

PUBLICATIONS: DONG LAI

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REFEREED PAPERS

(★ indicates student or postdoc directly supervised by DL)

1. D. Lai, A. M. Abrahams and S. L. Shapiro 1991 “Equation of State in Metals and Cold Stars: Evaluation of Statistical Models”, *Astrophysical Journal*, **377**, 612-628.
2. D. Lai and S. L. Shapiro 1991, “Cold Equation of State in a Strong Magnetic Field: Effects of Inverse β -Decay”, *Astrophysical Journal*, **383**, 745-751.
3. D. Lai, E. E. Salpeter and S. L. Shapiro 1992, “Hydrogen Molecules and Chains in a Superstrong Magnetic Field”, *Physical Review A*, **45**, 4832-4847.
4. D. Lai, F. A. Rasio and S. L. Shapiro 1993, “Ellipsoidal Figures of Equilibrium: Compressible Models”, *Astrophysical Journal Supplements*, **88**, 205-252.
5. D. Lai, F. A. Rasio and S. L. Shapiro 1993, “Hydrodynamic Instability and Coalescence of Close Binary Systems”, *Astrophysical Journal Letters*, **406**, L63-66.
6. D. Lai, F. A. Rasio and S. L. Shapiro 1993, “Collisions and Close Encounters Between Massive Main-Sequence Stars”, *Astrophysical Journal*, **412**, 593-611.
7. D. Lai, F. A. Rasio and S. L. Shapiro 1994, “Hydrodynamic Instability and Coalescence of Neutron Star Binaries”, *Astrophysical Journal*, **420**, 811-829.
8. D. Lai, F. A. Rasio and S. L. Shapiro 1994, “Equilibrium, Stability and Orbital Evolution of Close Binary Systems”, *Astrophysical Journal*, **423**, 344-370.
9. D. Lai 1994, “Resonant Oscillations and Tidal Heating in Coalescing Binary Neutron Stars”, *Monthly Notices of the Royal Astronomical Society*, **270**, 611-629.
10. D. Lai, F. A. Rasio and S. L. Shapiro 1994, “Hydrodynamics of Rotating Stars and Close Binary Interactions: Compressible Ellipsoid Models”, *Astrophysical Journal*, **437**, 742-769.
11. D. Lai and S. L. Shapiro 1995, “Gravitational Radiation From Rapidly Rotating Nascent Neutron Stars”, *Astrophysical Journal*, **442**, 259-272.
12. D. Lai and S. L. Shapiro 1995, “Hydrodynamics of Coalescing Binary Neutron Stars: Ellipsoidal Treatment”, *Astrophysical Journal*, **443**, 705-716.
13. D. Lai 1995, “Superfluidity of Hydrogenlike Gas in a Strong Magnetic Field?”, *Physical Review Letters*, **74**, 4095.
14. D. Lai, L. Bildsten and V. M. Kaspi 1995, “Spin-Orbit Interaction in Neutron Star/Main Sequence Binaries and Implications for Pulsar Timing”, *Astrophysical Journal*, **452**, 819-824.
15. D. Lai and E. E. Salpeter 1995, “Motion and Ionization Equilibrium of Hydrogen Atoms in Superstrong Magnetic Field”, *Physical Review A*, **52**, 2611-2623.
16. P. Goldreich, D. Lai and M. Sahrting 1996, “Globally Asymmetric Supernova”, in *Unsolved Problems in Astrophysics*, ed. J. N. Bahcall and J. P. Ostriker (Princeton University press).
17. D. Lai and E. E. Salpeter 1996, “Hydrogen Molecules in a Superstrong Magnetic Field: Excitation Levels”, *Physical Review A*, **53**, 152-167.
18. D. Lai 1996, “Tidal Stabilization of Neutron Stars and White Dwarfs”, *Physical Review Letters*, **76**, 4878-4881.

19. D. Lai 1996, "Orbital Decay of the PSR J0045-7319/B Star Binary System: Age of Radio Pulsar and the Initial Spin of Neutron Star", *Astrophysical Journal Letters*, **466**, L35-L38.
20. D. Lai and A. G. Wiseman 1996, "Innermost Stable Circular Orbit of Inspiring Neutron-Star Binaries: Tidal Effects, Post-Newtonian Effects and the Neutron-Star Equation of State", *Physical Review D.*, **54**, 3958-3964.
21. D. Lai and E. E. Salpeter 1997, "Hydrogen Phases on the Surface of a Strongly Magnetized Neutron Star", *Astrophysical Journal*, **491**, 270-285.
22. D. Lai 1997, "Dynamical Tides in Rotating Binary Stars", *Astrophysical Journal*, **490**, 847-862.
23. D. Lai and Yong-Zhong Qian 1998, "Parity Violation in Neutrino Transport and the Origin of Pulsar Kicks", *Astrophysical Journal Letters*, **495**, L103-L106.
24. D. Lai 1998, "Transonic Magnetized Accretion Disks and kilo-Hertz Quasi-Periodic Oscillations in Low-Mass X-Ray Binaries", *Astrophysical Journal*, **502**, 721-729.
25. D. Lai and Yong-Zhong Qian 1998, "Neutrino Transport in Strongly Magnetized Proto-Neutron Stars and the Origin of Pulsar Kicks: The Effect of Asymmetric Magnetic Field Topology", *Astrophysical Journal*, **505**, 844-853.
26. P. Arras* and D. Lai 1999, "Can Parity Violation in Neutrino Transport Lead to Pulsar Kicks?", *Astrophysical Journal*, **519**, 745-749.
27. P. Arras* and D. Lai 1999, "Neutrino-Nucleon Interactions in Magnetized Neutron-Star Matter: The Effect of Parity Violation", *Physical Review*, **D60**, 043001(1-28).
28. D. Lai 1999, "Secular Instability of g-modes in Rotating Neutron Stars", *Monthly Notices of Royal Astronomical Society*, **307**, 1001-1007.
29. W.C.G. Ho* and D. Lai 1999, "Resonant Tidal Excitations of Rotating Neutron Stars in Coalescing Binaries", *Monthly Notices of Royal Astronomical Society*, **308**, 153-166.
30. D. Lai 1999, "Magnetically Driven Warping, Precession and Resonances in Accretion Disks", *Astrophysical Journal*, **524**, 1030-1047.
31. P. Wiggins* and D. Lai 2000, "Tidal Interaction between a Fluid Star and a Kerr Black Hole in Circular Orbit", *Astrophysical Journal*, **532**, 530-539.
32. D. Lai and P. Goldreich 2000, "Growth of Perturbation in Gravitational Collapse and Accretion", *Astrophysical Journal*, **535**, 402-411.
33. D. Lai 2000, "Global Nonradial Instabilities of Dynamically Collapsing Gas Spheres", *Astrophysical Journal*, **540**, 946-961.
34. W.C.G. Ho* and D. Lai 2000, "R-Mode Oscillations and Spindown of Young Rotating Magnetic Neutron Stars", *Astrophysical Journal*, **543**, 386-394.
35. D. Lai, D.F. Chernoff, and J.M. Cordes 2001, "Pulsar Jets: Implications for Neutron Star Kicks and Initial Spins", *Astrophysical Journal*, **549**, 1111-1118.
36. D. Lai 2001, "Matter in Strong Magnetic Fields", *Review of Modern Physics*, **73**, 629-661 (astro-ph/0009333).
37. W.C.G. Ho* and D. Lai 2001, "Atmospheres and Spectra of Strongly Magnetized Neutron Stars", *Monthly Notices of Royal Astronomical Society*, **327**, 1081-1096 (astro-ph/0104199).
38. A. Shirakawa* and D. Lai 2002, "Precession of Magnetically Driven Warped Disks and Low-Frequency Quasi-Periodic Oscillations in Low-Mass X-Ray Binaries", *Astrophysical Journal*, **564**, 361-368 (astro-ph/0012118).

39. A. Shirakawa* and D. Lai 2002, “Magnetically Driven Precession of Warped Disks and Milli-Hertz Variabilities in Accreting X-Ray Pulsars”, *Astrophysical Journal*, **565**, 1134-1140 (astro-ph/0109049).
40. D. Lai and W.C.G. Ho* 2002, “Resonant Conversion of Photon Modes Due to Vacuum Polarization in a Magnetized Plasma: Implications for X-Ray Emission from Magnetars”, *Astrophysical Journal*, **566**, 373-377 (astro-ph/0108127).
41. W.C.G. Ho*, D. Lai, A. Potekhin & G. Chabrier 2003, “Atmospheres of Magnetized Neutron Stars: Vacuum Polarization and Partially Ionized Models”, *Advance in Space Research*, **33(4)**, 537-541 (astro-ph/0212077)
42. W.C.G. Ho* and D. Lai 2003, “Atmospheres and Spectra of Strongly Magnetized Neutron Stars: Effect of Vacuum Polarization”, *Monthly Notices of Royal Astronomical Society*, **338**, 233-252
43. D. Lai and W.C.G. Ho* 2003, “Transfer of Polarized Radiation in Strongly Magnetized Plasmas and Thermal Emission from Magnetars: Effect of Vacuum Polarization”, *Astrophysical Journal*, **588**, 962-974 (astro-ph/021131)
44. D. Lai and W.C.G. Ho* 2003, “Polarized X-Ray Emission from Magnetized Neutron Stars: Signature of Strong-Field Vacuum Polarization”, *Physical Review Letters*, **91**, 071101 (astro-ph/0303596)
45. D. Lai 2003, “Warping of Accretion Disks with Magnetically Driven Outflows: A Possible Origin for Jet Precession”, *Astrophysical Journal Letters*, **591**, L119-L122
46. W.C.G. Ho*, D. Lai, A. Potekhin & G. Chabrier 2003, “Hydrogen Atmospheres of Magnetized Neutron Stars: Partially Ionized Models”, *Astrophysical Journal*, **599**, 1293-1301
47. H. Pfeiffer*, & D. Lai 2004, “Warping and Precession for Accretion Disks Around Magnetic Stars: Nonlinear Evolution”, *Astrophysical Journal*, **604**, 766-774.
48. W.C.G. Ho* and D. Lai 2004, “Spectral Features in the Thermal Emission from Isolated Neutron Stars: Dependence on Magnetic Field Strengths”, *Astrophysical Journal*, **607**, 420-425
49. A. Potekhin, D. Lai, G. Chabrier and W.C.G. Ho* 2004, “Electromagnetic polarization in partially ionized plasmas with strong magnetic fields and neutron star atmosphere models”, *Astrophysical Journal*, **612**, 1034-1043 (astro-ph/0405383)
50. D. Lai, and Roman R. Rafikov 2005, “Effects of Gravitational Lensing in the Double Pulsar System J0737-3039”, *Astrophysical Journal Letters*, **621**, L41-L44
51. M. van Adelsberg*, D. Lai, A. Potekhin and P. Arras* 2005, “Radiation from Condensed Surface of Magnetic Neutron Stars” *Astrophysical Journal*, **628**, 902-913
52. A. Potekhin, D. Lai, G. Chabrier and W.C.G. Ho* 2005, “Partially ionized atmospheres of neutron stars with strong magnetic fields”, *Adv. Space. Research*, **35**, 1158-1161 (astro-ph/0501467)
53. Chen Wang*, Dong Lai and JinLin Han 2005, “Neutron Star Kicks in Isolated and Binary Pulsars: Observational Constraints and Implications for Kick Mechanisms”, *Astrophysical Journal*, **639**, 1007-1017.
54. A. Potekhin, G. Chabrier, D. Lai, W. Ho* and M. van Adelsberg* 2006, “Nonideal Strongly Magnetized Plasmas of Neutron Stars and Their Electromagnetic Radiation”, *Journal of Physics A: Matt. Gen.* **39**, 4453-4458.
55. Roman R. Rafikov and D. Lai 2006, “Effects of Pulsar Rotation on Timing Measurements of the Double Pulsar System J0737-3039”, *Astrophysical Journal*, **641**, 438-446.
56. Hang Zhang and Dong Lai 2006, “Wave Excitation in Three-Dimensional Disks by External Potential”, *Monthly Notices of Royal Astronomical Society*, **368**, 917-934.

57. Roman R. Rafikov and Dong Lai 2006, “Effects of Gravitational Lensing and Companion Motion on the Binary Pulsar Timing”, *Physical Review D* **73**, 063003
58. Dong Lai and Yanqin Wu 2006, “ Resonant Tidal Excitations of Inertial Modes in Coalescing Neutron Star Binaries”, *Physical Review D* **74**, 024007 (astro-ph/0604163)
59. Alice K. Harding and Dong Lai 2006, “Physics of Strongly Magnetized Neutron Stars”, *Report of Progress of Physics* **69**, 2631 (astro-ph/0606674)
60. Zach Medin* and Dong Lai 2006, “Density-Functional-Theory Calculations of Matter in Strong Magnetic Fields: I. Atoms and Molecules”, *Physical Review*, **A 74**, 062507 (astro-ph/0607166)
61. Zach Medin* and Dong Lai 2006, “Density-Functional-Theory Calculations of Matter in Strong Magnetic Fields: II. Infinite Chains and Condensed Matter”, *Physical Review*, **A 74**, 062608 (astro-ph/0607277)
62. Matt van Adelsberg* and Dong Lai 2006, “Atmosphere Models of Magnetized Neutron Stars: QED Effects, Radiation Spectra and Polarization Signals”, *Monthly Notice of Royal Astronomical Society*, **373**, 1495-1522 (astro-ph/0607168)
63. Dong Lai and Jeremy Heyl 2006, “Probing Axions with Radiation From Magnetic Stars”, *Physical Review*, **D 74**, 123003 (astro-ph/0609775)
64. Chen Wang*, Dong Lai and JinLin Han 2007, “Spin-Kick Correlation in Neutron Stars: Alignment Conditions and Implications”, *Astrophysical Journal*, **656**, 399-407 (astro-ph/0607666)
65. Chen Wang* and Dong Lai 2007, “Wave Modes in the Magnetospheres of Pulsars and Magnetars”, *Monthly Notice of Royal Astronomical Society*, **377**, 1095-1112 (astro-ph/0611924)
66. A.Y. Potekhin and Dong Lai 2007, “Statistical equilibrium and ion cyclotron absorption/emission in strongly magnetized plasmas”, *Monthly Notice of Royal Astronomical Society*, **376**, 793-808 (astro-ph/0701285)
67. Zach Medin* and Dong Lai 2007, “Cohesive property of magnetized neutron star surfaces: Computations and implications”, *Advances in Space Research*, **40**, 1466-1471 (astro-ph/0701271)
68. Andreas Reisenegger, Rafael Benguria, Joaquin P. Prieto, Pablo A. Araya, Dong Lai 2007, “Hall drift of axisymmetric magnetic fields in solid neutron-star matter”, *Astronomy & Astrophysics*, **472**, 233-240 (astro-ph/arXiv:0705.1901)
69. Zach Medin* and Dong Lai 2007, “Condensed Surfaces of Magnetic Neutron Stars, Thermal Surface Emission, and Particle Acceleration Above Pulsar Polar Caps”, *Monthly Notice of Royal Astronomical Society*, **382**, 1833-1852 (astro-ph/arXiv:0708.3863)
70. Zach Medin*, Dong Lai and A.Y. Potekhin 2008, “Radiative transitions of the helium atom in highly magnetized neutron star atmospheres”, *Monthly Notice of Royal Astronomical Society*, **383**, 161-172 (astro-ph/arXiv:0704.1598)
71. Dong Lai and Hang Zhang 2008, “Wave Excitation in Disks Around Magnetic Stars”, *The Astrophysical Journal*, **683**, 949 (astro-ph/arXiv:0709.3086)
72. David Tsang* and Dong Lai 2008, “Super-reflection in Discs: Corotation Amplifier, Corotation Resonance, Rossby Waves and Overstable Oscillation Modes”, *Monthly Notice of Royal Astronomical Society*, **387**, 446-462 (arXiv:0710.2313)
73. Wen Fu* and Dong Lai 2009, “Effects of Magnetic Fields on the Diskoseismic Modes of Accreting Black Holes”, *The Astrophysical Journal*, **690**, 1386-1392 (arXiv:0806.1938)
74. Dong Lai and David Tsang* 2009, “Corotational Instability of Inertial-Acoustic Modes in Black Hole Accretion Discs and Quasi-Periodic Oscillations”, *MNRAS*, **393**, 979-991 (arXiv:0810.0203)

75. David Tsang* and Dong Lai 2009, “Corotational Damping of Diskoseismic C-modes in Black Hole Accretion Discs”, MNRAS, 393, 992-998 ([arXiv:0810.1299](#))
76. David Tsang* and Dong Lai 2009, “Interface modes and their instabilities in accretion disc boundary layers”, MNRAS, 396, 589-597 ([arXiv:0812.3995](#))
77. Chen Wang* and Dong Lai 2009, “Polarization Evolution in a Strongly Magnetized Vacuum: QED Effect and Polarized X-ray Emission from Magnetized Neutron Stars”, MNRAS, 398, 515-527 ([arXiv:0903.2094](#))
78. David Tsang* and Dong Lai 2009, “Corotational Instability of Inertial-Acoustic Modes in Black-Hole Accretion Discs: Non-Barotropic Flows”, MNRAS, 400, 470-479 ([arXiv:0906.4392](#))
79. Chen Wang*, Dong Lai and JinLin Han 2010, “Polarization changes of pulsars due to wave propagation through magnetospheres”, MNRAS, 403, 569-588 ([arXiv:0910.2793](#))
80. Zach Medin* and Dong Lai 2010, “Pair cascades in the magnetospheres of strongly-magnetized neutron stars”, MNRAS, 406, 1379-1404 ([arXiv:1001.2365](#))
81. Dong Lai, Ch. Helling and E. van den Huevel 2010, “Mass Transfer, Transiting Stream and Magnetopause in Close-in Exoplanetary Systems with Applications to WASP-12”, ApJ, 721, 923-928 ([arXiv:1005.4497](#))
82. Wen Fu* and Dong Lai 2011, “Corotational Instability, Magnetic Resonances and Global Inertial-Acoustic Oscillations in Magnetized Black-Hole Accretion Discs”, MNRAS, 410, 399-416 ([arXiv:1006.3763](#))
83. Wen Fu* and Dong Lai 2011, “Papaloizou-Pringle Instability of Magnetized Accretion Tori”, MNRAS, 410, 1617-1630 ([arXiv:1006.3824](#))
84. James Fuller* and Dong Lai 2011, “Tidal Excitation of Oscillation Modes in Compact White Dwarf Binaries: I. Linear Theory”, MNRAS, 412, 1331-1340 ([arXiv:1009.3316](#))
85. Dong Lai, Francois Foucart* and Douglas N.C. Lin 2011, “Evolution of Spin Direction of Accreting Magnetic Protostars and Spin-Orbit Misalignment in Exoplanetary Systems”, MNRAS, 412, 2790-2798 ([arXiv:1008.3148](#))
86. Francois Foucart* and Dong Lai 2011, “Evolution of Spin Direction of Accreting Magnetic Protostars and Spin-Orbit Misalignment in Exoplanetary Systems: II. Warped Discs”, MNRAS, 412, 2799-2815 ([arXiv:1009.3233](#))
87. Jeremy Leconte, Dong Lai and Gilles Chabrier 2011, “Distorted, non-spherical transiting planets: Impact on the transit depth and on the radius determination”, A&A, 528, A41 ([arXiv:1101.2813](#))
88. Wen Fu* and Dong Lai 2011, “Low- $T/|W|$ instabilities in differentially rotating proto-neutron stars with magnetic fields”, MNRAS, 413, 2207-2217 ([arXiv:1011.4887](#))
89. Chen Wang, JinLin Han and Dong Lai 2011, “The Faraday Rotation in Pulsar Magnetosphere”, MNRAS, 417, 1183 ([arXiv:1105.2602](#))
90. Fuller*, J., & Lai, D. 2011, “Dynamical Tides in Eccentric Binaries and Tidally-Excited Stellar Pulsations in KEPLER KOI-54”, MNRAS, 420, 3126-3138 ([arXiv:1107.4594](#))
91. Fuller*, J., & Lai, D. 2012, “Dynamical Tides in Compact White Dwarf Binaries: Tidal Synchronization and Dissipation”, MNRAS, 421, 426-445 ([arXiv:1108.4910](#))
92. Lai, D. 2012, “Tidal Dissipation in Planet-Hosting Stars: Damping of Spin-Orbit Misalignment and Survival of Hot Jupiters”, MNRAS, 423, 486-492 ([arXiv:1109.4703](#))
93. Shabaltas*, N., & Lai, D. 2012, “The Hidden Magnetic Field of The Young Neutron Star in Kesteven 79”, ApJ, 748, 148 ([arXiv:1110.3129](#))

94. Fu*, W., & Lai, D. 2012, “Dynamics of the Innermost Accretion Flows Around Compact Objects: Magnetosphere-Disc Interface, Global Oscillations and Instabilities”, *MNRAS*, 423, 831-843 ([arXiv:1201.5370](#))
95. Meheut, H., Yu, C., & Lai, D. 2012, “Rossby Wave Instability in 3D Discs”, *MNRAS*, 422, 2399-2406 ([arXiv:1203.0471](#))
96. Fuller*, J., & Lai, D. 2012, “Tidal Novae in Compact Binary White Dwarfs”, *ApJ*, 756, L17 ([arXiv:1206.0470](#))
97. Lai, D. 2012, “DC Circuit Powered by Orbital Motion: Magnetic Interactions in Compact Object Binaries and Exoplanetary Systems”, *ApJ*, 757, L3 ([arXiv:1206.3723](#))
98. Feroci, M., et al. 2012, “LOFT: the Large Observatory for X-ray Timing”, *Proc. SPIE*, 8443, 8443-85 ([arXiv:1209.1497](#))
99. Fuller*, J., & Lai, D. 2013, “Dynamical Tides in Compact White Dwarf Binaries: Helium Core White Dwarfs, Tidal Heating, and Observational Signatures”, *MNRAS*, 430, 274-287 ([arXiv:1211.0624](#))
100. Yu, C., & Lai, D. 2013, “Rossby Wave Instability in Accretion Discs with Large-Scale Poloidal Magnetic Fields”, *MNRAS*, 429, 2748 ([arXiv:1212.1219](#))
101. Foucart, F. & Lai, D. 2013, “Assembly of Protoplanetary Disks and Inclinations of Circumbinary Planets”, *ApJ*, 764, 106 ([arXiv:1211.3721](#))
102. Fu*, W. & Lai, D. 2013, “Simulations of Overstable Inertial-acoustic Modes in Black-Hole Accretion Discs”, *MNRAS*, 431, 3697 ([arXiv:1212.2215](#))
103. Meheut, H., Lovelace, R.V.E., & Lai, D. 2013, “How Strong are the Rossby Vortices?”, *MNRAS*, 430, 1988-1993 ([arXiv:1301.0689](#))
104. Horak, J. & Lai, D. 2013, “Corotation Resonance and Overstable Oscillations in Black-Hole Accretion Discs: General-Relativistic Calculations”, *MNRAS*, 434, 2761-2771 ([arXiv:1307.8077](#))
105. Soffitta, P., et al. 2013, “XIPE: the X-ray Imaging Polarimetry Explorer”, *Experimental Astronomy*, 36, 523-567 ([arXiv:1309.6995](#))
106. Storch*, N.I., & Lai, D. 2014, “Viscoelastic Tidal Dissipation in Giant Planets and Formation of Hot Jupiters Through High-Eccentricity Migration”, *MNRAS*, 438, 1526-1534 ([arXiv:1308.4968](#))
107. Fuller*, J., Lai, D., Storch*, N.I. 2014, “Non-radial Oscillations in Rotating Giant Planets with Solid Cores: Application to Saturn and its Rings”, *Icarus*, 231, 34-50 ([arXiv:1309.0045](#))
108. Lai, D. 2014, “Star-Disc-Binary Interactions in Protoplanetary Disc Systems and Primordial Spin-Orbit Misalignments”, *MNRAS*, 440, 3532-3544 ([arXiv:1402.1907](#))
109. Storch*, N.I., Ho*, W.C.G., Lai, D., Bogdanov, S., Heinke, C.O. 2014, “The Light Curve and Internal Magnetic Field of the Mode-switching Pulsar PSR B0943+10”, *ApJ*, 789, L27 ([arXiv:1405.1475](#))
110. Fuller*, J. and Lai, D. 2014, “Dynamical Tides in Compact White Dwarf Binaries: Influence of Rotation”, *MNRAS*, 444, 3488 ([arXiv:1406.2717](#))
111. Storch*, N.I., Anderson*, K.R., and Lai, D. 2014, “Chaotic Dynamics of Stellar Spin in Binaries and the Production of Misaligned Hot Jupiters”, *Science*, 345, 1317 ([arXiv:1409.3247](#))
112. Foucart, F. and Lai, D. 2014 “Evolution of linear warps in accretion discs and applications to protoplanetary discs in binaries”, *MNRAS*, 445, 1731-1744 ([arXiv:1406.3331](#))
113. Miranda*, R., Horak, J. and Lai, D. 2015 “Viscous Driving of Global Oscillations in Accretion Discs Around Black Holes”, *MNRAS*, 446, 240-253 ([arXiv:1408.0800](#))

114. Liu*, B., Munoz*, D.J. and Lai, D. 2015 “Suppression of extreme orbital evolution in triple systems with short range forces”, MNRAS, 447, 747-764 ([arXiv:1409.6717](#))
115. Storch*, N., and Lai, D. 2015 “Chaotic Dynamics of Stellar Spin Driven by Planets Undergoing Lidov-Kozai Oscillations: Resonances and Origin of Chaos”, MNRAS, 448, 1821-1834 ([arXiv:1411.0739](#))
116. Yu, C., and Lai, D. 2015 “Inertial-Acoustic Oscillations of Black-Hole Accretion Discs with Large-Scale Poloidal Magnetic Fields”, MNRAS, 450, 2466-2472 ([arXiv:1501.05727](#))
117. Storch*, N.I., Lai, D. 2015 “Analytical Model of Tidal Distortion and Dissipation for a Giant Planet with a Viscoelastic Core”, MNRAS, 450, 3952-3957 ([arXiv:1502.06550](#))
118. Zanazzi*, J.J., and Lai, D. 2015 “Electromagnetic Torques, Precession and Evolution of Magnetic Inclination of Pulsars”, MNRAS, 451, 5214-5223 ([arXiv:1503.01486](#))
119. Miranda*, R., and Lai, D. 2015 “Tidal Truncation of Inclined Circumstellar and Circumbinary Disks in Young Stellar Systems”, MNRAS, 452, 2396-2409 ([arXiv:1504.02917](#))
120. Munoz*, D.J., and Lai, D. 2015 “Survival of Planets Around Shrinking Stellar Binaries”, PNAS, 112, 9264-9269 ([arXiv:1505.05514](#))
121. Kirichenko, A., Shibanov, Yu, et al. 2015 “Observations of PSR J1357-6429 at 2.1 GHz with the ATCA”, MNRAS, 452, 3273-3280 ([arXiv:1506.07498](#))
122. Liu*, B., Lai, D., and Yuan, Y. 2015, “Merging Compact Binaries in Hierarchical Triple Systems: Resonant Excitation of Binary Eccentricity”, Phys. Rev. D 92, 124048 ([arXiv:1511.07365](#))
123. Anderson*, K.R., Storch*, N.I., and Lai, D. 2016 “Formation and Stellar Spin-Orbit Misalignment of Hot Jupiters from Lidov-Kozai Oscillations in Stellar Binaries”, MNRAS, 456, 3671-3701 ([arXiv:1510.08918](#))
124. Wang, C., and Lai, D. 2016 “Axion-Photon Propagation in Magnetized Universe”, JCAP, 6, 006 ([arXiv:1511.03380](#))
125. Miranda*, R., Lai, D., and Meheut, H. 2016 “Rossby Wave Instability and Long-Term Evolution of Dead Zones in Protoplanetary Disks”, MNRAS, 457, 1944-1957 ([arXiv:1512.04450](#))
126. Xu*, W., and Lai, D. 2016 “Disruption of Planetary Orbits Through Ejection Resonance with an External Companion: Circumbinary Planets and Multiplanet Systems”, MNRAS, 459, 2925-2939 ([arXiv:1602.04751](#))
127. Munoz*, D. J., Lai, D., and Liu*, B. 2016 “The formation efficiency of close-in planets via Lidov-Kozai migration: analytic calculations”, MNRAS, 460, 1086-1093 ([arXiv:1601.05814](#))
128. Munoz*, D. J., and Lai, D. 2016, “Pulsed Accretion onto Eccentric and Circular Binaries”, ApJ, 827, 43 ([arXiv:1604.00004](#))
129. Lai, D. 2016, “Solar Obliquity Induced by Planet Nine: Simple Calculation”, AJ, 152, 215 ([arXiv:1608.01421](#))
130. Zanazzi, J.J.*, and Lai, D. 2017, “Extended Transiting Disks and Rings Around Planets and Brown Dwarfs: Theoretical Constraints”, MNRAS, 464, 3945-3954 ([arXiv:1605.02365](#))
131. Lai, D., and Pu, B.* 2017, “Hiding Planets Behind a Big Friend: Mutual Inclinations of Multi-Planet Systems with External Companions”, AJ, 153, 42 ([arXiv:1606.08855](#))
132. Storch, N.I.*, Lai, D., and Anderson, K.R.* 2017, “Dynamics of Stellar Spin Driven by Planets Undergoing Lidov-Kozai Migration: Paths to Spin-Orbit Misalignment”, MNRAS, 465, 3927-3942 ([arXiv:1606.08855](#))
133. Anderson, K.R.*, Lai, D., Storch, N.I.* 2017, “Eccentricity and Spin-Orbit Misalignment in Short-Period Stellar Binaries as a Signpost of Hidden Tertiary Companions”, MNRAS, 467, 3066-3082 ([arXiv:1610.02626](#))

134. Miranda, R.*, Munoz, D.J.*, Lai, D. 2017, “Viscous Hydrodynamics Simulations of Circumbinary Accretion Disks: Variability, Quasi-Steady State, and Angular Momentum Transfer”, MNRAS, 466, 1170-1191 ([arXiv:1610.07263](#))
135. Xu, Wenrui*, Lai, D. 2017, “Migration of Planets Into and Out of Mean Motion Resonances in Protoplanetary Disks: Analytical Theory of Second-Order Resonances”, MNRAS, 468, 3223-3238 ([arXiv:1611.06463](#))
136. Zanazzi, J.J.*, Lai, D. 2017, “Lidov-Kozai Mechanism in Hydrodynamical Disks: Linear Stability Analysis”, MNRAS, 467, 1957-1964 ([arXiv:1612.05598](#))
137. Vick, M.*, Lai, D., Fuller, J. 2017, “Tidal Dissipation and Evolution of White Dwarfs Around Massive Black Holes: an Eccentric Path to Tidal Disruption”, MNRAS, 468, 2296-2310 ([arXiv:1612.07316](#))
138. Zanazzi, J.J.*, Lai, D. 2017, “Triaxial Deformation and Asynchronous Rotation of Rocky Planets in the Habitable Zone of Low-Mass Stars”, MNRAS, 469, 2879-2885 ([arXiv:1702.07327](#))
139. Owen, J.E., Lai, D. 2017, “Generating large misalignments in gapped and binary discs”, MNRAS, 469, 2834-2844 ([arXiv:1703.09250](#))
140. Pichierri, G., Morbidelli, M., Lai, D. 2017, “Extreme Secular Excitation of Eccentricity Inside Mean Motion Resonance: Driving Small Bodies into Star-Grazing Orbits by Planetary Perturbations”, A&A, 605, A23 ([arXiv:1705.01841](#))
141. Hamers, A.S., Lai, D. 2017, “Secular chaotic dynamics in hierarchical quadruple systems, with applications to hot Jupiters in stellar binaries and triples”, MNRAS, 470, 1657-1672 ([arXiv:1705.02334](#))
142. Anderson, K.R.*, Lai, D. 2017, “Moderately Eccentric Warm Jupiters from Secular Interactions with Exterior Companions”, MNRAS, 472, 3692-3705 ([arXiv:1706.00084](#))
143. Liu, B.*, Lai, D. 2017, “Spin-Orbit Misalignment of Merging Black-Hole Binaries with Tertiary Companions”, ApJ Letters, 846, L11 ([arXiv:1706.02309](#))
144. Zanazzi, J.J.*, Lai, D. 2018, “Inclination Evolution of Protoplanetary Disks Around Eccentric Binaries”, MNRAS, 473, 603-615 ([arXiv:1706.07823](#))
145. Xu, Wenrui*, Lai, D. 2017, “Resonant Tidal Excitation of Oscillation Modes in Merging Binary Neutron Stars: Inertial-Gravity Modes”, Phys. Rev. D 96, 083005 ([arXiv:1708.01839](#))
146. Miranda, Ryan*, Lai, D. 2018, “Trapping of Low-Mass Planets Outside the Truncated Inner Edges of Protoplanetary Disks”, MNRAS, 473, 5267-5274 ([arXiv:1708.07872](#))
147. Vick, Michelle*, Lai, D. 2018, “Dynamical Tides in Highly Eccentric Binaries: Chaos, Dissipation and Quasi-Steady State”, MNRAS, 476, 482-495 ([arXiv:1708.09392](#))
148. Grishin, Evgeni, Lai, D., Perets, H.B. 2018, “Chaotic quadruple secular evolution and the production of misaligned exomoons and Warm Jupiters in stellar multiples”, MNRAS, 474, 3547-3556 ([arXiv:1710.05920](#))
149. Lai, D., Anderson, K.R.*, Pu, Bonan* 2018, “How do External Companions Affect Spin-Orbit Misalignment of Hot Jupiters?” MNRAS, 475, 5231-5236 ([arXiv:1710.11140](#))
150. Zanazzi, J.J.*, Lai, D. 2018, “Planet Formation in Disks with Inclined Binary Companions: Can Primordial Spin-Orbit Misalignment be Produced?”, MNRAS, 478, 835-851 ([arXiv:1711.03138](#))
151. Zanazzi, J.J.*, Lai, D. 2018, “Effects of Disk Warping on the Inclination Evolution of Star-Disk-Binary Systems”, MNRAS, 477, 5207-5219 ([arXiv:1712.07655](#))
152. Cao, Xinwu, Lai, D. 2017, “Jet production in black-hole X-ray binaries and active galactic nuclei: mass feeding and advection of magnetic fields”, MNRAS, submitted ([arXiv:1712.09265](#))

153. Pu, Bonan*, Lai, D. 2018, “Eccentricities and Inclinations of Multi-Planet Systems with External Perturbers”, MNRAS, 478, 197-217 ([arXiv:1801.06220](#))
154. Liu, Bin*, Lai, D. 2018, “Black Hole and Neutron Star Binary Mergers in Triple Systems: Merger Fraction and Spin-Orbit Misalignment”, ApJ, 863, 68 ([arXiv:1805.03202](#))
155. Xu, Wenrui*, Lai, D., Morbidelli, A. 2018, “Migration of Planets Into and Out of Mean Motion Resonances in Protoplanetary Discs: Overstability of Capture and Nonlinear Eccentricity Damping”, MNRAS, 481, 1538 ([arXiv:1805.07501](#))
156. Anderson, K.R.*, Lai, D. 2018, “Teetering Stars: Resonant Excitation of Stellar Obliquities by Hot and Warm Jupiters with External Companions”, MNRAS, 480, 1402 ([arXiv:1806.07892](#))
157. Owen, J.E., Lai, D. 2018, “Photoevaporation and High-Eccentricity Migration Created the Sub-Jovian Desert”, MNRAS, 479, 5012 ([arXiv:1807.00012](#))
158. Liu, B.*, Lai, D. 2018, “Enhanced Black-Hole Mergers in Binary-Binary Interactions”, MNRAS, submitted ([arXiv:1809.07767](#))
159. Munoz, D.J.*, Miranda, R.*, Lai, D. 2018, “Hydrodynamics of circumbinary accretion: Angular momentum transfer and binary orbital evolution”, ApJ, submitted ([arXiv:1810.04676](#))

INVITED REVIEW PAPERS (unrefereed)

1. D. Lai 2000, “Physics of Neutron Star Kicks”, in *Stellar Astrophysics*, ed. K. S. Cheng et al. (Kluwer Publication) ([astro-ph/9912522](#)).
2. D. Lai 2001, “Neutron Star Kicks and Asymmetric Supernovae”, in *Physics of Neutron Star Interiors* (Lecture Notes in Physics), ed. D. Blaschke, N.K. Glendenning, and A. Sedrakian (Springer 2001) ([astro-ph/0012049](#)).
3. D. Lai 2001, “Secular Bar-Mode Evolution and Gravitational Waves From Neutron Stars”, in *Astrophysical Sources of Gravitational Radiation for Ground-Based Detectors*, ed. J. Centrella (AIP Press) ([astro-ph/0101042](#)).
4. D. Lai 2002, “Magnetically Driven Warping and Precession of Accretion Disks: Implications for ‘Exotic’ Stellar Variabilities”, in *Exotic Stars as Challenges to Evolution* (Proceedings of IAU Colloquium 187), ed. C. Tout and W. van Hamme (ASP Press: San Francisco) ([astro-ph/0211316](#))
5. D. Lai 2003, “Neutron Star Kicks and Supernova Asymmetry”, in *3D Signatures in Stellar Explosions*, ed. P. Kumar, P. Hoefflich and J.C. Wheeler (Cambridge University Press) ([astro-ph/0312542](#))
6. Dong Lai 2005, “Thermal Radiation From Isolated Neutron Stars”, in “Astrophysical Sources of High Energy Particles and Radiation” (Torun, Poland), eds. T. Bulik, G. Madejski and B. Rudak (ASP publication)
7. Dong Lai 2005, “Matter and Radiation in Strong Magnetic Fields of Neutron Stars”, in “Astrophysics as Interdisciplinary Science” (Proceedings of the Third 21 COE Symposium, Waseda University, 9/2005), *Journal of Physics: Conf. Series*.
8. Dong Lai, WynnHo*, M. van Adelsberg*, Chen Wang* and Jeremy S. Heyl 2009, “Polarized X-rays from Magnetized Neutron Stars”, in “X-ray Polarimetry: A New Window in Astrophysics”, edited by R. Bellazzini, E. Costa, G. Matt and G. Tagliaferri (Cambridge University Press) ([arXiv:0906.4717](#))
9. D. Lai 2013, “Merging neutron star binaries: equation of state and electrodynamics”, Proceedings of IAUS 291 “Neutron Stars and Pulsars: Challenges and Opportunities after 80 years”, J. van Leeuwen (ed.) ([arXiv:1212.5996](#))

10. Lai, D., Fu*, W., Tsang*, D., Horak, J., Yu, C. 2013, “High-Frequency QPOs and Overstable Oscillations of Black-Hole Accretion Disks”, Proceedings of IAUS 290 “Feeding Compact Objects: Accretion on All Scales”, C. M. Zhang, T. Belloni, M. Mendez & S. N. Zhang (eds.) (arXiv:1212.5323)
11. Lai, D. 2014, “Theory of Disk Accretion onto Magnetic Stars”, EPJ Web of Conferences, Vol.64, 01001; Proceedings of “Physics of Magnetospheric Boundary”, Geneva, Switzerland, 25-28, June 2013, eds. E. Bozzo et al. (arXiv:1402.1903)
12. Feroci, M. et al 2014, “The Large Observatory for X-ray Timing”, Proc. SPIE, 9144, 91442T (arXiv:1408.6526)
13. Lai, D. 2014, “Physics in Very Strong Magnetic Fields: Introduction and Overview” in “The Strongest Magnetic Fields in the Universe” (Space Sciences Series of ISSI, Springer), Space Science Reviews (arXiv:1411.7995)

OTHER PAPERS: Conference Proceedings, White papers, etc. (unrefereed)

1. D. Lai, E. E. Salpeter and S. L. Shapiro 1992, “Hydrogen Molecules and Chains in a Magnetic Neutron Star Atmosphere”, in *Physics of Isolated Pulsars*, eds. K. Van Riper, R. Epstein and C. Ho, pp 160-167 (Cambridge University Press).
2. D. Lai, F. A. Rasio and S. L. Shapiro 1992, “Collisions and Close Encounters Between Main-Sequence Stars in Galactic Nuclei”, in *New York State Astronomy*, ed. A.G.D. Philip (Schenectady: L. Davis Press).
3. D. Lai and S. L. Shapiro 1992, “Topics on the Equation of State in Metals and Cold Stars”, in *Physics of Strongly Coupled Plasmas*, eds. H.M. Van Horn and S. Ichimaru, pp 171-174 (University of Rochester Press).
4. D. Lai, F. A. Rasio and S. L. Shapiro 1993, “Hydrodynamical Instability and Orbital Evolution of Close Binaries”, in *Evolution of X-Ray Binaries*, eds. S. S. Holt and C. S. Day, pp 303-306 (AIP Press).
5. D. Lai 1997, “Dynamics of Binary Pulsars and Neutron Star Formation”, in *Proceedings of the 18th Texas Symposium on Relativistic Astrophysics* (Chicago, IL, 12, 1996) Editors: A. Olinto, J. Frieman, and D. Schramm (World Scientific Press).
6. D. Lai, R.V.E. Lovelace and I. Wasserman 1999, “Kilohertz Quasi-Periodic Oscillations, Magnetic Fields and Mass of Neutron Stars in Low-Mass X-ray Binaries”, (astro-ph/9904111).
7. D. Lai 2000, “Magnetically Driven Warping, Precession and Resonances in Accretion Disks”, in *Stellar Astrophysics*, ed. K. S. Cheng et al. (Kluwer Publication).
8. D. Lai and W.C.G.Ho* 2002, “Comment on ‘The Effect of Vacuum Polarization ... in Strongly Magnetized Plasmas’ by Ozel”, unpublished note (astro-ph/0204187)
9. W.C.G.Ho* and D. Lai 2002, “Atmospheres and Spectra of Magnetic Neutron Stars”, in *Proceedings of the Tuebingen Workshop on Stellar Atmosphere Modeling* (Tuebingen, Germany), ed. I. Hubeny, D. Mihalas and K. Werner (published in ASP Press).
10. D. Lai 2002, “Core-Collapse Supernovae and Neutron Star Kicks”, in *Radio Pulsars* (Proceedings of 2002 pulsar meeting in Crete), ed. M. Bailes, D. Nice & S. Thorsett (to be published in ASP Press) (astro-ph/0212140)
11. D. Lai and W.C.G. Ho* 2003, “Matter and Radiation in Superstrong Magnetic Fields and Thermal Emission from Neutron Stars”, in *High Energy Processes and Phenomena in Astrophysics* (Proceedings of IAU Symp. 214, Suzhou, China), ed. X. Li, V. Trimble, et al. (ASP Press) (astro-ph/0302156)

12. A. Reisenegger, J. Prieto, R. Benguria, D. Lai and P. Araya 2005, “Magnetic fields in neutron stars: A theoretical perspective”, in ”Magnetic Fields in the Universe: from Laboratory and Stars to Primordial Structures”, eds. E.M. de Gouveia, A. Lazarian, & G. Lugones (AIP Conference Proceedings)
13. Dong Lai, Chen Wang* and JinLin Han 2006, “Neutron Star Kicks: Mechanisms and Observational Constraints”, in Proceedings of the International Pulsar Meeting (Lake Hanas, China) *Chinese Journal of Astronomy and Astrophysics*.
14. Zach Medin* and Dong Lai 2008, “Condensed Surfaces of Magnetic Neutron Stars and Particle Acceleration Above Pulsar Polar Caps”, in *40 Years of Pulsars: Millisecond Pulsars, Magnetars and More*, **983**, 249-253 (AIP Conference Proceedings)
15. Matt van Adelsberg* and Dong Lai 2008, “Atmosphere Models of Magnetized Neutron Stars: QED Effects, Radiation Spectra and Polarization Signals”, in *Astrophysics of Compact Objects* (AIP Conference Proceedings), **968**, 137-142
16. Dong Lai, et al. 2009, “Extreme Astrophysics with Neutron Stars”, whitepaper submitted to Astro2010 Decadal Survey (arXiv:0902.3821)
17. Z. Arzoumanian, et al. 2009, “X-ray Timing of Neutron Stars, Astrophysical Probes of Extreme Physics”, whitepaper submitted to Astro2010 Decadal Survey (arXiv:0902.3264)
18. Lai, D., Foucart*, F., & Lin, D.N.C. 2011, “Evolution of spin direction of accreting magnetic protostars and spin-orbit misalignment in exoplanetary systems”, in “Astrophysics of Planetary Systems” (IAU 276) (Cambridge Univ. Press)
19. Wang*, C., Lai, D., Han, J. 2013, “Wave propagation in pulsar magnetospheres”, Proceedings of IAUS 291 “Neutron Stars and Pulsars: Challenges and Opportunities after 80 years”, J. van Leeuwen (ed.)
20. Schnittman, J., et al. 2013, “X-ray Polarization from Black Holes: GEMS Scientific White Paper” (arXiv:1301.1957)
21. Ghosh, P., et al. 2013, “White Paper on GEMS Study of Polarized X-rays from Neutron Stars” (arXiv:1301.5514)
22. Krawczynski, H., et al. 2013, “White Paper for Blazar Observations with a GEMS-like X-ray Polarimetry Mission” (arXiv:1303.7158)
23. Zhang, S.N. et al. 2016, “eXTP – enhanced X-ray Timing and Polarimetry Mission”, SPIE proceedings, 9905, 99051Q (arXiv:1607.08823)
24. Feroci, M., et al. 2016, “The LOFT Mission Concept: a Status Update”, SPIE proceedings, 9905, 99051R

BOOKS

1. Y.-F. Yuan, X.-D. Li and D. Lai 2008 (eds), “Astrophysics of Compact Objects” (Proceedings of the International Conference held in Huangshan, July 2007) (published by American Institute of Physics: New York)