

### Publication of “Dongsu Ryu”: Papers Appeared in SCI Journals

1. The Growth of Linear Perturbations of Adiabatic Shock Waves, Ryu, D. & Vishniac, E. T. 1987, The Astrophysical Journal, 313, 820-841.
2. A Linear Stability Analysis for Wind Driven Bubbles, Ryu, D. & Vishniac, E. T. 1988, The Astrophysical Journal, 331, 350-358.
3. A Model for the Evolution of the Intergalactic Medium, Chiang, W. - H., Ryu, D., & Vishniac, E. T. 1988, Publications of the Astronomical Society of the Pacific, 100, 1386-1392.
4. On the Stability of Decelerating Shocks, Vishniac, E. T. & Ryu, D. 1989, The Astrophysical Journal, 337, 917-926.
5. Evolution of the Intergalactic Medium in a Cold Dark Matter Dominated Universe, Chiang, W. - H., Ryu, D., & Vishniac, E. T. 1989, The Astrophysical Journal, 339, 603-618.
6. Neutron Stars and White Dwarfs in Galactic Halos?, Ryu, D., Olive, K. A., & Silk, J. 1990, The Astrophysical Journal, 353, 81-89.
7. A Model for the Distribution of the Intergalactic Medium, Ryu, D., Vishniac, E. T., & Chiang, W. - H. 1990, The Astrophysical Journal, 354, 389-399.
8. The Dynamic Instability of Adiabatic Blastwaves, Ryu, D. & Vishniac, E. T. 1991, The Astrophysical Journal, 368, 411-425.
9. Acoustic Instability in Cosmic Ray Mediated Shocks, Kang, H., Jones, T. W., & Ryu, D. 1992, The Astrophysical Journal, 385, 193-204.
10. Convective Instability in Differentially Rotating Disks, Ryu, D. & Goodman, J. 1992, The Astrophysical Journal, 388, 438-450.
11. The Stability of Cosmic Ray Dominated Shocks: A Secondary Instability, Ryu, D., Kang, H., & Jones, T. W. 1993, The Astrophysical Journal, 405, 199-206.
12. A Cosmological Hydrodynamic Code Based on the Total Variation Diminishing Scheme, Ryu, D., Ostriker, J. P., Kang, H., & Cen R. 1993, The Astrophysical Journal, 414, 1-19.
13. Nonlinear Evolution of Tidally Distorted Accretion Disks: Two-Dimensional Simulations, Ryu, D. & Goodman, J. 1994, The Astrophysical Journal, 422, 269-288.
14. Oblique MHD Cosmic-Ray Mediated Shocks: Two-Fluid Numerical Simulations, Frank, A., Jones, T. W., & Ryu, D. 1994, The Astrophysical Journal Supplement Series, 90, 975-980.
15. Hot Gas in the CDM Scenario: X-Ray Clusters from a High Resolution Numerical Simulation, Kang, H., Cen R., Ostriker, J. P., & Ryu, D. 1994, The Astrophysical Journal, 428, 1-17.
16. A Comparison of Cosmological Hydrodynamic Codes, Kang, H., Ostriker, J. P., Cen, R., Ryu, D., Hernquist, L., Evrard, A. E., Bryan, G. L., & Norman, M. L. 1994, The Astrophysical Journal, 430, 83-100.
17. Time-dependent Simulation of Oblique MHD Cosmic-ray Shocks using the Two-fluid Model, Frank, A., Jones, T. W., & Ryu, D. 1995, The Astrophysical Journal, 441, 629-643.
18. Numerical Magnetohydrodynamics in Astrophysics: Algorithm and Tests for One-Dimensional Flow, Ryu, D. & Jones, T. W. 1995, The Astrophysical Journal, 442, 228-258.

19. Background X-ray Emission from Hot Gas in CDM and CDM+ $\Lambda$  Universes: Spectral Signatures, Cen, R., Kang, H., Ostriker, J. P., & Ryu, D. 1995, *The Astrophysical Journal*, 451, 436-443.
20. Stable and Unstable Accretion Flows with Angular Momentum near a Point Mass, Ryu, D., Brown, G. L., Ostriker, J. P., & Loeb, A. 1995, *The Astrophysical Journal*, 452, 364-378.
21. Numerical Magnetohydrodynamics in Astrophysics: Algorithm and Tests for Multi-Dimensional Flow, Ryu, D., Jones, T. W., & Frank, A. 1995, *The Astrophysical Journal*, 452, 785-796.
22. A Multidimensional Magnetohydrodynamic Code in Cylindrical Geometry, Ryu, D., Yun, H. S., & Choe, S.-U. 1995, *Journal of Korean Astronomical Society*, 28, 223-243.
23. Cluster Accretion Shocks as Possible Acceleration Sites for Ultra High Energy Protons below the Greisen Cutoff, Kang, H., Ryu, D., & Jones, T. W. 1996, *The Astrophysical Journal*, 456, 422-427.
24. The MHD Kelvin-Helmholtz Instability: A Two-Dimensional Numerical Study, Frank, A., Jones, T. W., Ryu, D., & Gaalaas, J. B. 1996, *The Astrophysical Journal*, 460, 777-793.
25. Global Aspects of Elliptical Instability in Tidally Distorted Accretion Disks, Ryu, D., Goodman, J., & Vishniac, E. T. 1996, *The Astrophysical Journal*, 461, 805-811.
26. Supersonic Collisions between Two Gas Streams, Lee, H. M., Kang, H., & Ryu, D. 1996, *The Astrophysical Journal*, 464, 131-140.
27. Numerical Simulations of Standing Shocks in Accretion Flows around Black Holes: A Comparative Study, Molteni, D., Ryu, D., & Chakrabarti, S. L. 1996, *The Astrophysical Journal*, 470, 460-469.
28. The Magnetohydrodynamics of Supersonic Gas Clouds: MHD Cosmic Bullets and Wind-Swept Clumps, Jones, T. W., Ryu, D., & Tregillis, I. L. 1996, *The Astrophysical Journal*, 473, 365-382.
29. Zero Energy Rotating Accretion Flows near a Black Hole, Ryu, D., Chakrabarti, S. L., & Molteni, D. 1997, *The Astrophysical Journal*, 474, 378-388.
30. Accreting Matter around Clusters of Galaxies: One-Dimensional Considerations, Ryu, D. & Kang, H. 1997, *Monthly Notices of the Royal Astronomical Society*, 284, 416-424.
31. The Protogalactic Origin for Cosmic Magnetic Fields, Kulsrud, R. M., Cen, R., Ostriker, J. P., & Ryu, D. 1997, *The Astrophysical Journal*, 480, 481-491.
32. The MHD Kelvin-Helmholtz Instability II: The Roles of Weak and Oblique Fields in Planar Flows, Jones, T. W., Gaalaas, J. B., Ryu, D., & Frank, A. 1997, *The Astrophysical Journal*, 482, 230-244.
33. The Parker Instability under a Linear Gravity, Kim, J., Hong, S. S., & Ryu, D. 1997, *The Astrophysical Journal*, 485, 228-239.
34. Hydrodynamics of Cloud Collisions in 2D: The Fate of Clouds in a Multi-phase Medium, Miniati, F., Jones, T. W., Ferrara, A., & Ryu, D. 1997, *The Astrophysical Journal*, 491, 216-232.
35. Effects of Cooling on the Propagation of Magnetized Jets, Frank, A., Ryu, D., Jones, T. W., & Noriega-Crespo, A. 1998, *The Astrophysical Journal Letters*, 494, L79-L83.

36. Baryonic Fraction in the Cold Plus Hot Dark Matter Universe, Choi, E. & Ryu, D. 1998, Monthly Notices of the Royal Astronomical Society, 296, 109-118.
37. Cosmic Magnetic Fields in Large Scale Filaments and Sheets, Ryu, D., Kang, H., & Biermann, P. L. 1998, Astronomy and Astrophysics, 335, 19-25.
38. Where's the Doughnut? LBV Bubbles and Aspherical Fast Winds, Frank, A., Ryu, D., & Davidson, K. 1998, The Astrophysical Journal, 500, 291-301.
39. Three-Dimensional Evolution of the Parker Instability under a Uniform Gravity, Kim, J., Hong, S. S., Ryu, D., & Jones, T. W. 1998, The Astrophysical Journal Letters, 506, L139-L142.
40. A Divergence-Free Upwind Code for Multidimensional Magnetohydrodynamic Flows, Ryu, D., Miniati, F., Jones, T. W., & Frank, A. 1998, The Astrophysical Journal, 509, 244-255.
41. Magnetohydrodynamics of Cloud Collisions in a Multi-phase Interstellar Medium, Miniati, F., Ryu, D., Ferrara, A., & Jones, T. W. 1999, The Astrophysical Journal, 510, 726-746.
42. Simulating Electron Transport and Synchrotron Emission in Radio Galaxies: Shock Acceleration and Synchrotron Aging in Axis-symmetric Flows, Jones, T. W., Ryu, D., & Engel, A. 1999, The Astrophysical Journal, 512, 105-124.
43. A Multidimensional Code for Isothermal Magnetohydrodynamic Flows in Astrophysics, Kim, J., Ryu, D., Jones, T. W., & Hong, S. S. 1999, The Astrophysical Journal, 514, 506-519.
44. On the Exchange of Kinetic and Magnetic Energy Between Clouds and the Interstellar Medium, Miniati, F., Jones, T. W., & Ryu, D. 1999, The Astrophysical Journal, 517, 242-255.
45. Multidimensional Simulations of Relativistic Electron Transport and Synchrotron Emission in Radio Galaxies, Jones, T. W., Ryu, D., & Tregillis, I. L. 1999, Astronomische Nachrichten, 320, 366.
46. Enhanced Cloud Disruption by Magnetic Field Interaction, Gregori, G., Miniati, F., Ryu, D., & Jones, T. W. 1999, The Astrophysical Journal Letters, 527, L113-L116.
47. The MHD Kelvin-Helmholtz Instability III: The Role of Sheared Magnetic Field in Planar Flows, Jeong, H., Ryu, D., Jones, T. W., & Frank, A. 2000, The Astrophysical Journal, 529, 536-547.
48. Influence of Magnetic Fields on Pulsed, Radiative Jets, Gardiner, T. A., Frank, A., Jones, T. W., & Ryu, D. 2000, The Astrophysical Journal, 530, 834-850.
49. Computer Studies of the Three-Dimensional Magnetic Reconnection with the Superimposed B-y Component, Lee, E., Min, K.W., Seon, J., Lee, L.C., & Ryu, D. 2000, Journal of Geophysical Research: Space Physics, 105, 5529-5540.
50. The Propagation of Magneto-Centrifugally Launched Jets: I, Frank, A., Lery, T., Gardiner, T. A., Jones, T. W., & Ryu, D. 2000, The Astrophysical Journal, 540, 342-361.
51. Properties of Cosmic Shock Waves in Large Scale Structure Formation, Miniati, F., Ryu, D., Kang, H., Jones, T. W., Cen, R., & Ostriker, J. P. 2000, The Astrophysical Journal, 542, 608-621.
52. IUE Spectra of the Seyfert 1 Galaxies Mrk 335 and NGC 4051, Hyung, S., Kim, H., Lee, W. B., Lee, S.-J., Ryu, D., & Lee, H.-W. 2000, Journal of Korean Astronomical Society, 33, 81-88.
53. Formation and Proto-Globular Cluster Clouds by Thermal Instability, Kang, H., Lake, G., &

Ryu, D. 2000, *Journal of Korean Astronomical Society*, 33, 111-121.

54. Three-Dimensional Magnetohydrodynamic Numerical Simulations of Cloud-Wind Interactions, Gregori, G., Miniati, F., Ryu, D., & Jones, T. W. 2000, *The Astrophysical Journal*, 543, 775-786.

55. The Parker Instability in a Thick Gaseous Disk II: Numerical Simulations in 2D, Santillán, A., Kim, J., Franco, J., Martos, M., Hong, S. S., & Ryu, D. 2000, *The Astrophysical Journal*, 545, 353-363.

56. The Magnetohydrodynamic Kelvin-Helmholtz Instability: A Three-Dimensional Study of Nonlinear Evolution, Ryu, D., Jones, T. W., & Frank, A. 2000, *The Astrophysical Journal*, 545, 475-493.

57. Three-dimensional Simulations of the Parker Instability in a Uniformly-rotating Disk, Kim, J., Ryu, D., & Jones, T. W. 2001, *The Astrophysical Journal*, 557, 464-474.

58. Simulating Electron Transport and Synchrotron Emission in Radio Galaxies: Shock Acceleration and Synchrotron Aging in Three-Dimensional Flows, Tregillis, I. L., Jones, T. W., & Ryu, D. 2001, *The Astrophysical Journal*, 557, 475-491.

59. Cosmic Ray Protons Accelerated at Cosmological Shocks and Their Impact on Groups and Clusters of Galaxies, Miniati, F., Ryu, D., Kang, H., & Jones, T. W. 2001, *The Astrophysical Journal*, 559, 59-69.

60. The Effect of the Random Magnetic Field Component on the Parker Instability, Kim, J. & Ryu, D. 2001, *The Astrophysical Journal Letters*, 561, L135-L138.

61. Cosmic Ray Electrons in Groups and Clusters of Galaxies: Primary and Secondary Populations from a Numerical Cosmological Simulation, Miniati, F., Jones, T. W., Kang, H., & Ryu, D. 2001, *The Astrophysical Journal*, 562, 233-253.

62. Magnetohydrodynamics Code Basics, Ryu, D. 2001, *Journal of Korean Astronomical Society*, 34, 209-213.

63. An Isothermal Magnetohydrodynamic Code and Its Application to the Parker Instability, Kim, J., Ryu, D., Jones, T. W., & Hong, S. S. 2001, *Journal of Korean Astronomical Society*, 34, 281-283.

64. Transonic Magnetohydrodynamic Turbulence, Lee, H., Ryu, D., Kim, J., & Jones, T. W. 2001, *Journal of Korean Astronomical Society*, 34, 321-323.

65. Simulations of Nonthermal Electron Transport in Multidimensional Flows: Application to Radio Galaxies, Jones, T. W., Tregillis, I. L., & Ryu, D. 2002, *New Astronomy Reviews*, 46, 381-385.

66. Simulations of Nonthermal Electron Transport in Multidimensional Flows: Synthetic Observations of Radio Galaxies, Tregillis, I. L., Jones, T. W., Ryu, D., & Park, C. 2002, *New Astronomy Reviews*, 46, 387-391.

67. Computation of Relativistic Electron Acceleration, Transport and Emission in Complex Astrophysical Flows, Jones, T. W., Tregillis, I. L., & Ryu, D. 2002, *Computer Physics Communications*, 147, 476-479.

68. Two-Dimensional Axisymmetric Collapse of Thermally Unstable Primordial Clouds, Baek,

- C. H., Kang, H., & Ryu, D. 2003, The Astrophysical Journal, 584, 675-690.
69. Dynamical Influence of Cosmic Rays on Cosmic Structures, Ryu, D. 2003, Journal of Korean Physical Society, 42, S16-S20.
70. The Effect of Cosmic-Ray Diffusion on the Parker Instability, Ryu, D., Kim, J., Jones, T. W., & Hong, S. S. 2003, The Astrophysical Journal, 589, 338-346.
71. Cosmological Shock Waves and Their Role in the Large Scale Structure of the Universe, Ryu, D., Kang, H., Hallman, E., & Jones, T. W. 2003, The Astrophysical Journal, 593, 599-610.
72. Numerical Study of Compressible Magnetohydrodynamic Turbulence in Two Dimensions, Lee, H., Ryu, D., Kim, J., Jones, T. W., & Balsara, D. 2003, The Astrophysical Journal, 594, 627-636.
73. Clusters of Galaxies: Shock Waves and Cosmic Rays, Ryu, D. & Kang, H. 2003, Journal of Korean Astronomical Society, 36, 105-110.
74. Synthetic Observations of Simulated Radio Galaxies I: Radio and X-ray Analysis, Tregillis, I. L., Jones, T. W., & Ryu, D. 2004, The Astrophysical Journal, 601, 778-797.
75. Is the Parker Instability a Viable Mechanism for the Formation of Giant Molecular Clouds? Kim, J., Ryu, D., & Hong, S. S. 2004, Astrophysics and Space Science, 292, 255-260.
76. Cosmic Rays Accelerated at Shock Waves in Large Scale Structure, Ryu, D. & Kang, H. 2004, Journal of Korean Astronomical Society, 37, 477-482.
77. Simulating Nonthermal Radiation from Cluster Radio Galaxies, Tregillis, I. L., Jones, T. W., & Ryu, D. 2004, Journal of Korean Astronomical Society, 37, 509-515.
78. Finding Cosmic Shocks: Synthetic X-ray Analysis of a Cosmological Simulation, Hallman, E. J., Ryu, D., Kang, H., & Jones, T. W. 2004, Journal of Korean Astronomical Society, 37, 593-596.
79. 3D Simulations of Radio Galaxy Evolution in Cluster Media, O'Neill, S. M., Shearer, P., Tregillis, I. L., Jones, T. W., & Ryu, D. 2004, Journal of Korean Astronomical Society, 37, 605-609.
80. Numerical Simulations of Rotating Bondi Accretion Flows, Lee, S.-J. & Ryu, D. 2004, Journal of Korean Physical Society, 45, 1802-1807.
81. Shock-Heated Gas in the Large Scale Structure of the Universe, Kang, H., Ryu, D., Cen, R., & Song, D. 2005, The Astrophysical Journal, 620, 21-30.
82. Density Power Spectrum of Compressible Hydrodynamic Turbulent Flows, Kim, J. & Ryu, D. 2005, The Astrophysical Journal Letters, 630, L45-L48.
83. Three-Dimensional Numerical Simulations of Thermal-Gravitational Instability in Proto-galactic Halos, Baek, C. H., Kang, H., Kim, J., & Ryu, D. 2005, The Astrophysical Journal, 630, 689-704.
84. Numerical Relativistic Hydrodynamics Based on the Total Variation Diminishing Scheme, Choi, E. & Ryu, D. 2005, New Astronomy, 11, 116-129.
85. 3D Simulations of MHD Jet Propagation Through Uniform and Stratified External Environments, O'Neill, S. M., Tregillis, I. L., Jones, T. W., & Ryu, D. 2005, The Astrophysical Journal,

633, 717-732.

86. The 21 centimeter Background from the Cosmic Dark Ages: Minihalos and the Intergalactic Medium before Reionization, Ahn, K., Shapiro, P. R., Alvarez, M. A., Iliev, I. T., Martel, H., & Ryu, D. 2006, *New Astronomy Reviews*, 50, 179-183.

87. Molecular Cloud Evolution. I. Molecular Cloud and Thin CNM Sheet Formation, Vázquez-Semadeni, E., Ryu, D., Passot, T., González, R. F., & Gazol, A. 2006, *The Astrophysical Journal*, 643, 245-259.

88. 3D MHD Interactions of Jets with Cluster Media, O'Neill, S. M., Jones, T. W., Tregillis, I. L., & Ryu, D. 2006, *Astronomische Nachrichten*, 327, 535-536.

89. The Effects of Rotation on Thermal-Gravitational Instability in the Protogalactic Disk Environment, Baek, C. H., Ryu, D., Kang, H., & Kim, J. 2006, *The Astrophysical Journal Letters*, 643, L83-L86.

90. The 21 centimeter Background from the Cosmic Dark Ages: Minihalos and the Intergalactic Medium before Reionization, Shapiro, P. R., Ahn, K., Alvarez, M. A., Iliev, I. T., Martel, H., & Ryu, D. 2006, *The Astrophysical Journal*, 646, 681-690.

91. Equation of State in Numerical Relativistic Hydrodynamics, Ryu, D., Chattopadhyay, I., & Choi, E. 2006, *The Astrophysical Journal Supplement Series*, 166, 410-420.

92. Supersonic, Rotating Accretion Flows around Black Holes in Two-Dimensional Cylindrical Geometry, Lee, S.-J. & Ryu, D. 2006, *Journal of Korean Physical Society*, 49, 1830-1833.

93. A New Relativistic Hydrodynamic Code for Astrophysics, Ryu, D., Chattopadhyay, I., & Choi, E. 2006, *Journal of Korean Physical Society*, 49, 1842-1846.

94. Hydrodynamic Interactions of Relativistic Extragalactic Jets with Dense Clouds, Choi, E., Witta, P. J., & Ryu, D. 2007, *The Astrophysical Journal*, 655, 769-780.

95. The X-ray Pulse Profile of BG CMi, Choi, C.-S., Dotani, T., Kim, Y., & Ryu, D. 2007, *New Astronomy*, 12, 622-629.

96. Cosmological Shock Waves in the Large Scale Structure of the Universe: Non-gravitational Effects, Kang, H., Ryu, D., Cen, R., & Ostriker, J. P. 2007, *The Astrophysical Journal*, 669, 729-740.

97. Turbulence and Magnetic Fields in the Large Scale Structure of the Universe, Ryu, D., Kang, H., Cho, J., & Das, S. 2008, *Science*, 320, 909-912.

98. Propagation of UHE Protons through Magnetized Cosmic Web, Das, S., Kang, H., Ryu, D., & Cho, J. 2008, *The Astrophysical Journal*, 682, 29-38.

99. Growth of Magnetic Fields Induced by Turbulent Motions, Cho, J., Vishniac, E. T., Beresnyak, A., Lazarian, A., & Ryu, D. 2009, *The Astrophysical Journal*, 693, 1449-1461.

100. Effects of Fluid Composition on Spherical Flows around Black Holes, Chattopadhyay, I. & Ryu, D. 2009, *The Astrophysical Journal*, 694, 492-501.

101. Self-Similar Evolution of Cosmic-Ray Modified Shocks: The Cosmic-Ray Spectrum Kang, H., Ryu, D., & Jones, T. W. 2009, *The Astrophysical Journal*, 695, 1273-1288.

102. Shock Waves in the Large-Scale Structure of the Universe, Ryu, D. & Kang, H. 2009,

Astrophysics and Space Science, 322, 65-70.

103. Estimation of Magnetic Field Strength in the Turbulent Warm Ionized Medium, Wu, Q., Kim, J., Ryu, D., Cho, J., & Alexander, P. 2009, The Astrophysical Journal Letters, 705, L86-L89.
104. Characteristic Lengths of Magnetic Field in Magnetohydrodynamic Turbulence, Cho, J. & Ryu, D. 2009, The Astrophysical Journal Letters, 705, L90-L94.
105. Intergalactic Magnetic Field and Arrival Direction of Ultra-High-Energy Protons, Ryu, D., Das, S., & Kang, H. 2010, The Astrophysical Journal, 710, 1422-1431.
106. Hydrodynamic Simulations of Oscillating Shock Waves in a Sub-Keplerian Accretion Flow Around Black Holes, Giri, K., Samanta, M. M., Chakrabarti, S. K., & Ryu, D. 2010, Monthly Notices of the Royal Astronomical Society, 403, 516-524.
107. Diffusive Shock Acceleration in Test-Particle Regime, Kang, H. & Ryu, D. 2010, The Astrophysical Journal, 721, 886-892.
108. Faraday Rotation Measure due to the Intergalactic Magnetic Field, Akahori, T. & Ryu, D. 2010, The Astrophysical Journal, 723, 476-481.
109. Quasi-Spherical, Time-Dependent Viscous Accretion Flow: One-Dimensional Results, Lee, S.-J., Ryu, D., & Chattopadhyay, I. 2011, The Astrophysical Journal, 728, 142 (13pp).
110. Re-acceleration of Nonthermal Particles at Weak Cosmological Shock Waves, Kang, H. & Ryu, D. 2011, The Astrophysical Journal, 734, 18 (9pp).
111. Cosmic Rays Accelerated at Cosmological Shock Waves, Ma, R., Ryu, D., & Kang, H. 2011, Journal of Astrophysics and Astronomy, 32, 301-302
112. Faraday Rotation Measure due to the Intergalactic Magnetic Field II: the Cosmological Contribution, Akahori, T. & Ryu, D. 2011, The Astrophysical Journal, 738, 134 (8pp).
113. Cosmic Ray Spectrum from Diffusive Shock Acceleration, Kang, H. & Ryu, D. 2011, Astrophysics and Space Science, 336, 263-268.
114. A Comparison of Cosmological Codes: Properties of Thermal Gas and Shock Waves in Large Scale Structures, Vazza, F., Dolag, K., Ryu, D., Brunetti, G., Gheller, C., Kang, H., & Pfrommer, C. 2011, Monthly Notices of the Royal Astronomical Society, 418, 960-985.
115. Magnetic Fields in the Large-Scale Structure of the Universe, Ryu, D., Schleicher, D. R. G., Treumann, R. A., Tsagas, C. G., & Widrow, L. M. 2012, Space Science Reviews, 166, 1-35.
116. The First Magnetic Fields, Widrow, L. M., Ryu, D., Schleicher, D. R. G., Subramanian, K., Treumann, R. A., & Tsagas, C. G. 2012, Space Science Reviews, 166, 37-70.
117. Magnetic Fields, Relativistic Particles, and Shock Waves in Cluster Outskirts, Brüggen, M., Bykov, A., Ryu, D., & Röttgering, H. 2012, Space Science Reviews, 166, 187-213.
118. New Air Fluorescence Detectors Employed in the Telescope Array Experiment, The Telescope Array (TA) Collaboration, 2012, Nuclear Instruments and Methods in Physics Research Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 676, 54-65.
119. Simulation of Radiation-Driven Winds from Disc Galaxies, Chattopadhyay, I., Sharma, M., Nath, B. B., & Ryu, D. 2012, Monthly Notices of the Royal Astronomical Society, 423, 2153-2161.

120. The Surface Detector Array of the Telescope Array Experiment, The Telescope Array (TA) Collaboration, 2012, Nuclear Instruments and Methods in Physics Research Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 689, 87-97.
121. Diffusive Shock Acceleration Simulations of Radio Relics, Kang, H., Ryu, D., & Jones, T. W. 2012, The Astrophysical Journal, 756, 97 (11pp).
122. Search for Anisotropy of Ultra-High Energy Cosmic Rays with the Telescope Array Experiment, The Telescope Array (TA) Collaboration, 2012, The Astrophysical Journal, 757, 26 (11pp).
123. The Energy Spectrum of Telescope Array's Middle Drum Detector and the Direct Comparison to the High Resolution Fly's Eye Experiment, The Telescope Array (TA) Collaboration, 2012, Astroparticle Physics, 39, 109-119.
124. Diffusive Shock Acceleration at Cosmological Shock Waves, Kang, H. & Ryu, D. 2013, The Astrophysical Journal, 764, 95 (9pp).
125. A Comparison Study of CORSIKA and COSMOS Simulations for Extensive Air Showers, Roh, S., Kim, J. Ryu, D., Kang, H., Kasahara, K., Kido, E., & Taketa, A. 2013, Astroparticle Physics, 44, 1-8.
126. Simulated Faraday Rotation Measure toward High Galactic Latitudes, Akahori, T., Ryu, D., Kim, J., & Gaensler, B. M. 2013, The Astrophysical Journal, 767, 150 (14pp).
127. The Cosmic Ray Energy Spectrum Observed with the Surface Detector of the Telescope Array Experiment, The Telescope Array (TA) Collaboration, 2013, The Astrophysical Journal Letters, 768, L1 (5pp).
128. The Energy Spectrum of Ultra-High-Energy Cosmic Rays Measured by the Telescope Array FADC Fluorescence Detectors in Monocular Mode, The Telescope Array (TA) Collaboration, 2013, Astroparticle Physics, 48, 16-24.
129. Correlations of the Arrival Directions of Ultra-High Energy Cosmic Rays with Extragalactic Objects as Observed by the Telescope Array Experiment, The Telescope Array (TA) Collaboration, 2013, The Astrophysical Journal, 777, 88 (8pp).
130. Upper Limit on the Flux of Photons with Energies above  $10^{19}$  eV using Telescope Array Surface Detector, The Telescope Array (TA) Collaboration, 2013, Physical Review D, 88, 112005.
131. Fisher Analysis on Wide-Band Polarimetry for Probing the Intergalactic Magnetic Field, Ideguchi, S., Takahashi, K., Akahori, T., Kumazaki, K., & Ryu, D. 2014, Publications of the Astronomical Society of Japan, 66 (1), 5 (9pp).
132. Shock Waves and Cosmic Ray Acceleration in the Outskirts of Galaxy Clusters, Hong, S. E., Ryu, D., Kang, H., & Cen, R. 2014, The Astrophysical Journal, 785, 133 (11pp).
133. Injection of  $\kappa$ -like Suprathermal Particles into Diffusive Shock Acceleration, Kang, H., Petrosian, V., Ryu, D., & Jones, T. W. 2014, The Astrophysical Journal, 788, 142 (8pp).
134. Exploring the Intergalactic Magnetic Field by Means of Faraday Tomography, Akahori, T., Kumazaki, K., Takahashi, K., & Ryu, D. 2014, Publications of the Astronomical Society of Japan, 66 (3) 65 (12pp).
135. Statistical Techniques for Detecting the Intergalactic Magnetic Field from Large Samples



of Extragalactic Faraday Rotation Data, Akahori, T., Gaensler, B. M., & Ryu, D. 2014, The Astrophysical Journal, 790, 123 (10pp).

136. Indications of Intermediate-Scale Anisotropy of Cosmic Rays with Energy Greater Than 57 EeV in the Northern Sky Measured with the Surface Detector of the Telescope Array Experiment, The Telescope Array (TA) Collaboration, 2014, The Astrophysical Journal Letters, 790, 21 (5pp).

137. Faraday Dispersion Functions of Galaxies, Ideguchi, S., Tashiro, Y., Akahori, T., Takahashi, K., & Ryu, D. 2014, The Astrophysical Journal, 792, 51 (10pp).

138. Searches for Large-Scale Anisotropy in the Arrival Directions of Cosmic Rays Detected above Energy of  $10^{19}$  eV at the Pierre Auger Observatory and the Telescope Array, The Pierre Auger Collaboration & The Telescope Array (TA) Collaboration, 2014, The Astrophysical Journal, 794, 172 (15pp).

139. Gain Monitoring of Telescope Array Photomultiplier Cameras for the First 4 Years of Operation, The Telescope Array (TA) Collaboration, 2014, Nuclear Instruments and Methods in Physics Research Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 768, 96-103.

140. Magnetic Field and Faraday Rotation Measure in the Turbulent Warm Ionized Medium, Wu, Q., Kim, J., & Ryu, D. 2015, New Astronomy, 34, 21-26.

141. Energy Spectrum of Ultra-High Energy Cosmic Rays Observed with the Telescope Array Using a Hybrid Technique, The Telescope Array (TA) Collaboration, 2015, Astroparticle Physics, 61, 93-101.

142. Study of Ultra-High Energy Cosmic Ray Composition Using Telescope Array's Middle Drum Detector and Surface Array in Hybrid Mode, The Telescope Array (TA) Collaboration, 2015, Astroparticle Physics, 64, 49-62.

143. A Northern Sky Survey for Point-Like Sources of EeV Neutral Particles with the Telescope Array Experiment, The Telescope Array (TA) Collaboration, 2015, The Astrophysical Journal, 804, 133 (11pp).

144. The Hybrid Energy Spectrum of Telescope Array's Middle Drum Detector and Surface Array, The Telescope Array (TA) Collaboration, 2015, Astroparticle Physics, 68, 27-44.

145. Curved Radio Spectra of Weak Cluster Shocks, Kang, H. & Ryu, D. 2015, The Astrophysical Journal, 809, 186 (16pp)

146. Measurement of the Proton-Air Cross Section with Telescope Array's Middle Drum Detector and Surface Array in Hybrid Mode, The Telescope Array (TA) Collaboration, 2015, Physical Review D, 92, 032007.

147. Vorticity, Shocks and Magnetic Fields in Subsonic, ICM-like Turbulence, Porter, D. H., Jones, T. W., & Ryu, D. 2015, The Astrophysical Journal, 810, 93 (18pp).

148. Radio and X-ray Shocks in Clusters of Galaxies, Hong, S. E., Kang, H., & Ryu, D. 2015, The Astrophysical Journal, 812, 49 (14pp).

149. Search for Correlations between the Arrival Directions of IceCube Neutrino Events and Ultrahigh-Energy Cosmic Rays Detected by the Pierre Auger Observatory and the Telescope Array, The IceCube, Pierre Auger & Telescope Array (TA) Collaborations, 2016, Journal of

Cosmology and Astroparticle Physics, JCAP01, 037.

150. Re-acceleration Model for Radio Relics with Spectral Curvature, Kang, H. & Ryu, D. 2016, The Astrophysical Journal, 823, 13 (12pp).

151. Fast Radio Bursts as Probes of Magnetic Fields in Filaments of Galaxies, Akahori, T., Ryu, D., & Gaensler, B. D. 2016, The Astrophysical Journal, 824, 105 (7pp).

152. The Energy Spectrum of Cosmic Rays above  $10^{17.2}$  eV Measured by the Fluorescence Detectors of the Telescope Array Experiment in Seven Years, The Telescope Array (TA) Collaboration, 2016, Astroparticle Physics, 80, 131-140.

153. Simulations of Viscous Accretion Flow Around Black Holes in a Two-Dimensional Cylindrical Geometry, Lee, S.-J., Chattopadhyay, I., Kumar, R., Hyung, S., & Ryu, D. 2016, The Astrophysical Journal, 831, 33 (22pp).

154. Turbulence and Vorticity in Galaxy Clusters Generated by Structure Formation, Vazza, F., Jones, T. W., Brüggén, M., Brunetti, G., Gheller, C., Porter, D., & Ryu, D. 2017, Monthly Notices of the Royal Astronomical Society, 464, 210.

155. Search for EeV Protons of Galactic Origin, The Telescope Array (TA) Collaboration, 2017, Astroparticle Physics, 86, 21-26.

156. First Upper Limits on the Radar Cross Section of Cosmic-Ray Induced Extensive Air Showers, The Telescope Array (TA) Collaboration, 2017, Astroparticle Physics, 87, 1-17.

157. The Case for Electron Re-Acceleration at Galaxy Cluster Shocks, vanWeeren, R. J., Andrade-Santos, F., Dawson, W. A., Golovich, N., Lal, D. V., Kang, H., Ryu, D., Brüggén, M., Ogorean, G. A., Forman, W. R., Jones, C. Placco, V. M., Santucci, R. M., Wittman, D., Jee, M. J., Kraft, R. P., Sobral, D., Stroe, A., & Fogarty, K. 2017, Nature Astronomy, 1, 0005.

158. Numerical Modeling of Laser-Driven Experiments Aiming to Demonstrate Magnetic Field Amplification via Turbulent Dynamo, Tzeferacos, P., Rigby, A., Bott, A., Bell, A. R., Bingham, R., Casner, A., Cattaneo, F., Churazov, E. M., Emig, J., Flocke, N., Fiuza, F., Forest, C. B., Foster, J., Graziani, C., Katz, J., Koenig, M., Li, C.-K., Meinecke, J., Petrasso, R., Park, H.-S., Remington, B. A., Ross, J. S., Ryu, D., Ryutov, D., Weide, K., White, T. G., Reville, B., Miniati, F., Schekochihin, A. A., Froula, D. H., Gregori, G., & Lamb, D. Q. 2017, Physics of Plasmas, 24, 041404.

159. Shock Acceleration Model for the Toothbrush Radio Relic, Kang, H., Ryu, D., & Jones, T. W. 2017, The Astrophysical Journal, 840, 42 (14pp).

160. The Bursts of High Energy Events Observed by the Telescope Array Surface Detector, The Telescope Array (TA) Collaboration, 2017, Physics Letters A, 381, 2565-2572.

161. Study of the Vertical Magnetic Field in Face-on Galaxies using Faraday Tomography, Ideguchi, S., Tashiro, Y., Akahori, T., Takahashi, K., & Ryu, D. 2017, The Astrophysical Journal, 843, 146 (12pp).

162. Rapid X-ray Variations of the Geminga Pulsar Wind Nebula, Hui, C. Y., Lee, J., Kong, A. K. H., Tam, P. H. T., Takata, J., Cheng, K. S., & Ryu, D. 2017, The Astrophysical Journal, 846, 116 (15pp).

163. Laboratory Evidence of Dynamo Amplification of Magnetic Fields in a Turbulent Plasma,

- Tzeferacos, P., Rigby, A., Bott, A., Bell, A. R., Bingham, R., Casner, A., Cattaneo, F., Churazov, E. M., Emig, J., Fiuza, F., Forest, C., Foster, J., Graziani, C., Katz, J., Koenig, M., Li, C.-K., Meinecke, J., Petrasso, R., Park, H.-S., Remington, B. A., Ross, S., Ryu, D., Ryutov, D., White, T. G., Reville, B., Miniati, F., Schekochihin, A. A., Lamb, D. Q., Froula, D. H., & Gregori, G. 2018, *Nature Communications*, 9, 591.
164. Effects of Alfvénic Drift on Diffusive Shock Acceleration at Weak Cluster Shocks, Kang, H. & Ryu, D. 2018, *The Astrophysical Journal*, 856, 33 (8pp).
165. Properties of Merger Shocks in Merging Galaxy Clusters, Ha, J.-H., Ryu, D., & Kang, H. 2018, *The Astrophysical Journal*, 857, 26 (11pp).
166. The Contribution of Stellar Winds to Cosmic Ray Production, Seo, J., Kang, H., & Ryu, D. 2018, *Journal of Korean Astronomical Society*, 51, 37-48.
167. Depth of Ultra High Energy Cosmic Ray Induced Air Shower Maxima Measured by the Telescope Array Black Rock and Long Ridge FADC Fluorescence Detectors and Surface Array in Hybrid Mode, The Telescope Array (TA) Collaboration, 2018, *The Astrophysical Journal*, 858, 76 (27pp).
168. Physics Potentials with the Second Hyper-Kamiokande Detector in Korea, Hyper-Kamiokande Proto-collaboration, 2018, *Progress of Theoretical and Experimental Physics*, 6, 063C01 (65pp).
169. Study of Muons from Ultra-High Energy Cosmic Ray Air Showers Measured with the Telescope Array Experiment, The Telescope Array (TA) Collaboration, 2018, *Physical Review D*, 98, 022002.
170. Gamma-ray Showers Observed at Ground Level in Coincidence with Downward Lightning Leaders, The Telescope Array (TA) Collaboration, 2018, *Journal of Geophysical Research: Atmospheres*, 123, 6864-6879.
171. Evidence of Intermediate-Scale Energy Spectrum Anisotropy of Cosmic Rays  $E \geq 10^{19.2}$  eV with the Telescope Array Surface Detector, The Telescope Array (TA) Collaboration, 2018, *The Astrophysical Journal*, 862, 91 (6pp).
172. Proton Acceleration in Weak Quasi-parallel Intracluster Shocks: Injection and Early Acceleration, Ha, J.-H., Ryu, D., Kang, H., & van Marle, A. J. 2018, *The Astrophysical Journal*, 864, 105 (12pp).
173. Deep Very Large Array Observations of the Merging Cluster CIZA J2242.8+5301: Continuum and Spectral Imaging, Di Gennaro, G., van Weeren, R. J., Hoeft, M., Kang, H., Ryu, D., Rudnick, L., Forman, W., Röttgering, H. J. A., Brüggen, M., Hoang, D. N., Intema, H. T., Jones, C., Kraft, R. P., Shimwell, T. W., & Stroe, A. 2018, *The Astrophysical Journal*, 865, 24 (24pp).
174. The Cosmic-Ray Energy Spectrum between 2 PeV and 2 EeV Observed with the TALE Detector in Monocular Mode, The Telescope Array (TA) Collaboration, 2018, *The Astrophysical Journal*, 865, 74 (18pp).
175. Testing a Reported Correlation between Arrival Directions of Ultrahigh-Energy Cosmic Rays and a Flux Pattern from Nearby Starburst Galaxies using Telescope Array Data, The Telescope Array (TA) Collaboration, 2018, *The Astrophysical Journal Letters*, 867, L27 (5pp).
176. Filaments of Galaxies as a Clue to the Origin of Ultra-High-Energy Cosmic Rays, Kim, J., Ryu, D., Kang, H., Kim, S., & Rey, S.-C. 2019, *Science Advances*, 5, eaau8227.

177. Mass Composition of Ultra-High-Energy Cosmic Rays with the Telescope Array Surface Detector Data, The Telescope Array (TA) Collaboration, 2019, Physical Review D, 99, 022002.
178. WENO-WOMBAT: Scalable Fifth-Order Constrained-Transport Magnetohydrodynamics for Astrophysical Applications, Donnert, J. M. F., Jang, H., Mendygral, P., Brunetti, G., Ryu, D., & Jones, T. W. 2019, The Astrophysical Journal Supplement Series, 241, 23 (32pp).
179. Shock Waves and Energy Dissipation in Magnetohydrodynamic Turbulence, Park, J. & Ryu, D. 2019, The Astrophysical Journal, 875, 2 (13pp).
180. Supersonic Plasma Turbulence in the Laboratory, White, T. G., Oliver, M. T., Mabey, Kühn-Kauffeldt, M., Döhl, L., Bell, A., Bingham, R., Bott, A., Clarke, R., Foster, J., Giacinti, G., Graham, P., Heathcote, R., Koenig, M., Kuramitsu, Y., Lamb, D. Q., Meinecke, J., Michel, T., Miniati, F., Notley, M., Reville, B., Ryu, D., Sarkar, S., Sakawa, Y., Selwood, M. P., Squire, J., Scott, R. H. H., Tzeferacos, P., Woolsey, N., Schekochihin, A. A., & Gregori, G. 2019, Nature Communications, 10, 1758.
181. Constraints on the Diffuse Photon Flux with Energies above  $10^{18}$  eV using the Surface Detector of the Telescope Array Experiment, The Telescope Array (TA) Collaboration, 2019, Astroparticle Physics, 110, 8-14.
182. Electron Preacceleration in Weak Quasi-perpendicular Shocks in High-beta Intracluster Medium, Kang, H., Ryu, D., & Ha, J.-H. 2019, The Astrophysical Journal, 876, 79 (14pp).
183. A Diffusive Shock Acceleration Model for Protons in Weak Quasi-parallel Intracluster Shocks, Ryu, D., Kang, H., & Ha, J.-H. 2019, The Astrophysical Journal, 883, 60 (7pp).
184. Turbulence Dynamo in the Stratified Medium of Galaxy Clusters, Roh, S., Ryu, D., Kang, H., Ha, S., & Jang, H. 2019, The Astrophysical Journal, 883, 138 (9pp).
185. Chandra Observations of the Spectacular A3411-12 Merger Event, Andrade-Santos, F., van Weeren, R. J., Di Gennaro, G., Wittman, D., Ryu, D., Vir Lal, D., Placco, V. M., Fogarty, K., Jee, M. J., Stroe, A., Sobral, D., Forman, W. R., Jones, C., Kraft, R. P., Murray, S. S., Brüggén, M., Kang, H., Santucci, R., Golovich, N., & Dawson, D. 2019, The Astrophysical Journal, 887, 31 (19pp).
186. Search for Point Sources of Ultra-High Energy Photons with Telescope Array Surface Detector, The Telescope Array (TA) Collaboration, 2020, Monthly Notices of the Royal Astronomical Society, 492, 3984-3993.
187. Shock Acceleration Efficiency in Radio Relics, Botteon, A., Brunetti, G., Ryu, D., & Roh, S. 2020, Astronomy and Astrophysics, 634, A64 (12pp).
188. Electron Firehose Instabilities in High- $\beta$  ICM shocks, Kim, S., Ha, J.-H., Ryu, D., & Kang, H. 2020, The Astrophysical Journal, 892, 85 (12pp).
189. Gamma-ray and Neutrino Emissions due to Cosmic-Ray Protons Accelerated at Intracluster Shocks in Galaxy Clusters, Ha, J.-H., Ryu, D., & Kang, H. 2020, The Astrophysical Journal, 892, 86 (11pp).
190. Transport of High-energy Charged Particles through Spatially Intermittent Turbulent Magnetic Fields, Chen, L. E., Bott, A. F. A., Tzeferacos, P., Rigby, A., Bell, A., Bingham, R., Graziani, C., Katz, J., Koenig, M., Li, C. K., Petrasso, R., Park, H.-S., Ross, J. S., Ryu, D., White, T. G., Reville, B., Matthews, J., Meinecke, J., Miniati, F., Zweibel, E. G., Sarkar, S.,

- Schekochihin, A. A., Lamb, D. Q., Froula, D. H., & Gregori, G. 2020, *The Astrophysical Journal*, 892, 114 (18pp).
191. Limiting the Shock Acceleration of Cosmic-Ray Protons in the ICM, Wittor, D., Vazza, F., Ryu, D., & Kang, H. 2020, *Monthly Notices of the Royal Astronomical Society*, 495, L112-L117.
192. Reconstruction of Radio Relics and X-ray Tails in an Off-axis Cluster Merger: Hydrodynamical Simulations of A115, Lee, W., Jee, M. J., Kang, H., Ryu, D., Kimm, T., & Brüggen, M. 2020, *The Astrophysical Journal*, 894, 60 (15pp).
193. SLAU2 applied to Two-Dimensional, Ideal Magnetohydrodynamics Simulations, Kitamura, K., Mamashita, T., & Ryu, D. 2020, *Computers and Fluids*, 209, 104635.
194. Search for a Large-Scale Anisotropy on Arrival Directions of Ultrahigh-Energy Cosmic Rays Observed with the Telescope Array Experiment, The Telescope Array (TA) Collaboration, 2020, *The Astrophysical Journal Letters*, 898, L28 (5pp).
195. Evidence for a Supergalactic Structure of Magnetic Deflection Multiplets of Ultra-High Energy Cosmic Rays, The Telescope Array (TA) Collaboration, 2020, *The Astrophysical Journal*, 899, 86 (13pp).
196. Measurement of the Proton-Air Cross Section with Telescope Array’s Black Rock Mesa and Long Ridge Fluorescence Detectors, and Surface Array in Hybrid Mode, The Telescope Array (TA) Collaboration, 2020, *Physical Review D*, 102, 062004.
197. Search for Ultra-High-Energy Neutrinos with the Telescope Array Surface Detector, The Telescope Array (TA) Collaboration, 2020, *Journal of Experimental and Theoretical Physics*, 131, 255-264.
198. Observation of the Origin of Downward Terrestrial Gamma-Ray Flashes, The Telescope Array (TA) Collaboration, 2020, *Journal of Geophysical Research: Atmospheres*, 125, e2019JD031940.
199. Modeling of Cosmic-Ray Production and Transport and Estimation of Gamma-Ray and Neutrino Emissions in Starburst Galaxies, Ha, J.-H., Ryu, D., & Kang, H. 2021, *The Astrophysical Journal*, 907, 26 (12pp).
200. Time-Resolved Turbulent Dynamo in a Laser Plasma, Bott, A. F. A., Tzeferacos, P., Chen, L., Palmer, C. A. J., Rigby, A., Bell, A., Bingham, R., Birkel, A., Graziani, C., Froula, D. H., Katz, J., Koenig, M., Kunz, M. W., Li, C. K., Meinecke, J., Miniati, F., Petrasso, R., Park, H.-S., Remington, B. A., Reville, B., Ross, J. S., Ryu, D., Ryutov, D., Séguin, F., White, T. G., Schekochihin, A. A., Lamb, D. Q., & Gregori, G. 2021, *Proceedings of the National Academy of Sciences of the United States of America*, 118 (11) e2015729118.
201. The Cosmic-Ray Composition between 2 PeV and 2 EeV Observed with the TALE Detector in Monocular Mode, The Telescope Array (TA) Collaboration, 2021, *The Astrophysical Journal*, 909, 178 (17pp).
202. Exact Solution of Relativistic Jet with Relativistic Equation of State, Joshi, R. K., Chattopadhyay, I., Ryu, D., & Yadav, L. 2021, *Monthly Notices of the Royal Astronomical Society*, 502, 5227-5244.
203. Downstream Depolarization in the Sausage Relic: a 1 – 4 GHz Very Large Array Study, Di Gennaro, G., van Weeren, R. J., Rudnick, L., Hoeft, M., Brüggen, M., Ryu, D., Röttgering, H. J. A., Forman, W., Stroe, A., Shimwell, T. W., Kraft, R. P., Jones, C., & Hoang, D. N. 2021,

The Astrophysical Journal, 911, 3 (21pp).

204. Microinstabilities in the Transition Region of Weak Quasi-Perpendicular Intracluster Shocks, Kim, S., Ha, J.-H., Ryu, D., & Kang, H. 2021, The Astrophysical Journal, 913, 35 (11pp).

205. Effects of Multi-scale Plasma Waves on Electron Preacceleration at Weak Quasi-perpendicular Intracluster Shocks, Ha, J.-H., Kim, S., Ryu, D., & Kang, H. 2021, The Astrophysical Journal, 915, 18 (15pp).

206. Supernova Model Discrimination with Hyper-Kamiokande, Hyper-Kamiokande (HK) Collaboration, 2021, The Astrophysical Journal, 916:15 (17pp).

207. Inefficient Magnetic-Field Amplification in Supersonic Laser-Plasma Turbulence, Bott, A. F. A., Chen, L., Boutoux, G., Caillaud, T., Duval, A., Koenig, M., Khier, B., Lantuéjoul, I., Lederoff, L., Reville, B., Rosch, R., Ryu, D., Spindloe, C., Vauzour, B., Villette, B., Schekochihin, A. A., Lamb, D. Q., Tzeferacos, P., Gregori, G., & Casner, A. 2021, Physical Review Letters, 127, 175002.

208. A Simulation Study of Ultra-Relativistic Jets - I. A New Code for Relativistic Hydrodynamics, Seo, J., Kang, H., Ryu, D., Ha, S., & Chattopadhyay, I. 2021, The Astrophysical Journal, 920, 143 (16pp).

209. A Simulation Study of Ultra-Relativistic Jets - II. Structures and Dynamics of FR-II Jets, Seo, J., Kang, H., & Ryu, D. 2021, The Astrophysical Journal, 920, 144 (20pp).

210. Surface Detectors of the TAx4 Experiment, The Telescope Array (TA) Collaboration, 2021, Nuclear Instruments and Methods in Physics Research Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 1019, 165726.

211. Electron Preacceleration at Weak Quasi-perpendicular Intracluster Shocks: Effects of Pre-existing Nonthermal Electrons, Ha, J.-H., Ryu, D., Kang, H., & Kim, S. 2022, The Astrophysical Journal, 925, 88 (9pp).

212. Effects of Forcing on Shocks and Energy Dissipation in Interstellar and Intracluster Turbulences, Cho, H., Ryu, D., & Kang, H. 2022, The Astrophysical Journal, 926, 183 (14pp).

213. Strong Suppression of Heat Conduction in a Laboratory Replica of Galaxy-Cluster Turbulent Plasmas, Meinecke, J., Tzeferacos, P., Ross, J. S., Bott, A. F. A., Feister, S., Park, H. -S., Bell, A. R., Blandford, R., Berger, R. L., Bingham, R., Casner, A., Chen, L. E., Foster, J., Froula, D. H., Goyon, C., Kalantar, D., Koenig, M., Lahmann, B., Li, C. -K., Lu, Y., Palmer, C. A. J., Petrasso, R., Poole, H., Remington, B., Reville, B., Reyes, A., Rigby, A., Ryu, D., Swadling, G., Zylstra, A., Miniati, F., Sarkar, S., Schekochihin, A. A., Lamb, D. Q., & Gregori, G. 2022, Science Advances, 8, eabj6799.

214. Observation of Variations in Cosmic Ray Single Count Rates During Thunderstorms and Implications for Large-Scale Electric Field Changes, The Telescope Array (TA) Collaboration, 2022, Physical Review D, 105, 062002.

215. Insensitivity of a Turbulent Laser-Plasma Dynamo to Initial Conditions, Bott, A. F. A., Chen, L., Tzeferacos, P., Palmer, C. A. J., Bell, A. R., Bingham, R., Birkel, A., Froula, D. H., Katz, J., Kunz, M. W., Li, C.-K., Park, H-S., Petrasso, R., Ross, J. S., Reville, B., Ryu, D., Séguin, F. H., White, T. G., Schekochihin, A. A., Lamb, D. Q., & Gregori, G. 2022, Matter and Radiation at Extremes, 7, 046901.

216. Search for Spatial Correlations of Neutrinos with Ultra-High-Energy Cosmic Rays, The Antares Collaboration, The IceCube Collaboration, The Pierre Auger Collaboration & The Telescope Array (TA) Collaboration, 2022, *The Astrophysical Journal*, 934, 164 (21pp).
217. Cosmic Ray Acceleration and Nonthermal Radiation at Accretion Shocks in the Outer Regions of Galaxy Clusters, Ha, J.-H., Ryu, D., & Kang, H. 2023, *The Astrophysical Journal*, 943, 119 (17pp).
218. A Simulation Study of Ultra-relativistic Jets. III. Particle Acceleration in FR-II Jets, Seo, J., Ryu, D., & Kang, H. 2023, *The Astrophysical Journal*, 944, 199 (16pp).
219. The Energy Spectrum of Cosmic Rays Measured by the Telescope Array Using 10 Years of Fluorescence Detector Data, The Telescope Array (TA) Collaboration, 2023, *Astroparticle Physics*, 151 102864.
220. Electron-Ion Temperature Ratio in Astrophysical Shocks, Raymond, J. C., Ghavamian, P., Bohdan, A., Ryu, D., Niemiec, J., Sironi, L., Tran, A., Amato, E., Hoshino, M., Pohl, M., Amano, T., & Fiuza, F. 2023, *The Astrophysical Journal*, 949, 50 (16pp).
221. First High-Speed Video Camera Observations of a Lightning Flash Associated With a Downward Terrestrial Gamma-Ray Flash, The Telescope Array (TA) Collaboration, 2023, *Geophysical Research Letters*, 50, e2023GL102958.
222. HOW-MHD: A High-Order WENO-Based Magnetohydrodynamic Code with a High-Order Constrained Transport Algorithm for Astrophysical Applications, Seo, J. & Ryu, D. 2023, *The Astrophysical Journal*, 953, 39 (19pp).
223. An Extremely Energetic Cosmic Ray Observed by a Surface Detector Array, The Telescope Array (TA) Collaboration, 2023, *Science*, 382, 903–907.
224. Model Spectrum of Ultra-High-Energy Cosmic Rays Accelerated in FR-I Radio Galaxy Jets, Seo, J., Ryu, D., & Kang, H. 2024, *The Astrophysical Journal*, 962, 46 (11pp).
225. Radio Surface Fluctuations in Radio Relics, Domínguez-Fernández, P., Ryu, D., & Kang, H. 2024, *Astronomy & Astrophysics*, 685, A68.
226. Isotropy of Cosmic Rays Beyond  $10^{20}$  eV Favors Their Heavy Mass Composition, The Telescope Array (TA) Collaboration, 2024, *Physical Review Letters*, 133, 041001.
227. Mass Composition of Ultrahigh Energy Cosmic Rays from Distribution of Their Arrival Directions with the Telescope Array, The Telescope Array (TA) Collaboration, 2024, *Physical Review D*, 110, 022006.
228. A Simulation Study of Low-Power Relativistic Jets: Flow Dynamics and Radio Morphology of FR-I Jets, Bhattacharjee, A., Seo, J., Ryu, D., & Kang, H. 2024, *The Astrophysical Journal*, 976, 91 (16pp).
229. Intermediate Fluence Downward Terrestrial Gamma Ray Flashes as Observed by the Telescope Array Surface Detector, The Telescope Array (TA) Collaboration, 2024, *Journal of Geophysical Research: Atmospheres*, 129, e2024JD041260.
230. First Time-Resolved Leader Spectra associated with a Downward Terrestrial Gamma-Ray Flash Detected at the Telescope Array Surface Detector, The Telescope Array (TA) Collaboration, 2024, *Journal of Geophysical Research: Atmospheres*, 129, e2024JD041720.

231. Morphology and Mach Number Distribution of Merger Shock Surfaces in Merging Galaxy Clusters, Lee, E., Ryu, D., & Kang, H. 2025, The Astrophysical Journal, 978, 122 (16pp).
232. Neutrinos from Carbon-Burning Red Supergiants and Their Detectability, Seong, G., Kwak, K., Ryu, D., & Shin, B.-K. 2025, The Astrophysical Journal, 981, 84 (9pp).
233. Observation of Declination Dependence in the Cosmic Ray Energy Spectrum, The Telescope Array (TA) Collaboration, 2024, Physical Review Letters, submitted.
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