021) 398. Cited: 91. <http://dx.doi.org/10.3390/universe7110398>
16. ⑦ Dark 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: 87. <http://dx.doi.org/10.1103/PhysRevD.105.023520>
17. ③ 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: 85.
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<http://dx.doi.org/10.3847/1538-4357/ac8e04>
22. ② Early Results from GLASS-JWST. III. Galaxy Candidates at z similar to 9-15*. Castellano, M, Fontana, A, Treu, T et al. ASTROPHYSICAL JOURNAL LETTERS, 938 (2022) L15. Cited: 49. <http://dx.doi.org/10.3847/2041-8213/ac94d0>
23. ② Two Remarkably Luminous Galaxy Candidates at z & AP; 10-12 Revealed by JWST. Naidu, RP, Oesch, PA, van Dokkum, P et al. ASTROPHYSICAL JOURNAL LETTERS, 940 (2022) L14. Cited: 49. <http://dx.doi.org/10.3847/2041-8213/ac9b22>
24. A Long Time Ago in a Galaxy Far, Far Away: A Candidate z similar to 12 Galaxy in Early JWST CEERS Imaging. Finkelstein, SL, Bagley, MB, Haro, PA et al. ASTROPHYSICAL JOURNAL LETTERS, 940 (2022) L55. Cited: 46. <http://dx.doi.org/10.3847/2041-8213/ac966e>
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26. The evolution of the galaxy UV luminosity function at redshifts z similar or equal to 8-15 from deep JWST and ground-based near-infrared imaging. Donnan, CT, McLeod, DJ, Dunlop, JS et al. MONTHLY NOTICES OF THE ROYAL ASTRONOMICAL SOCIETY, 518 (2023) . Cited: 39. <http://dx.doi.org/10.1093/mnras/stac3472>
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31. Noninvertible duality defects in 3+1 dimensions. Choi, Y, Cordova, C, Hsin, PS et al. PHYSICAL REVIEW D, 105 (2022) 125016. Cited: 29.
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33. The brightest galaxies at cosmic dawn. Mason, CA, Trenti, M, Treu, T et al. MONTHLY NOTICES OF THE ROYAL ASTRONOMICAL SOCIETY, 521 (2023) . Cited: 12.
<http://dx.doi.org/10.1093/mnras/stad035>

“Materials Science, Multidisciplinary”热点论文 339 篇

1. ⑤Aptamer-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: 923. <http://dx.doi.org/10.1021/acsami.1c05751>
2. ⑪Non-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: 917. <http://dx.doi.org/10.1038/s41560-021-00820-x>
3. ⑨Single-Junction Organic Photovoltaic Cell with 19% Efficiency. Cui, Y, Xu, Y, Yao, HF et al. ADVANCED MATERIALS, 33 (2021) 2102420. Cited: 800.
<http://dx.doi.org/10.1002/adma.202102420>
4. ⑩Lipid nanoparticles for mRNA delivery. Hou, XC, Zaks, T, Langer, R et al. NATURE REVIEWS MATERIALS, 6 (2021) . Cited: 648. <http://dx.doi.org/10.1038/s41578-021-00358-0>
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6. ⑥Single-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: 577. <http://dx.doi.org/10.1038/s41563-022-01244-y>
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