

# Mark Bernard Hindmarsh

## List of Publications by Citations

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112  
papers

4,770  
citations

42  
h-index

66  
g-index

122  
ext. papers

5,596  
ext. citations

5.5  
avg, IF

6.19  
L-index

| #   | Paper   | IF  | Citations |
|-----|---|-----|-----------|
| 112 | Science with the space-based interferometer eLISA. II: gravitational waves from cosmological phase transitions. <i>Journal of Cosmology and Astroparticle Physics</i> , <b>2016</b> , 2016, 001-001 | 6.4 | 352       |
| 111 | Gravitational waves from the sound of a first order phase transition. <i>Physical Review Letters</i> , <b>2014</b> , 112, 041301  | 7.4 | 218       |
| 110 | Numerical simulations of acoustically generated gravitational waves at a first order phase transition. <i>Physical Review D</i> , <b>2015</b> , 92,   | 4.9 | 198       |
| 109 | Detecting gravitational waves from cosmological phase transitions with LISA: an update. <i>Journal of Cosmology and Astroparticle Physics</i> , <b>2020</b> , 2020, 024-024                         | 6.4 | 173       |
| 108 | Fitting cosmic microwave background data with cosmic strings and inflation. <i>Physical Review Letters</i> , <b>2008</b> , 100, 021301  | 7.4 | 148       |
| 107 | Existence and stability of semilocal strings. <i>Physical Review Letters</i> , <b>1992</b> , 68, 1263-1266  | 7.4 | 147       |
| 106 | Numerical Simulations of String Networks in the Abelian-Higgs Model. <i>Physical Review Letters</i> , <b>1998</b> , 80, 2277-2280   | 7.4 | 142       |
| 105 | Inverse cascade in decaying three-dimensional magnetohydrodynamic turbulence. <i>Physical Review E</i> , <b>2001</b> , 64, 056405   | 2.4 | 140       |
| 104 | CMB power spectrum contribution from cosmic strings using field-evolution simulations of the Abelian Higgs model. <i>Physical Review D</i> , <b>2007</b> , 75,                                      | 4.9 | 138       |
| 103 | Shape of the acoustic gravitational wave power spectrum from a first order phase transition. <i>Physical Review D</i> , <b>2017</b> , 96,   | 4.9 | 133       |
| 102 | Ghosts, instabilities, and superluminal propagation in modified gravity models. <i>Journal of Cosmology and Astroparticle Physics</i> , <b>2006</b> , 2006, 005-005                                 | 6.4 | 107       |
| 101 | Scaling and small-scale structure in cosmic string networks. <i>Physical Review D</i> , <b>1997</b> , 56, 637-646   | 4.9 | 87        |
| 100 | Signals of Inflationary Models with Cosmic Strings. <i>Progress of Theoretical Physics Supplement</i> , <b>2011</b> , 190, 197-228  |     | 86        |
| 99  | Semilocal topological defects. <i>Nuclear Physics B</i> , <b>1993</b> , 392, 461-489  | 2.8 | 83        |
| 98  | CMB power spectra from cosmic strings: Predictions for the Planck satellite and beyond. <i>Physical Review D</i> , <b>2010</b> , 82,  | 4.9 | 79        |
| 97  | Primordial black holes with an accurate QCD equation of state. <i>Journal of Cosmology and Astroparticle Physics</i> , <b>2018</b> , 2018, 041-041  | 6.4 | 78        |
| 96  | Power Spectra of the Cosmic Microwave Background and Density Fluctuations Seeded by Local Cosmic Strings. <i>Physical Review Letters</i> , <b>1999</b> , 82, 679-682                                | 7.4 | 76        |

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| 95 | Abelian Higgs cosmic strings: Small-scale structure and loops. <i>Physical Review D</i> , <b>2009</b> , 79,  | 4.9 | 75 |
| 94 | Gravitational waves from vacuum first-order phase transitions: From the envelope to the lattice. <i>Physical Review D</i> , <b>2018</b> , 97,  | 4.9 | 74 |
| 93 | Exact scale-invariant background of gravitational waves from cosmic defects. <i>Physical Review Letters</i> , <b>2013</b> , 110, 101302  | 7.4 | 70 |
| 92 | Cosmic Microwave Background and Density Fluctuations from Strings plus Inflation. <i>Physical Review Letters</i> , <b>1999</b> , 82, 2034-2037   | 7.4 | 66 |
| 91 | CMB polarization power spectra contributions from a network of cosmic strings. <i>Physical Review D</i> , <b>2007</b> , 76,  | 4.9 | 64 |
| 90 | Sound Shell Model for Acoustic Gravitational Wave Production at a First-Order Phase Transition in the Early Universe. <i>Physical Review Letters</i> , <b>2018</b> , 120, 071301               | 7.4 | 58 |
| 89 | WMAP constraints on inflationary models with global defects. <i>Physical Review D</i> , <b>2004</b> , 70,  | 4.9 | 55 |
| 88 | Scaling from gauge and scalar radiation in Abelian-Higgs string networks. <i>Physical Review D</i> , <b>2017</b> , 96,   | 4.9 | 53 |
| 87 | Dark matter of weakly interacting massive particles and the QCD equation of state. <i>Physical Review D</i> , <b>2005</b> , 71,  | 4.9 | 53 |
| 86 | Magnetic fields from phase transitions. <i>Physical Review D</i> , <b>1998</b> , 58,   | 4.9 | 53 |
| 85 | Gravitational radiation from kinky infinite strings. <i>Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics</i> , <b>1990</b> , 251, 28-33                        | 4.2 | 52 |
| 84 | CMB temperature bispectrum induced by cosmic strings. <i>Physical Review D</i> , <b>2009</b> , 80,   | 4.9 | 49 |
| 83 | Cosmic string parameter constraints and model analysis using small scale Cosmic Microwave Background data. <i>Journal of Cosmology and Astroparticle Physics</i> , <b>2011</b> , 2011, 021-021 | 6.4 | 49 |
| 82 | New CMB constraints for Abelian Higgs cosmic strings. <i>Journal of Cosmology and Astroparticle Physics</i> , <b>2016</b> , 2016, 042-042  | 6.4 | 48 |
| 81 | Vorticity, Kinetic Energy, and Suppressed Gravitational-Wave Production in Strong First-Order Phase Transitions. <i>Physical Review Letters</i> , <b>2020</b> , 125, 021302                    | 7.4 | 47 |
| 80 | Gravitational waves from first order cosmological phase transitions in the Sound Shell Model. <i>Journal of Cosmology and Astroparticle Physics</i> , <b>2019</b> , 2019, 062-062              | 6.4 | 47 |
| 79 | Cosmic microwave anisotropies from BPS semilocal strings. <i>Journal of Cosmology and Astroparticle Physics</i> , <b>2008</b> , 2008, 010  | 6.4 | 46 |
| 78 | Smooth metrics for snapping strings. <i>Physical Review D</i> , <b>1995</b> , 52, 5598-5604  | 4.9 | 46 |

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| 77 | Baryogenesis from collapsing topological defects. <i>Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics</i> , <b>1991</b> , 263, 239-244 | 4.2 | 46 |
| 76 | Asymptotically safe cosmology. <i>Journal of Cosmology and Astroparticle Physics</i> , <b>2011</b> , 2011, 019-019   | 6.4 | 45 |
| 75 | Scaling in numerical simulations of domain walls. <i>Physical Review D</i> , <b>2003</b> , 68,   | 4.9 | 45 |
| 74 | Can topological defects mimic the BICEP2 B-mode signal?. <i>Physical Review Letters</i> , <b>2014</b> , 112, 171301  | 7.4 | 44 |
| 73 | Numerical investigations of oscillons in 2 dimensions. <i>Physical Review D</i> , <b>2006</b> , 74,  | 4.9 | 43 |
| 72 | f(R) gravity from the renormalization group. <i>Physical Review D</i> , <b>2012</b> , 86,  | 4.9 | 42 |
| 71 | Scaling in a SU(2)/Bbb Z3model of cosmic superstring networks. <i>Journal of High Energy Physics</i> , <b>2006</b> , 2006, 066-066                                     | 5.4 | 42 |
| 70 | Radiation and relaxation of oscillons. <i>Physical Review D</i> , <b>2012</b> , 85,  | 4.9 | 41 |
| 69 | CMB temperature trispectrum of cosmic strings. <i>Physical Review D</i> , <b>2010</b> , 81,  | 4.9 | 38 |
| 68 | Small-scale microwave background fluctuations from cosmic strings. <i>Astrophysical Journal</i> , <b>1994</b> , 431, 534   | 4.7 | 37 |
| 67 | Formation of topological defects in first order phase transitions. <i>Physical Review D</i> , <b>1994</b> , 49, 1944-1950  | 4.9 | 36 |
| 66 | Correlations in cosmic string networks. <i>Physical Review D</i> , <b>1997</b> , 55, 573-581   | 4.9 | 33 |
| 65 | Analytic Scaling Solutions for Cosmic Domain Walls. <i>Physical Review Letters</i> , <b>1996</b> , 77, 4495-4498   | 7.4 | 32 |
| 64 | Low-cost fermions in classical field simulations. <i>Physical Review D</i> , <b>2009</b> , 79,   | 4.9 | 31 |
| 63 | Oscillons and domain walls. <i>Physical Review D</i> , <b>2008</b> , 77,   | 4.9 | 31 |
| 62 | Origin of the sphaleron dipole moment. <i>Physical Review D</i> , <b>1994</b> , 49, 6109-6114  | 4.9 | 31 |
| 61 | Thermodynamics of Cosmic String Densities in U(1) Scalar Field Theory. <i>Physical Review Letters</i> , <b>1998</b> , 80, 908-911                                      | 7.4 | 30 |
| 60 | Simulations of Cold Electroweak Baryogenesis: finite time quenches. <i>Journal of High Energy Physics</i> , <b>2007</b> , 2007, 034-034                                | 5.4 | 28 |

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| 59 | Detecting and distinguishing topological defects in future data from the CMBPol satellite. <i>Physical Review D</i> , <b>2011</b> , 83,                              | 4.9 | 27 |
| 58 | Unsuccessful cosmology with modified gravity models. <i>Journal of Cosmology and Astroparticle Physics</i> , <b>2007</b> , 2007, 028-028                             | 6.4 | 27 |
| 57 | Energy-momentum correlations for Abelian Higgs cosmic strings. <i>Physical Review D</i> , <b>2016</b> , 93,  | 4.9 | 26 |
| 56 | Constraining topological defects with temperature and polarization anisotropies. <i>Physical Review D</i> , <b>2014</b> , 90,  | 4.9 | 26 |
| 55 | Degeneracy between primordial tensor modes and cosmic strings in future CMB data from the Planck satellite. <i>Physical Review D</i> , <b>2008</b> , 77,             | 4.9 | 26 |
| 54 | Gravitational waves from vacuum first-order phase transitions. II. From thin to thick walls. <i>Physical Review D</i> , <b>2021</b> , 103,                           | 4.9 | 26 |
| 53 | Cosmic microwave background constraints for global strings and global monopoles. <i>Journal of Cosmology and Astroparticle Physics</i> , <b>2017</b> , 2017, 026-026 | 6.4 | 25 |
| 52 | Phase transitions in the early universe. <i>SciPost Physics Lecture Notes</i> ,  |     | 25 |
| 51 | Renormalization group improvement of scalar field inflation. <i>Physical Review D</i> , <b>2012</b> , 85,  | 4.9 | 24 |
| 50 | Scaling Density of Axion Strings. <i>Physical Review Letters</i> , <b>2020</b> , 124, 021301   | 7.4 | 23 |
| 49 | Bound states and instabilities of vortices. <i>Physical Review D</i> , <b>1995</b> , 52, 4621-4632   | 4.9 | 20 |
| 48 | Sphalerons in two Higgs doublet theories. <i>Physical Review D</i> , <b>2001</b> , 64,   | 4.9 | 19 |
| 47 | Instabilities of electroweak strings. <i>Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics</i> , <b>1995</b> , 363, 58-64             | 4.2 | 19 |
| 46 | The dynamical equivalence of modified gravity revisited. <i>Classical and Quantum Gravity</i> , <b>2011</b> , 28, 035003,3   | 3.3 | 18 |
| 45 | Level set method for the evolution of defect and brane networks. <i>Physical Review D</i> , <b>2003</b> , 68,  | 4.9 | 18 |
| 44 | Where are the hedgehogs in quenched nematics?. <i>Physical Review Letters</i> , <b>1995</b> , 75, 2502-2505  | 7.4 | 18 |
| 43 | Big-bang nucleosynthesis and gamma-ray constraints on cosmic strings with a large Higgs condensate. <i>Physical Review D</i> , <b>2015</b> , 91,                     | 4.9 | 17 |
| 42 | Sphalerons with CP-violating Higgs potentials. <i>Physical Review D</i> , <b>1999</b> , 59,  | 4.9 | 17 |

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| 41 | New Solutions for Non-Abelian Cosmic Strings. <i>Physical Review Letters</i> , <b>2016</b> , 117, 251601   | 7.4  | 17 |
| 40 | Semiclassical decay of topological defects. <i>Physical Review D</i> , <b>2008</b> , 77,   | 4.9  | 16 |
| 39 | Irreducible background of gravitational waves from a cosmic defect network: Update and comparison of numerical techniques. <i>Physical Review D</i> , <b>2020</b> , 102,             | 4.9  | 15 |
| 38 | Numerical simulations of necklaces in SU(2) gauge-Higgs field theory. <i>Physical Review D</i> , <b>2017</b> , 95,   | 4.9  | 12 |
| 37 | Covariant closed string coherent states. <i>Physical Review Letters</i> , <b>2011</b> , 106, 081602  | 7.4  | 12 |
| 36 | Kinky brane worlds. <i>Physical Review D</i> , <b>2003</b> , 68,   | 4.9  | 12 |
| 35 | Generalized semilocal theories and higher Hopf maps. <i>Nuclear Physics B</i> , <b>1993</b> , 404, 794-804   | 2.8  | 12 |
| 34 | Superconducting cosmic strings with coupled zero modes. <i>Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics</i> , <b>1988</b> , 200, 429-433         | 4.2  | 12 |
| 33 | Challenges and opportunities of gravitational-wave searches at MHz to GHz frequencies. <i>Living Reviews in Relativity</i> , <b>2021</b> , 24, 1                                     | 32.5 | 12 |
| 32 | Type I Abelian Higgs strings: Evolution and cosmic microwave background constraints. <i>Physical Review D</i> , <b>2019</b> , 99,  | 4.9  | 10 |
| 31 | String vertex operators and cosmic strings. <i>Physical Review D</i> , <b>2011</b> , 84,   | 4.9  | 10 |
| 30 | Universality and critical phenomena in string defect statistics. <i>Physical Review E</i> , <b>1997</b> , 55, 1120-1149  | 2.4  | 10 |
| 29 | Superconducting cosmic strings in grand unified models. <i>Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics</i> , <b>1989</b> , 225, 127-132         | 4.2  | 10 |
| 28 | Gravitational effects of line sources and the zero-width limit. <i>Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics</i> , <b>1990</b> , 251, 498-502 | 4.2  | 10 |
| 27 | Kink-boundary collisions in a two-dimensional scalar field theory. <i>Physical Review D</i> , <b>2004</b> , 69,  | 4.9  | 9  |
| 26 | Thermal fluctuations at second-order phase transitions. <i>Nuclear Physics B</i> , <b>1994</b> , 417, 506-526  | 2.8  | 8  |
| 25 | Approach to scaling in axion string networks. <i>Physical Review D</i> , <b>2021</b> , 103,  | 4.9  | 8  |
| 24 | Dark matter from decaying topological defects. <i>Journal of Cosmology and Astroparticle Physics</i> , <b>2014</b> , 2014, 037-037   | 6.4  | 7  |

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| 23 | Axions and the QCD phase transition. <i>Physical Review D</i> , <b>1992</b> , 45, 1130-1138   | 4.9 | 7 |
| 22 | Loop decay in Abelian-Higgs string networks. <i>Physical Review D</i> , <b>2021</b> , 104,  | 4.9 | 7 |
| 21 | Strictly anomaly mediated supersymmetry breaking. <i>Physical Review D</i> , <b>2013</b> , 87,  | 4.9 | 6 |
| 20 | Observational prospects for phase transitions at LISA: Fisher matrix analysis. <i>Journal of Cosmology and Astroparticle Physics</i> , <b>2021</b> , 2021, 039                | 6.4 | 6 |
| 19 | Gravitational waves from a holographic phase transition. <i>Journal of High Energy Physics</i> , <b>2021</b> , 2021, 1  | 5.4 | 6 |
| 18 | The bispectrum of cosmic string temperature fluctuations including recombination effects. <i>Journal of Cosmology and Astroparticle Physics</i> , <b>2015</b> , 2015, 030-030 | 6.4 | 5 |
| 17 | Improving cosmic string network simulations. <i>Physical Review D</i> , <b>2014</b> , 90,   | 4.9 | 5 |
| 16 | Cosmic electroweak strings. <i>Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics</i> , <b>1996</b> , 370, 29-36                                | 4.2 | 5 |
| 15 | Dark matter with topological defects in the Inert Doublet Model. <i>Journal of Cosmology and Astroparticle Physics</i> , <b>2015</b> , 2015, 048-048                          | 6.4 | 4 |
| 14 | The bispectrum of matter perturbations from cosmic strings. <i>Journal of Cosmology and Astroparticle Physics</i> , <b>2015</b> , 2015, 008-008                               | 6.4 | 4 |
| 13 | Consistent cosmology with Higgs thermal inflation in a minimal extension of the MSSM. <i>Journal of Cosmology and Astroparticle Physics</i> , <b>2013</b> , 2013, 021-021     | 6.4 | 4 |
| 12 | Anomaly mediation and cosmology. <i>Journal of High Energy Physics</i> , <b>2011</b> , 2011, 1  | 5.4 | 4 |
| 11 | Inhomogeneous tachyon condensation. <i>Journal of High Energy Physics</i> , <b>2009</b> , 2009, 050-050   | 5.4 | 4 |
| 10 | Large radius Hagedorn regime in string gas cosmology. <i>Physical Review D</i> , <b>2008</b> , 78,  | 4.9 | 4 |
| 9  | Particle motion in weak relativistic gravitational fields. <i>Physical Review D</i> , <b>2012</b> , 86,   | 4.9 | 3 |
| 8  | Scaling in necklaces of monopoles and semipoles. <i>Physical Review D</i> , <b>2018</b> , 98,   | 4.9 | 3 |
| 7  | Perturbations and moduli space dynamics of tachyon kinks. <i>Physical Review D</i> , <b>2008</b> , 77,  | 4.9 | 2 |
| 6  | Simulations of Cold Electroweak Baryogenesis. <i>Nuclear Physics A</i> , <b>2007</b> , 785, 102-105   | 1.3 | 2 |

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| 5 | Structure formation with strings plus inflation: a new paradigm <b>1999</b> ,  |     | 2 |
| 4 | Massless modes on cosmic strings. <i>Physica B: Condensed Matter</i> , <b>1992</b> , 178, 47-55  | 2.8 | 2 |
| 3 | Effective actions and bubble nucleation from holography. <i>Physical Review D</i> , <b>2022</b> , 105,   | 4.9 | 2 |
| 2 | Gravitational Waves at Strong Coupling from an Effective Action.. <i>Physical Review Letters</i> , <b>2022</b> , 128, 131101                   | 7.4 | 1 |
| 1 | Fitting BICEP2 with defects, primordial gravitational waves and dust. <i>Journal of Physics: Conference Series</i> , <b>2015</b> , 600, 012025 | 0.3 |   |