Marcus E. Lower | Curriculum Vitae

✉ mlower@swin.edu.au • June 19, 2026

Research fellow studying the links between pulsars, magnetars and the fast radio burst phenomenon. Areas of interest include pulsar timing and searching, fast radio bursts, polarimetry, the interstellar medium, tests of general relativity, neutron star magnetospheres and gravitational waves.

Personal information

Present position: ARC DECRA Fellow in pulsar and fast radio burst astronomy.
Centre for Astrophysics and Supercomputing, Swinburne University of Technology
PO Box 218, Hawthorn, VIC 3122, Australia

Citizenship: Australia, Canada

Personal webpage: `https://mlower.github.io/`

Academic and research experience

Swinburne University of Technology **Melbourne, Australia**
ARC DECRA Fellow, Centre for Astrophysics and Supercomputing *2024-present*

- *Responsibilities*: Principle Investigator of an independent research programme exploring the use of pulsars and magnetars as Galactic analogues of fast radio burst progenitors.

Commonwealth Scientific and Industrial Research Organisation (CSIRO) **Sydney, Australia**
CSIRO Early Research Career Postdoctoral Fellow *2021-2024*

- *Responsibilities*: Principle Investigator, Parkes young pulsar timing programme. National facility support, Parkes/Murriyang expert observer.

Swinburne University of Technology **Melbourne, Australia**
Research Assistant, Centre for Astrophysics and Supercomputing *2018*

- *Responsibilities*: Vetting of 600 pulsars for the UTMOST timing program. Developed diagnostic tools for tracking telescope observation efficiency. Follow up parameter estimation of glitches.

Monash University **Melbourne, Australia**
Teaching Assistant, School of Physics and Astronomy *2017-2018*

- *Responsibilities*: running laboratory sessions for first year introductory astrophysics courses. Answering student questions regarding coursework and grading lab reports.

Education

Swinburne University of Technology & CSIRO Space and Astronomy **Melbourne, Australia**
PhD in Astrophysics *2018-2022*

- *Supervisors*: Matthew Bailes, Ryan Shannon and Simon Johnston.
- *Thesis*: Exploring the magnetospheric and rotational properties of radio pulsars.

Monash University **Melbourne, Australia**
Bachelor of Science with Honours (first class) in Astrophysics *2014-2017*

- *Supervisors*: Eric Thrane, Paul Lasky and Rory Smith.
- *Thesis*: Detecting eccentricity in the orbits of merging binary black holes.

Skills

Programming languages: (proficient) Python, Bash, AWK, (familiar) Mathematica, MATLAB, Fortran90, C shell (basic) C/C++, CUDA, HTML/CSS.

Software: PSRCHIVE, DSPSR, Tempo2, TempoNest, Bilby, LaTeX, GIT, SLURM, HTCondor.

Supercomputer experience: I have extensive experience in using high-performance computing clusters including the LIGO Data Grid, SwinSTAR/gSTAR, OzSTAR, Petrichor and Ngarrgu Tindebeek supercomputers.

Accumulated observing time: Parkes 900+ hrs, ATCA 100+ hrs, LBA 8 hrs.

Grants, scholarships and awards

Discovery Early Career Research Award, Australian Research Council, AUD $471k *2025-2028*
- *Discovering the origins of cosmic radio explosions by studying our Galactic backyard*
- Additional AUD $150k top-up from Swinburne University of Technology

Frontiers of Science Award, International Congress of Basic Science *2024*
- AUD $5k equivalent awarded to the Parkes Pulsar Timing Array Collaboration

CSIRO Non-cash Reward, CSIRO, AUD $200 *2024*
- In recognition for publishing a paper in Nature Astronomy

Royal Society International Exchange Grant, The Royal Society, GBP £6k *2023-2024*
- Co-awarded with Lucy Oswald (University of Oxford)

ASA 2021 best student poster (3rd place), Astronomical Society of Australia, AUD $100 *2021*

CSIRO Space and Astronomy Studentship, CSIRO, AUD $5k *2019-2021*

Faculty of Science Engineering & Technology travel grant, Swinburne University, AUD $3k *2018-2021*

ARC Laureate Fellowship funded PhD scholarship, Swinburne University, AUD $81k *2018-2021*

OzGrav student travel grant, Swinburne University, AUD $400 *2018*

Teaching and mentoring

Supervision:

Postgraduate students
- Jade Salisbury *2026-*
- Sparrow Roch *2025-*

Summer vacation students
- Jackson Mitchell-Bolton (now PhD student at USyd) *2023-2025*
- Aksita Deo (now MRes student at Macquarie) *2022-2023*
- Sarah Bradbury (now PhD student at ANU) *2021-2022*

Monash University (teaching assistant):
- ASP1010: Earth to cosmos (1st-year astronomy). *2018*
- ASP1022: Life in the Universe (1st-year astronomy). *2017*

Leadership and service

Referee
- Astronomy & Astrophysics, The Astrophysical Journal, The Astrophysical Journal Letters, Monthly Notices of the Royal Astronomical Society, Journal of High-Energy Astrophysics, Publications of the Astronomical Society of the Pacific

Telescope proposal reviewer
- Australia Telescope National Facility, Australia
- Five-hundred-meter Aperture Spherical Telescope, China
- Giant Metrewave Radio Telescope, India

Australia Telescope National Facility
- Australia Telescope Users Committee *2023-2026*
- Parkes radio telescope expert observer *2023-2024*
- Chair of weekly ATNF pulsar group meetings (AKA ‘Pulsar Chat’) *2021-2024*
- Vetting updates to the ATNF Pulsar Catalogue (psrcat) *2021-2023*
- Australia Telescope Compact Array Duty Astronomer *2021-2022*

Swinburne Centre for Astrophysics and Supercomputing
- Postdoc representative *2026-2027*
- PhD admissions committee member *2025-2027*

Square Kilometer Array Pulsars Science Working Group

- Co-coordinator 'Neutron Stars Interiors' SKA Science Case chapter (2025 edition) *2024-2025*

Organised conferences

- *2022 Australasian (Orange) Pulsar Workshop*, Parkes Observatory, Australia & hybrid online. *2022*
- *2022 ATNF Science Retreat*, Barossa Valley, Australia & hybrid online. *2022*

Professional organisation and collaboration memberships

- International Astronomical Union
- Astronomical Society of Australia
- Parkes Pulsar Timing Array
- International Pulsar Timing Array
- SKA Pulsars Science Working Group
- CRAFT: The Commensal Real-time ASKAP Fast Transient survey
- VAST: ASKAP Variables and Slow Transients survey

Public outreach

Outreach activities

- 2024 Macquarie University Astronomy Open Night. *2024*
- 2023 National Youth Science Forum Year 12 Program (PULSE@Parkes). *2023*
- PULSE@Parkes high school outreach and educational programme. *2022-2024*
- Guinness World Record for the Most People Stargazing across Multiple Sites (Monash site). *2018*
- Monash University Open Day: science outreach and public engagement activities. *2017*
- Guinness World Record for the Most People Stargazing across Multiple Sites (Monash site). *2015*
- Monash University Open Day: first year physics lab demonstration. *2014*

Media

- **Science & Vie** *Issue 1290, pp. 100: L'étonnant signal venu du centre de notre galaxie*. *2025*
- **Space Australia** *A Millisecond Pulsar Lurking in the Galactic Centre*. *2024*
- **Astrophiz Podcast** *Episode 192: Dr Marcus Lower ~ Pulsars Stripped Bare*. *2024*
- **Channel 9 News** *TV interview on magnetar polarisation results*. *2024*
- **ABC Radio Perth** *Radio interview on WA Afternoons discussing magnetar polarisation results*. *2024*
- **The Conversation** *We saw one of the most powerful magnets in the Universe come to life*. *2024*
- **Space Australia** *Parkes radio telescope spots bizarre magnetar in the Milky Way*. *2021*
- **The Age** *Unlocking the secrets of one of the universe's strongest magnets*. *2021*
- **CNET** *Astronomers trace mysterious fast radio burst to extreme, rare star*. *2020*
- **Space Australia** *Ancient distance measuring technique applied to magnetar*. *2020*
- **Space Australia** *The Dish helps study nearby magnetar*. *2020*
- **phys.org** *Mysterious spinning neutron star detected in the Milky Way proves to be an extremely rare discovery*. *2020*
- **Science Alert** *Strangely flaring dead star could be the 'missing link' between magnetars and pulsars*. *2020*
- **phys.org** *Ticking cosmic clocks reveal the evolution of stars over millions of years*. *2020*
- **Science Alert** *Astronomers have caught this pulsar glitching for the very first time*. *2019*
- **Space Australia** *Pulsar glitches after 30 years*. *2019*

Publications

Refereed publications: 94 (13 first author); **Citations**: 17,233 (485 first author); **h-index**: 45 (ADS)

Listed below are my first author publications in addition to publications where I made a *substantial* contribution as a co-author. I am also a co-author on 26 LIGO Scientific Collaboration papers that are not listed here, including the first LIGO-Virgo gravitational-wave transient catalogue (GWTC-1) and the GW190425 detection paper (2nd detected double neutron-star merger).

First Author (refereed)

13. *Transient narrowband radio bursts from 1E 1547.0−5408*
M. E. Lower, P. Scholz, F. Camilo, D. M. Palmer, J. E. Reynolds, J. M. Sarkissian, L. J. Toomey, & G. Younes, Nature Astronomy, submitted (2026), arXiv:2603.21450.
12. *The ubiquity of variable radio emission and spin-down rates in pulsars*
M. E. Lower, A. Karastergiou, S. Johnston, P. R. Brook, et al., MNRAS, 538 3104 (2025).
11. *MeerKAT observations of pair-plasma induced birefringence in the double pulsar eclipses*
M. E. Lower, M. Kramer, S. Johnston, R. P. Breton, N. Wex, M. Bailes, S. Buchner, F. Camilo, L. S. Oswald, D. J. Reardon, M. Serylak & V. Venkatraman Krishnan, MNRAS 534 3936 (2024).
10. *A Millisecond Pulsar Binary Embedded in a Galactic Center Radio Filament*
M. E. Lower, S. Dai, S. Johnston & E. D. Barr ApJL 967 L16 (2024).
9. *Linear to circular conversion in the polarized radio emission of a magnetar*
M. E. Lower, S. Johnston, M. Lyutikov, et al. Nature Astronomy, 8 606 (2024).
• Covered by press release.
8. *A MeerKAT view of the double pulsar eclipses: Geodetic precession of pulsar B and system geometry*
M. E. Lower, M. Kramer, R. M. Shannon, et al., A&A, 682, A26 (2024).
7. *Rotational and radio emission properties of PSR J0738−4042 over half a century*
M. E. Lower, S. Johnston, A. Karastergiou, et al., MNRAS 524 5904 (2023).
6. *The 2022 high-energy outburst and radio disappearing act of the magnetar 1E 1547.0−5408*
M. E. Lower, G. Younes, P. Scholz, et al., ApJ 945 153 (2023).
5. *The impact of glitches on the rotational evolution of young pulsars*
M. E. Lower, S. Johnston, L. Dunn, R. M. Shannon, M. Bailes, S. Dai, M. Kerr, R. N. Manchester, A. Melatos, L. S. Oswald, A. Parthasarathy, C. Sobey & P. Weltevrede, MNRAS 508 3251 (2021).
4. *The dynamic magnetosphere of Swift J1818.0−1607*
M. E. Lower, S. Johnston, R. M. Shannon, M. Bailes & F. Camilo, MNRAS 502 127 (2021).
• Covered by press release.
3. *Spectropolarimetric properties of Swift J1818.0−1607: A 1.4 s radio magnetar*
M. E. Lower, R. M. Shannon, S. Johnston & M. Bailes, ApJL 896 L37 (2020).
• Covered by press release.
2. *The UTMOST pulsar timing programme - II. Timing noise across the pulsar population*
M. E. Lower, M. Bailes, R. M. Shannon, et al. MNRAS 494 228 (2020).
• Covered by press release.
1. *Measuring eccentricity in binary black hole inspirals with gravitational waves*
M. E. Lower, E. Thrane, P. D. Lasky & R. Smith, PRD 98 083028 (2018).

Co-Author (refereed)

55. *Discovery of Glitch-Associated Profile Variation Events in PSR J1740−3015*
W. Li, J. Wang, S. Dang, N. Wang, **M. E. Lower**, et al., ApJ, submitted (2026).
54. *Probing turbulence in the ionized interstellar medium using young pulsars – I. Dispersion measure variations*
S. J. I. Melfor, A. Parthasarathy, S. Johnston, A. Chalumeau, S. Dai, M. Kerr, **M. E. Lower**, R. N. Manchester, L. S. Oswald, S. Roch, C. A. Sobey and P. Weltevrede, A&A, submitted (2026).
53. *A fast radio burst cyclone in technicolour: evidence of plasma lensing*
P. A. Uttarkar, R. M. Shannon, K. Gourdji, A. T. Deller, P. Kumar, N. Sridhar, **M. E. Lower**, A. Tuntsov, A. D. Kulkarni, S. C.-C. Ho, Y. Wang, J. N. Jahns-Schindler, Nature Astronomy, submitted (2026) arXiv:2602.16409.
52. *Vacuum birefringence and the polarized X-ray emission from a radio magnetar*
R. Stewart, H. Dinh Thi, G. A. Younes, **M. E Lower**, M. G. Baring, et al., Nature (accepted), arXiv:2509.19446.
51. *Pulsed radio emission from a central compact object*
L. Zhang, A. Ridolfi, D. Li, E. Gügercinoğlu, F. Camilo, W. C. G. Ho, M. Bailes, P. Zhou, C. O. Heinke & **M. E. Lower**, Nature Astronomy, accepted (2025) arXiv:2512.17214.
50. *Frequency- and phase-resolved polarimetry of millisecond pulsars and its application to timing*
M. Curyło, A. Zic, S. Wang, et al., inc. **M. E. Lower**, MNRAS, accepted (2025), arXiv:2512.09220.
49. *Scintillating insights into PSR J0737−3039A and the interstellar plasma of the Gum Nebula from MeerKAT*
J. Askew, D. J. Reardon, R. M. Shannon, M. Bailes, F. Camilo, A. Corongiu, M. Kramer, **M. E. Lower**, A. Parthasarathy, A. Possenti, & V. Venkatraman Krishnan, MNRAS 545 2185 (2026).
48. *Hierarchical Bayesian estimation of population-level torque law parameters from 68 young radio pulsars observed with the Murriyang telescope*
A. F. Vargas, A. Melatos, J. B. Carlin, **M. E Lower**, S. Johnston & P. Weltevrede, MNRAS, 545 2090 (2026).

47. *A glitch in the millisecond pulsar J0900−3144*
B. Bhat, M. J. Keith, I. Cognard, L. Guillemot, **M. E Lower**, et al., MNRAS, 545 2034 (2026).

46. *Probing neutron star interiors and the properties of cold ultra-dense matter with the SKA*
A. Basu, V. Graber, **M. E. Lower**, et al., OJA, 8 supp. 1 (2025).

45. *Testing gravity with binary pulsars in the SKA era*
V. Venkatraman Krishnan, L. Shao, V. Balakrishnan, et al., inc. **M. E. Lower**, OJA, 8 supp. 1 (2025).

44. *Understanding pulsar magnetospheres with the SKAO*
L. S. Oswald, A. Basu, M. Chakraborty, et al., inc. **M. E. Lower**, OJA, 8 supp. 1 (2025).

43. *Frequency Evolution of Pulsar Emission: Further Evidence for Fan Beam Model*
P. Jaroenjittichai, S. Johnston, S. Dai, M. Kerr, **M. E. Lower**, R. N. Manchester, L. S. Oswald, R. M. Shannon, C. Sobey, & P. Weltevrede, A&A, 704 A214 (2025).

42. *Ultra-Wideband Polarimetry of the April 2021 Profile Change Event in PSR J1713+0747*
R. F. Mandow, A. Zic, J. R. Dawson, S. Wang, et al., inc. **M. E. Lower**, PASA, 42, e142 (2025).

41. *Detection of X-ray Emission from a Bright Long-Period Radio Transient*
Z. Wang, N. Rea, T. Bao, D. L. Kaplan, et al., inc. **M. E. Lower**, Nature 642, 583 (2025).

40. *The Thousand-Pulsar-Array programme on MeerKAT - XVI. Mapping the Galactic magnetic field with pulsar observations*
L. S. Oswald, P. Weltevrede, B. Posselt, S. Johnston, A. Karastergiou & **M. E. Lower**, MNRAS 540, 2112 (2025).

39. *The emission of interpulses by a 6.45-h-period coherent radio transient*
Y. W. J. Lee, M. Caleb, T. Murphy, et al., inc. **M. E. Lower**, Nature Astronomy 9, 393 (2025).

38. *FRB 20230708A, a quasi-periodic FRB with unique temporal-polarimetric morphology*
T. Dial, A. T. Deller, P. A. Uttarkar R. M. Shannon, A. Bera, S. D. Ryder, **M. E. Lower** & J. X. Prochaska, MNRAS 536, 3220 (2025).

37. *Multiwavelength coverage of the 2024 periastron passage of PSR B1259−63/LS 2883*
M. Chernyakova, D. Malyshev, B. van Soelen, A. Finn Galagher, N. Matchett, T. D. Russell, J. van den Eijnden, **M. E. Lower**, S. Johnston, S. Tsygankov, A. Salganik & I. Shebalkova, MNRAS 536, 247 (2025).

36. *A Fast Radio Burst monitor with a Compact All-Sky Phased Array (CASPA)*
R. Luo, R. D. Ekers, G. Hobbs, A. Dunning, C. W. James, **M. E. Lower**, V. Gupta, A. Zic, M. Sokolowski, C. Phillips, A. T. Deller & L. Staveley-Smith, PASA 41, e109 (2024).

35. *Triple trouble with PSR J1618−3921: Mass measurements and orbital dynamics of an eccentric millisecond pulsar*
K. Grunthal, V. Venkatraman Krishnan, M. Kramer, P. C. C. Freire, M. Bailes, S. Buchner, M. Burgay, A. D. Cameron, I. Cognard, L. Guillemot, **M. E. Lower**, G. Theureau & A. Possenti, A&A 691, A22 (2024).

34. *A two-minute burst of highly polarised radio emission originating from low Galactic latitude*
D. Dobie, A. Zic, L. S. Oswald, J. Pritchard, **M. E. Lower**, et al. MNRAS 535, 909 (2024).

33. *Towards solving the origin of circular polarisation in FRB 20180301A*
P. Uttarkar, R. M. Shannon, **M. E. Lower**, P. Kumar, D. C. Price, A. T. Deller & K. Gourdji, MNRAS 534, 2485 (2024).

32. *PSR J1227−6208 and its massive white dwarf companion: pulsar emission analysis, timing update and mass measurements*
M. Colm i Bernadich, V. Venkatraman Krishnan, D. J. Champion, et al., P. C. C. Freire, M. Kramer, T. M. Tauris, M. Bailes, A. Ridolfi, **M. E. Lower** & M.Serylak, A&A 690, A253 (2024).

31. *VLBA Astrometry of the Fastest-spinning Magnetar Swift J1818.0−1607: A Large Trigonometric Distance & Small Transverse Velocity*
H. Ding, **M. E. Lower**, A. T. Deller, R. M. Shannon, F. Camilo & J. Sarkissian, ApJL 971, L13 (2024).

30. *An emission-state switching radio transient with a 54-minute period*
M. Caleb, E. Lenc, D. L. Kaplan, et al., inc. **M. E. Lower**, et al., Nature Astronomy, 8, 1159 (2024).

29. *Comparing recent PTA results on the nanohertz stochastic gravitational wave background*
The International Pulsar Timing Array Collaboration, et al., inc. **M. E. Lower**, ApJ 996, 18 (2024).

28. *The Thousand-Pulsar-Array programme on MeerKAT XIII: Timing, flux density, rotation measure and dispersion measure timeseries of 597 pulsars*
M. J. Keith, S. Johnston, A. Karastergiou, P. Weltevrede, **M. E. Lower**, et al. MNRAS 530 1851 (2024).

27. *The Third Fermi Large Area Telescope Catalog of Gamma-ray Pulsars*
Smith D. A., S. Abdollahi, M. Ajello, et al., inc. **M. E. Lower**, ApJ 958 191 (2023).

26. *Propagation of a fast radio burst through a birefringent relativistic plasma*
P. Kumar, R. M. Shannon, **M. E. Lower**, A. T. Deller & J. X. Prochaska, PRD 108, 043009 (2023).

25. *Search for an Isotropic Gravitational-wave Background with the Parkes Pulsar Timing Array*
D. J. Reardon, A. Zic, R. M. Shannon, et al. inc. **M. E. Lower**, ApJL 951 L6 (2023).

24. *The gravitational-wave background null hypothesis: Characterizing noise in millisecond pulsar observations with the Parkes Pulsar Timing Array*
D. J. Reardon, A. Zic, R. M. Shannon, et al. inc. **M. E. Lower**, ApJL 951 L7 (2023).

23. *The Parkes Pulsar Timing Array Third Data Release*
A. Zic, D. J. Reardon, A. Kapur, et al., inc. **M. E. Lower**, PASA 40 e049 (2023).

22. *Mass measurements and 3D orbital geometry of PSR J1933−6211*
M. Geyer, V. Venkatraman Krishnan, P. C. C. Freire, et al. inc. **M. E. Lower**, A&A 674 A169 (2023).

21. *Radio timing constraints on the mass of the binary pulsar PSR J1528−3146*
A. Berthereau, L. Guillemot P. C. C. Freire, M. Kramer, V. Venkatraman Krishnan, I. Cognard, G. Theureau, M. Bailes, M. C. i Bernadich, & **M. E. Lower**, A&A 674, A71 (2023).

20. *Pulsar polarization: a broad-band population view with the Parkes Ultra-Wideband receiver*
L. S. Oswald, S. Johnston, A. Karastergiou, S. Dai, M. Kerr, **M. E. Lower**, R. N. Manchester, R. M. Shannon, C. Sobey & P. Weltevrede, MNRAS 520 4961 (2023).

19. *The ultra narrow FRB 20191107B, and the origins of FRB scattering*
V. Gupta, C. Flynn, W. Farah, M. Bailes, A. T. Deller, C. K. Day, **M. E. Lower**, MNRAS 514 5866 (2022).

18. *Circularly polarized radio emission from the repeating fast radio burst source FRB 20201124A*
P. Kumar, R. M. Shannon, **M. E. Lower**, S. Bhandari, A. T. Deller, C. Flynn & E. F. Keane, MNRAS 512 3400 (2022).

17. *Systematic upper limits on the size of missing pulsar glitches in the first UTMOST open data release*
L. Dunn, A. Melatos, S. Suvorova, W. Moran, R. J. Evans, S. Osłowski, **M. E. Lower**, M. Bailes, C. Flynn, V. Gupta, MNRAS 512 1469 (2022).

16. *The eccentric millisecond pulsar PSR J0955−6150 I: Pulse profile analysis, mass measurements and constraints on binary evolution*
M. Serylak, V. Venkatraman Krishnan , P. C. C. Freire, et al. inc. **M. E. Lower**, A&A 665 A53 (2022).

15. *A supernova remnant association for the fast-moving pulsar PSR J0908−4913*
S. Johnston & **M. E. Lower**, MNRASL 507 L41 (2021).

14. *On the evidence for a common-spectrum process in the search for the nanohertz gravitational wave background with the Parkes Pulsar Timing Array*
B. Goncharov, R. M. Shannon, D. J. Reardon, et al., inc. **M. E. Lower**, ApJL 917 L19 (2021).
- Covered by press release.

13. *Effects of periodicity in observation scheduling on parameter estimation of pulsar glitches*
L. Dunn, **M. E. Lower** & A. Melatos, MNRAS 504 3399 (2021).

12. *The Relativistic Binary Programme on MeerKAT: Science objectives and first results*
M. Kramer, I. H. Stairs, V. Venkatraman Krishnan, et al., inc. **M. E. Lower**, MNRAS 504 2094 (2021).

11. *Multi-frequency observations of SGR J1935+2154*
M. Bailes, C. G. Bassa, G. Bernardi, et al., inc. **M. E. Lower**, MNRAS 503 5367 (2021).

10. *Gravitational-wave Constraints on the Equatorial Ellipticity of Millisecond Pulsars*
R. Abbott, T. D. Abbott, S. Abraham et al., inc. **M. E. Lower**, ApJL 902 L21 (2020).

9. *Bayesian inference for compact binary coalescences with Bilby: Validation and application to the first LIGO−Virgo gravitational-wave transient catalogue*
I. Romero-Shaw, C. Talbot, S. Biscoveanu, et al., inc. **M. E. Lower**, MNRAS 499 3295 (2020).

8. *A magnetar parallax*
H. Ding, A. T. Deller, **M. E. Lower**, C. Flynn, S. Chatterjee, W. Brisken, N. Hurley-Walker, F. Camilo, J. Sarkissian, V. Gupta, MNRAS 498 3736 (2020).
- Covered by press release.

7. *The MeerKAT Telescope as a Pulsar Facility: System verification and early science results from MeerTime*
M. Bailes, A. Jameson, F. Abbate, et al., inc. **M. E. Lower**, PASA 37 e028 (2020).

6. *The Parkes Pulsar Timing Array Project: Second data release*
M. Kerr, D. J. Reardon, G. Hobbs, et al., inc. **M. E. Lower**, PASA 37 e020 (2020).

5. *The UTMOST Survey for Magnetars, Intermittent pulsars, RRATs and FRBs I: System description and overview*
V. Venkatraman Krishnan, C. Flynn, W. Farah, et al., inc. **M. E. Lower**, MNRAS 492 4752 (2020).

4. *Five new real-time detections of Fast Radio Bursts with UTMOST*
W. Farah, C. Flynn, M. Bailes, et al., inc. **M. E. Lower**, MNRAS 488 2989 (2019).
- Covered by press release.

3. *The 2018 X-ray and Radio Outburst of Magnetar XTE J1810−197*
E. V. Gotthelf, J. P. Halpern, J. A. J. Alford, T. Mihara, H. Negoro, N. Kawai, S. Dai, **M. E. Lower**, S. Johnston, M. Bailes, S. Osłowski, F. Camilo, H. Miyasaka & K. K. Madsen, ApJL 874 L25 (2019).

2. *Wideband polarized radio emission from the newly revived radio magnetar XTE J1810−197*
S. Dai, **M. E. Lower**, M. Bailes, F. Camilo, J. P. Halpern, S. Johnston, M. Kerr, J. Reynolds, J. Sarkissian & P. Scholz, ApJL 874 L14 (2019).
1. *Bilby: A user-friendly Bayesian inference library for gravitational-wave astronomy*
G. Ashton, M. Hübner, P. D. Lasky, et al., inc. **M. E. Lower**, ApJS 241 27 (2019).

Non-peer reviewed publications

26. *Non-detection of radio pulses from CXOU J164710.2−455216 with Murriyang*
M. E. Lower, F. Camilo, P. Scholz, G. Younes, J. E. Reynolds & J. M. Sarkissian, ATel #17322 (2025).
25. *Addendum to ATel #16430: Detection and confirmation of FRB 20240114A hyper-activity with Parkes/Murriyang*
P. A. Uttakar, P. Kumar, **M. E. Lower** & R. M. Shannon, ATel #16431 (2024).
24. *Detection and confirmation of FRB 20240114A hyper-activity with Parkes/Murriyang*
P. A. Uttakar, P. Kumar, **M. E. Lower** & R. M. Shannon, ATel #16430 (2024).
23. *No significant change in the radio flux density of PSR B1259−63/LS 2883 near the 2022 apastron*
M. E. Lower & S. Johnston, ATel #15923 (2023).
22. *FRB20221128A found by UTMOST-NS*
A. Mandlik, M. Bailes, A. Deller, inc. **M. E. Lower**, ATel #15783 (2022).
21. *Parkes ultra-wideband observations of SGR 1935+2154 during recent epochs of high activity*
M. E. Lower, P. Kumar & R. M. Shannon, ATel #15172 (2022).
20. *Confirmation of glitch event observed in the Vela pulsar (PSR J0835−4510)*
L. Dunn, D. Campbell-Wilson, C. Flynn, et al., inc. **M. E. Lower**, ATel #14807 (2021).
19. *FRB20210630A found by UTMOST*
A. Mandlik, M. Bailes, A. Deller, et al., inc. **M. E. Lower**, ATel #14745 (2021).
18. *FRB20210303A found by UTMOST*
A. Mandlik, V. Gupta, M. Bailes, et al., inc. **M. E. Lower**, ATel #14434 (2021).
17. *Non-detection of radio pulses from GRB 210119A/Swift J1851.2−6148 with Parkes*
M. E. Lower, R. Sengar, P. Kumar & R. M. Shannon, ATel #14347 (2021).
16. *VLBA detection of Swift J1818.0−1607*
D. Hao, A. T. Deller, **M. E. Lower** & R. M. Shannon, ATel #14005 (2020).
15. *Resurgence in the radio flux of the magnetar XTE J1810−197*
M. E. Lower, V. Gupta, C. Flynn, et al., ATel #13840 (2020).
14. *FRB200607 found by UTMOST*
V. Gupta, M. Bailes, A. Jameson, et al., inc. **M. E. Lower**, ATel #13788 (2020).
13. *No radio counterpart for IGR J18179−1621 detected during a serendipitous VLBA observation*
H. Ding, A. T. Deller, **M. E. Lower** & R. M. Shannon,
ATel #13737 (2020).
12. *FRB200508 found at UTMOST*
V. Gupta, M. Bailes, A. Jameson, et al., inc. **M. E. Lower**, ATel #13715 (2020).
11. *Multi-band observations of Swift J1818.0−1607 with Parkes*
M. E. Lower & R. M. Shannon, ATel #13587 (2020).
10. *MeerKAT observation of the radio magnetar candidate Swift J1818.0−1607*
M. E. Lower, S. Buchner, S. Johnston, A. Parthasarathy, M. Geyer & M. Bailes on behalf of the MeerTime collaboration, ATel #13562 (2020).
9. *FRB191223 found at UTMOST*
V. Gupta, M. Bailes, A. Jameson, et al., inc. **M. E. Lower**, ATel #13363 (2019).
8. *Detection of a glitch in PSR J0908−4913 by UTMOST*
M. E. Lower, M. Bailes, R. M. Shannon, et al., RNAAS 3 192 (2019).
7. *FRB191107 found at UTMOST*
V. Gupta, M. Bailes, A. Jameson, et al., inc. **M. E. Lower**, ATel #13282 (2019).
6. *FRB190806 found at UTMOST*
V. Gupta, M. Bailes, A. Jameson, et al., inc. **M. E. Lower**, ATel #12995 (2019).
5. *Detection of FRB190322 at the Molonglo Radio Telescope*
V. Gupta, M. Bailes, A. Jameson, et al., inc. **M. E. Lower**, ATel #12610 (2019).
4. *Detection of FRB181228 at the Molonglo Radio Telescope*
W. Farah, M. Bailes, A. Jameson, et al., inc. **M. E. Lower**„ ATel #12335 (2018).

3. *Detection of low-frequency radio emission from the magnetar XTE J1810−197*
M. E. Lower, M. Bailes, A. Jameson, et al., ATel #12288 (2018).
2. *Two new FRBs discovered by UTMOST*
W. Farah, M. Bailes, A. Jameson, et al., inc. **M. E. Lower**, ATel #12124 (2018).
1. *Detection of a glitch in the pulsar J1709−4429*
M. E. Lower, C. Flynn, M. Bailes, et al., RNAAS 2 139 (2018).

Conference proceedings, software papers, etc.

3. *Probing magnetar formation channels with high-precision astrometry: The progress of VLBA astrometry of the fastest-spinning magnetar Swift J1818.0−1607*
H. Ding, A. T. Deller, **M. E. Lower** & R. M. Shannon, Proceedings of the IAUS 363, 363 271 (2023).
2. *RMNest: Bayesian approach to measuring Faraday rotation and conversion in radio signals*
M. E. Lower, P. Kumar, R. M. Shannon, ascl:2204.008 (2022).
1. *A phenomenological model for measuring generalised Faraday rotation*
M. E. Lower, arXiv:2108.09429 (2021).

Presentations

9 colloquia, **25** conference/workshop talks, **28** department/research-group talks, **6** posters at conferences.

Colloquia

9. *Magnetars: The magnetic monsters of the neutron star zoo*
RSAA colloquium, The Australian National University, Canberra, Australia, November 2025.
8. *The long- and short-term rotational evolution of radio pulsars*
Astrophysics Colloquium, University of Melbourne, Melbourne, Australia, March 2025.
7. *Untangling the magnetic fields of radio pulsars*
Astrophysics Colloquium, Swinburne University of Technology, Melbourne, Australia, August 2024.
6. *The irregular spin-down evolution of radio pulsars*
Physics and Astronomy Seminar, Monash University, Melbourne, Australia, July 2024.
- Recording on Monash School of Physics and Astronomy YouTube channel.
5. *A MeerKAT perspective of the double pulsar eclipses: precession, predictions and polarimetry*
CGCA Seminar (virtual), University of Wisconsin-Milwaukee, Milwaukee, USA, March 2024.
4. *Faraday conversion in the magnetosphere of a magnetar*
JBCA Seminar, University of Manchester, Manchester, UK, June 2023.
3. *The Parkes magnetar monitoring programme*
MQAAAstro Seminar, Macquarie University, Sydney, Australia, December 2022.
2. *A radio-loud magnetar with an identity crisis*
ATNF Colloquium, CSIRO Marsfield, Sydney, Australia, March 2022.
1. *Massive scale pulsar timing with the Molonglo Observatory Synthesis Telescope*
ATNF Colloquium, CSIRO Marsfield, Sydney, Australia, Feb 2020.

Conference and workshop presentations

25. *Revealing the population properties of pulsars through massive-scale timing*
2026 Australasian (Orange) Pulsar Workshop, Sydney, Australia, May 2026.
24. *Massive-scale pulsar timing with the ATNF*
ATNF Futures 2030, Sydney, Australia, February 2026.
23. *Jewels in the pulsar casket*
Pulsar 2025, Geremeas, Italy, September 2025. (**Invited**)
22. *The most extreme pulsars in the Galaxy and their links to FRB progenitors*
Dynamic Radio Skies 2025, University of Sydney, Sydney, Australia, August 2025.
21. *Transient FRB-like emission from an extraordinary radio-loud magnetar*
FRB 2025, McGill University, Montreal, Canada, July 2025.
20. *Shining a light through a neutron star magnetosphere*
A New era in astrophysics: Preparing for early science with the SKAO, Görlitz, Germany, June 2025.
19. *Pulsar model selection with TempoNest*
OzGrav pulsar data workshop, University of Melbourne, Melbourne, Australia, April 2025.

18. *Discovery of the first millisecond pulsar in the Galactic Centre*
2024 Astronomical Society of Australia ASM, held online, Australia, June 2024.
17. *A MeerKAT view of the double pulsar eclipses: precession, predictions and polarimetry*
MeerKAT@5, Stellenbosch Institute for Advanced Study, Stellenbosch, South Africa, February 2024.
16. *Pulsar timing with the UTMOST East-West array*
Molonglo Symposium, University of Sydney, Sydney, Australia, October 2023.
15. *Rocks around the clock? A case study of pulsar-asteroid interactions with PSR J0738−4042*
2023 Astronomical Society of Australia ASM, Macquarie University, Sydney, Australia, July 2023.
14. *How do young pulsars spin down?*
Timing and imaging of compact sources with SKA pathfinders, Kerastari, Greece, June 2023. (**Invited**)
13. *Magnetars@Murriyang*
2022 Australasian (Orange) Pulsar Workshop, Parkes Observatory, Australia, November 2022.
12. *Radio-loud magnetars as Galactic fast radio burst analogues*
IAU Symposium 369, IAU General Assembly 2022, Busan, South Korea, August 2022.
11. *Untangling the twisted polarised emission of a radio-loud magnetar*
2022 Astronomical Society of Australia ASM, University of Tasmania, Hobart, Australia, July 2022.
10. *Modelling radio birefringence in neutron star magnetospheres*
ANITA 2022 workshop, Macquarie University, Sydney, Australia, Feb 2022.
9. *Timing an invisible neutron star and testing General Relativity via the eclipses of its pulsar companion*
14th Edoardo Amaldi conference on gravitational waves, held online, July 2021.
8. *A MeerKAT's perspective of the Double Pulsar eclipses*
11th IPTA scientific meeting, held online, June 2021.
7. *The radio magnetar XTE J1810−197: A Galactic FRB analogue?*
2020 Astronomical Society of Australia ASM, held online, July 2020.
6. *The UTMOST pulsar timing programme*
10th IPTA scientific meeting, Pune, India, June 2019.
5. *Bayesian pulsar timing and noise analysis with TempoNest*
10th IPTA student workshop, NCRA, Pune, India, June 2019 (**Invited**).
4. *Profile domain timing: The future of pulsar timing?*
OzGrav Pulsar Timing Inference Workshop, Swinburne University of Technology, Melbourne, Australia, May 2019 (**Invited**).
3. *Pulsar inference tools*
OzGrav Pulsar Timing Inference Workshop, Swinburne University of Technology, Melbourne, Australia, May 2019 (**Invited**).
2. *Measuring rotational instabilities in pulsars with the Molonglo telescope*
ANITA 2019 workshop, Swinburne University of Technology, Melbourne, Australia, Feb 2019.
1. *Distinguishing eccentricity in binary black hole mergers with aLIGO*
ANITA 2018 workshop, ICRAR Curtin University, Perth, Australia, Feb 2018.

Department and research group presentations

28. *Revealing the secrets of PSR J1638−4725*
Pulsars, Exoplanets and Transients lunch, University of Manchester, Manchester, UK, Oct 2025.
27. *The pulsar near the 'Snake' filament*
MPIfR fundamental physics group meeting, MPIfR, Bonn, Germany, June 2025.
26. *A millisecond pulsar in a Galactic Centre radio filament*
"Bursts, Beams and Biscuits" meeting, University of Oxford, Oxford, UK, June 2024.
25. *A millisecond pulsar binary in the Galactic Centre*
Gravitational Radiation and Science with Pulsars group meeting, May 2024.
24. *A millisecond pulsar in the Galactic Centre*
Australasian (Orange) Pulsar Telecon, May 2024.
23. *Precession, predictions and polarimetry: MeerKAT's view of the double pulsar eclipses*
Oxford University pulsar coffee, University of Oxford, Oxford, UK March 2024.
22. *MeerKAT's view of the double pulsar eclipses*
Pulsars, Exoplanets and Transients lunch, University of Manchester, Manchester, UK, March 2024.
21. *Monitoring magnetars with Murriyang*
ASKAP-VAST monthly teleconference, August 2023.

20. *Recent results from the Parkes Pulsar Timing Array search for nano-Hertz frequency gravitational waves*
Oxford University pulsar coffee, University of Oxford, Oxford, UK June 2023.
• Tweet by Prof. Chris Lintott (mis-affiliated as being from OzGrav).
19. *Faraday conversion around a radio-loud magnetar*
Invited talk, Oxford University pulsar coffee, University of Oxford, Oxford, UK June 2023.
18. *Faraday conversion in the near-field of a magnetar*
MPIfR fundamental physics group meeting, MPIfR, Bonn, Germany, June 2023.
17. *The 2022 high-energy outburst and radio disappearing act of 1E 1547.0−5408*
MPIfR FRB journal club, MPIfR, Bonn, Germany, June 2023.
16. *50+ years of PSR J0738−4042*
CSIRO Space & Astronomy Co-learnium, CSIRO Marsfield, Sydney Australia, May 2023.
15. *The Parkes magnetar monitoring programme*
Australasian (Orange) Pulsar Telecon, Feb 2023.
14. *Solving your Bayesian dreams with Bilby, Part II*
Invited tutorial, CSIRO Space & Astronomy Co-learnium, CSIRO Marsfield, Sydney Australia, June 2022.
13. *Solving your Bayesian dreams with Bilby, Part I*
Invited tutorial, CSIRO Space & Astronomy Co-learnium, CSIRO Marsfield, Sydney Australia, Apr 2022.
12. *The impact of glitches on young pulsar rotational evolution*
LIGO-Virgo-KAGRA Continuous Gravitational Waves Working Group, Nov 2021.
11. *Large braking indices in young pulsars: intrinsic or glitch-induced?*
Monash University Gravitational-Wave Group weekly meeting, Nov 2021.
10. *How do glitches affect the rotational evolution of young pulsars?*
Oxford University pulsar coffee, Nov 2021.
9. *Exploring the magnetospheric and rotational properties of radio pulsars*
Pre-thesis-submission talk, Swinburne University of Technology, Melbourne, Australia, July 2021.
8. *The dynamic magnetosphere of Swift J1818.0−1607*
Max-Planck-Institut für Radioastronomie pulsar journal club, Dec 2020.
7. *Introduction to Bayesian parameter estimation with Bilby*
Astrophysics weekly coding workshop, Swinburne University of Technology, Melbourne, Australia, Nov 2020.
6. *Exploring the spectropolarimetric properties of radio-loud magnetars*
Mid-candidature talk, Swinburne University of Technology, Melbourne, Australia, Aug 2020.
5. *The UTMOST pulsar timing programme: timing noise across the pulsar population*
Australasian (Orange) Pulsar Telecon, Oct 2019.
4. *Application of astrophysical inference to next generation pulsar data sets*
Confirmation of candidature talk, Swinburne University of Technology, Melbourne, Australia, Sept 2019.
3. *Detecting eccentric binary black holes with Advanced LIGO*
Honours year final talk, Monash University, Melbourne, Australia, Nov 2017.
2. *Detecting eccentricity in an ensemble of binary black hole mergers*
Honours year introductory talk, Monash University, Melbourne, Australia, Jun 2017.
1. *What can GW150914 tell us about dark matter?*
Undergraduate research talk, Monash University, Melbourne, Australia, Oct 2016.

Posters

6. *The Parkes Young Pulsar Array: Unveiling the physics of neutron stars and the interstellar medium*
14^{th} IPTA scientific meeting, Haus Sexten, Sexten, Italy, June 2024.
5. *The MeerTime Thousand Pulsar Array: Elucidating the population properties of neutron stars*
MeerKAT@5, Stellenbosch Institute for Advanced Study, Stellenbosch, South Africa, February 2024.
4. *A MeerKAT View of the Double Pulsar Eclipses*
New Eyes on the Universe: SKA and ngVLA, Vancouver, Canada, May 2023.
3. *How do young pulsars spin down?*
ASA 2021 Annual Scientific Meeting, Melbourne, Australia, July 2021.
• Student poster prize, 3rd place.
2. *Characterising rotational irregularities in the radio pulsar population with UTMOST.*
OzGrav Annual Retreat, Lorne, Australia, Nov 2019.
1. *Measuring eccentricity in binary black hole inspirals with gravitational waves.*
ASA 2018 Annual Scientific Meeting, Melbourne, Australia, Jul 2018.

Observing proposals

Principal-investigator:

Australian Long Baseline Array:

- V677: Towards the first magnetar parallax measurement with the Australian Long Baseline Array. (12 hrs) *2025-2026*

Australia Telescope Compact Array:

- C3772: The 2026 periastron passage of PSR J1638-4725. (186 hrs) *2025-2026*
- CX594: Localising PSR J1638−4725. (12 hrs) *2025*

MeerKAT:

- MKT-25230: Capturing the first pulsar plunging through a (super)giant star. (25 hrs) *2026*
- MKT-23145: Tracking the long-term emission and rotational dynamics of four radio-loud magnetars (7.5 hrs) *2024*
- DDT-20210604-ML-01: Follow-up of the magnetar candidate SGR 1555−5402. (1.25 hrs) *2021*

Parkes Radio Telescope (Murriyang):

- P116: The 2024 periastron passage of PSR B1259−63/LS 2883 (110 hrs) *2024*
- P574: Young pulsar timing: Probing the physics of pulsars and neutron stars (Long-term science project, 1000+ hrs) *2021-2030*
- P1102: A movie of a dynamic magnetar magnetosphere (NAPA: up to 10.5 hrs) *2021-2026*
- P1154: A Southern-Sky Census of Highly Magnetised Pulsars (30 hrs) *2022*
- P1198: Catching a Galactic fast radio burst analogue (NAPA: up to 31 hrs) *2023-2026*
- P1313: Reconnecting the binary orbit of PSR J1638−4725 (3 hrs) *2024*
- P1316: Can the CryoPAF discover ultra-long period transients? (10 hrs) *2024*
- P1334: Followup observations of the first Galactic Centre millisecond pulsar (6 hrs) *2024-2025*
- P1394: Testing strong-field quantum electrodynamics through joint X-ray/radio polarimetry of a magnetar (20 hrs) *2026*
- P1416: The 2026 periastron passage of PSR J1638−4725 (50 hrs) *2026*
- PX057: Target of opportunity observations of Swift J1818.0−1607 (8 hrs) *2020*
- PX060: Target of opportunity observation of SGR 1935+2154 (3 hrs) *2020*
- PX067: Target of opportunity observation of SGR 1830+0645 (1 hr) *2020*
- PX070: Target of opportunity observation of GRB 210119A (1 hr) *2021*
- PX079: Target of opportunity observation of SGR 1935+2154 (13 hrs) *2021-2022*
- PX100: Pulsar bow-shocks at 8 GHz (31.5 hrs) *2023*
- PX115: Follow-up observations of an LMC magnetar candidate (9.5 hrs) *2023*
- PX130: The Snake's Blinking Eye (9 hrs) *2024*
- PX141: Follow-up of the Gamma-ray pulsar J1208−6238 (0.5 hrs) *2025*

Co-investigator:

Australian Square Kilometer Array Pathfinder:

- AS309: An ASKAP Survey for Galactic Radio Transients in the Baade's Window (24 hrs) *2024*

Australia Telescope Compact Array:

- C3582: Observations of PSR B1259−63 during the 2024 periastron passage (84 hrs) *2024*
- C3583: Observations of PSR B1259−63 during the 2024 GeV flare (NAPA: up to 40 hrs) *2024*

Imaging X-ray Polarimetry Explorer (IXPE):

- PID 2219: Polarization properties of the persistent X-ray emission from the radio-loud magnetar 1E 1547.0-5408 (1000 ks) *2025*
- PID 3215: Deep IXPE Polarimetry of the radio-loud magnetar 1E 1547.0−5408: A legacy test of vacuum birefringence and vacuum resonance (3000 ks) *2026*

Australian Long Baseline Array:

- V624: Pin-pointing the origins of magnetars with VLBI (NAPA: up to 48 hrs) *2023-2024*

European Very Long Baseline Interferometry Network:

- E23C007: Pinpointing the origins of magnetars with VLBI. (Granted up to 8 hrs) *2024*

Giant Metrewave Radio Telescope:

- ddtC341: Wide-frequency monitoring of an active bright long period radio transient (10 hrs) *2024*

- 47_087: Investigating the Pulse Evolution of a New Ultra-Long Period Radio Transient (30 hrs) *2024-2025*

MeerKAT:

- DDT-20240415-SJ-01: Localisation of the Galactic Centre MSP binary PSR J1744−2946. (1 hr) *2024*
- MKT-22151: A continuum-imaging search for pulsar candidates in Omega Centauri (15 hrs) *2022*

Nuclear Spectroscopic Telescope Array (NuSTAR):

- PID 9226: Probing the broadband X-ray evolution of the radio-loud magnetar 1E 1547.0−5408 (41 ks) *2023-2024*

Parkes Radio Telescope (Murriyang):

- P574: Young pulsar timing: Probing the physics of pulsars and neutron stars (Large science project, 300+ hrs) *2020-2021*
- P595: PULSE@Parkes (Pulsar Student Exploration online at Parkes) *2022-2024*
- P885: Understanding the remarkable behaviour of radio magnetars (Long-term science project 500+ hrs) *2019-2030*
- P1032: Mass measurements of southern binary pulsar systems (912 hrs) *2019-2026*
- P1122: Monitoring pulse shape changes in the International Pulsar Timing Array data sets (7 hrs) *2024-2025*
- P1154: Chasing up the orphans from previous Parkes pulsar surveys (101 hrs) *2022-2023*
- P1158: Probing the enigmatic environment of FRB20201124A with broadband observations (NAPA: up to 20 hrs) *2022-2023*
- P1172: Ongoing observations of the PSR J1713+0747 event recovery (18 hrs) *2022-2023*
- P1205: Pilot Galactic Bulge pulsar survey (GBps) with the CryoPAF (18 hrs) *2026*
- P1338: Chasing the burst hurricane from FRB 20240114A (180 hrs) *2024-2026*
- P1356: Monitoring the radio loudness of magnetars and its connection to X-ray (72 hrs) *2025-2026*
- P1392: The mysterious case of the compact remnant in SN 1987A (26 hrs) *2025-2026*
- P1420: CryoPAF Southern Galactic Plane Pulsar Survey: Pilot (78 hrs) *2025-2026*

Very Long Baseline Array:

- 18B-390: Improved VLBA astrometry of the recently reactivated magnetar XTE J1810−197 (10 hrs) *2018-2019*
- 20A-428: VLBA astrometry of XTE J1810−197: towards the first parallax for a magnetar (3 hrs) *2020*
- 20A-433: VLBA astrometry of Swift 1818.0−1607, the new radio-emitting magnetar (10.5 hrs) *2020*
- 20B-300: Measuring the Mass of an Isolated Pulsar via Gravitational Lensing (3 hrs) *2020*
- 20B-462: VLBA astrometry of Swift J1818.0−1607, the fastest-spinning magnetar (10.5 hrs) *2021*
- 22B-087: Pinpointing the 3D Galactic position of the magnetar Swift J1818.0−1607 (9 hrs) *2022*