

CURRICULUM VITAE

Gregory Desvignes

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Date of birth: August 26th, 1983

(a) Research & Professional Experience

- 2021–Now Scientific staff, MPIfR Bonn
Galactic Centre, Pulsar radio emission physics, Double Neutron stars, Pulsar Timing Arrays, Magnetars
- 2019–2021 Postdoctoral researcher, LESIA - Observatoire de Paris
Working with EHT Collaboration on pulsar science
- 2011–2019 Postdoctoral researcher, Max-Planck-Institut für Radioastronomie, Bonn
Working on ERC Synergy Project Black Hole Cam & EPTA Collaboration
- 2009–2011 Postdoctoral researcher, UC Berkeley
Working on the new Nançay Radio Telescope and Allen Telescope Array instrumentation. Involved in the construction of the new Nançay Radio Telescope
- 2006–2009 PhD, University of Orléans
Pulsar observations with the Nançay Radio Telescope

(b) Awards

- 2020 5k€ funding from Paris Observatory - CIAS
Workshop on 'Pulsars with the EHT' - Made virtual due to the Covid-19 outbreak
- 2019 Co-recipient of the 2020 Breakthrough Prize in Fundamental Physics and the Einstein medal
With the EHT Collaboration
For the first image of a supermassive black hole
- 2013 France Berkeley Fund
with Pr. G. Bower, Dr. G. Theureau, Dr. A. Siemion
French/American collaboration for radio investigation of time-variable astrophysical phenomena

(c) Memberships

- 2021–Now MeerKAT TRAPUM Collaboration (Galactic Plane Pulsar Survey)
- 2020–Now SKA Pulsar Science Working Group
- 2016–Now The Event Horizon Telescope Collaboration
2020–2022: Coordinator of the scattering WG
- 2014–2020 ERC Synergy Project Black Hole Cam
2016–2020: Coordinator for pulsar science WG
- 2010–2013 The Pulsar ALFA Search Consortium with the Arecibo Telescope
- 2010–Now International Pulsar Timing Array
- 2006–Now European Pulsar Timing Array

(d) Selected related work experience

- Management and analysis of very large datasets (~ 100 s of TB) on HPC systems for >7.2 Mi CPUh, including ALMA and MeerKAT observations. Use of databases, parallel programming, classification and clustering from machine learning algorithms.

- Bayesian data modeling for very high-dimensional ($N_{\text{dim}} \gtrsim 100$) problems and model comparisons. Application to Pulsar Timing Arrays, Galactic Centre studies and magnetar-emission physics.
- Development and parallel programming of FPGAs, CPUs and GPUs for real-time instrumentations for the Nançay Radiotelescope, the Allen Telescope Array and the Jodrell Bank 42ft dish.
- Commissioning of the Effelsberg and the IRAM 30-m Pico Veleta wide-band backends.
- PI and Co-I of several proposals totalling thousand of hours of observing time at the ALMA, Arecibo, Effelsberg, FAST, MeerKAT, Nançay and the VLA radiotelescopes.

(e) Conference organization

- Pulsars with the Event Horizon Telescope, Originally planned at Paris Observatory with CIAS support, Virtual Meeting, June 10-12, 2020
- BlackHoleCam Meeting, Bonn, March 5-7, 2018
- BlackHoleCam Meeting, Bonn, February 2-3, 2017
- Pulsars in the Galactic Centre, Bonn, April 27, 2016
- EPTA Meeting, Bonn, June 1-3, 2015

(f) Teaching experience

- Undergraduate level course on Introduction to Astronomy (14 hours), Université d'Orléans, 2008

(g) Thesis Examiner

- Yuyang Wang (University of Amsterdam, expected 2025)

(h) Thesis Advisory Comittee

- Miquel Colom i Bernardich (expected 2025)
- Lucia Gebauer (expected 2027)

(i) Student supervision

- Co-supervision of Phd students: Pablo Torne (2016), Alessandro Ridolfi (2017), Eleni Graikou (2018), Lorena Nicotera (expected 2028)
- MSc: Kathrin Grunthal (2021)
- Master2: Sacha Rogez (01/04/2020 – 01/07/2020)
- Internship: Franca Lippert (10/05/2015 – 25/06/2015), Maximilian Sindermann, (16/06/2014 – 10/07/2014)

(j) Outreach

- Article de vulgarisation pour “The Conversation”, avril 2014: <https://theconversation.com/we-saw-one-of-the-most-powerful-magnets-in-the-universe-come-to-life-and-our-theories-cant-quite-explain-it-226312>
- Interview pour podcast: <https://www.radiofrance.fr/franceculture/podcasts/avec-sciences/astronomie-une-nouvelle-source-d-emission-de-sursauts-radio-decouverte-6756684>
- Interview pour “La méthode scientifique” sur France Culture au sujet du radiotélescope d’Arecibo, 15 décembre 2020, <https://www.radiofrance.fr/franceculture/podcasts/la-methode-scientifique/arecibo-c-etait-beau-la-vie-1667323>
- Café des Sciences, Ambassade de France en Allemagne, Première édition: "A l’assaut des mystères de l’Univers : le futur radiotélescope géant SKA", April 15, 2021, <https://youtu.be/euQw7b5S5Mc>
- Participation à la conférence de presse de l’EHT sur la première image du trou noir de M87 pour

- répondre aux questions des journalistes après présentation officielle, Bruxelles, 10 avril 2019
- Animation au Bay Area Science Festival pour le groupe SETI de UC Berkeley, AT&T Park, San Francisco, 2 novembre 2013
- Animation d'exposition "Le Soleil", Museum d'Histoire Naturelle, Orléans, 2009

(k) Journal refereeing

Nature Astronomy, Monthly Notices of the Royal Astronomical Society, Astronomy & Astrophysics, The Astrophysical Journal

(l) Seminars and participation in conferences

- Annual Meeting of the Astronomische Gesellschaft 2020, September 25, Virtual Meeting, Title: "Radio emission from a pulsar's magnetic pole revealed by general relativity".
- EHT Collaboration Meeting, December 2-6, 2019, Title: "Magneto-ionic properties near Sgr A*".
- EPTA Meeting, Goutelas, October 7-9, 2019, Title: "On using TempoNest".
- Seminar at LuTH, Paris Observatory, September 12, 2019, Title: "From pulsar observations to tests of general relativity".
- Fachbeirat (audit) of the MPIfR, Bonn, July, 2019, Title: "Exploring the Galactic Centre with radio pulsars".
- EPTA Meeting, Bielefeld, November, 2018, Title: "A timing update of PSR J1600-3053".
- IAU Pulsar Symposium, Jodrell Bank, September 4, 2017, Title: "PSR J1906+0746: from spin-precession to emission physics".
- MPIfR Colloquium, Bonn, November 23, 2016, Title: "PSR J1906+0746: a multifaceted laboratory for physics".
- Bonn workshop, Bonn, November 14, 2016, Title: "PSR J1906+0746: a multifaceted laboratory for physics".
- Scintillometry meeting, Bonn, September, 2016, Title "The Galactic Centre magnetar".
- Pulsars in the Galactic Centre, April 27, 2016, Title: "DM and RM variations towards PSR J1745-2900".
- BlackHoleCam Collaboration Meeting, Bonn, February 23-23, 2016, Title: 'Pulsars and ALMA'.
- Texas symposium meeting, Geneva, December, 2015, Title: "Status of the EPTA".
- MPIfR Colloquium, Bonn, October 23, 2015, Title: "Geodetic precession in the young relativistic binary pulsar J1906+0746".
- EPTA Meeting, Bonn, June, 2015, Title: "Presentation of the EPTA timing paper".
- Seminar at CfA/Harvard, Harvard, May, 2015, Title: "Pulsars and BlackHoleCam".
- EPTA Meeting, Bonn, November, 2014, Title: "Presentation of the EPTA timing paper".
- CASPER Meeting, Berkeley, November, 2013, Title "Pulsar instrumentations at Effelsberg and Nançay".
- EPTA Meeting, Sardinia, October, 2013, Title: "Timing for the EPTA".
- GRAMAP, Paris Observatory, April, 2013, Title: "Geodetic precession in the young relativistic binary pulsar J1906+0746".
- IAU Pulsar Symposium, Beijing, August, 2012, Title: "Geodetic precession in the young relativistic binary pulsar J1906+0746".
- Thirteenth Marcel Grossmann Meeting, Stockholm, July, 2012, Title: "Geodetic precession in the young relativistic binary pulsar J1906+0746".
- EPTA Meeting, Birmingham, April, 2012, Title: "The DM event towards PSR J1713+0747".

- Seminar at Radio Astronomy Laboratory/BWRC, Berkeley, July, 2011, Title: “Nançay pulsar instrumentation and timing of millisecond pulsars”.
- EPTA Meeting, Amsterdam, April, 2011, Title: “Nançay pulsar instrumentation and timing of millisecond pulsars”.
- Seminar GSPS at UC Berkeley, Berkeley, March 18, 2011, Title: “Relativistic pulsar binaries”.
- Seminar at Radio Astronomy Laboratory, Berkeley, September, 2010, Title: “Real-time pulsar processing on GPUs”.
- Seminar at Astronomy Dept UC Berkeley, Berkeley, May 10, 2010, Title: “Pulsar observing at the Nançay Radio Telescope”.
- EPTA Meeting, Besancon, October, 2009, Title: “A PhD thesis: Rrom Pulsar instrumentation, to timing of MSPs and a study of PSR J1906+0746”.
- Twelfth Marcel Grossmann Meeting, Paris, July 16, 2009, Title: “Geodetic precession in the young relativistic binary pulsar J1906-0746”.
- MODE workshop, Paris Observatory, November 2008, Title: “PSR J1906+0746 and a new high sensitivity Galactic Plane pulsar survey at Nançay”.
- EPTA Meeting, Manchester University, September 24, 2008, Title: “PSR J1906+0746 and a new high sensitivity Galactic Plane pulsar survey at Nançay”.
- YERAC, Goteborg, June 23-26, 2008, Title: “Geometry of a relativistic pulsar from geodetic precession”.
- EPTA Meeting, Bad Honnef, January 15, 2008, Title: “PSR J1906+0746 Precession and Beam Geometry”.
- Seminar at Laboratoire de Physique-Chimie de l’Environnement, May 20, 2008, Title: “Observation d’un pulsar relativiste á Nançay”.
- Pulsar Workshop, Nançay, May 3-4, 2007, Title: “Relativistic binaries follow-up and a survey of the outer Galactic Plane”.

(m) **Refereed Publications**

In total, 134 refereed publications for a total of 19,249 citations and a Hirsch-index of 57. Records taken from the NASA ADS.

[0] **Desvignes, G.**, Weltevrede, P., Gao, Y., et al., A freely precessing magnetar following an X-ray outburst (2024), *Nature Astronomy*, in press.

[1] Kramer, M., Liu, K., **Desvignes, G.**, et al., Quasi-periodic sub-pulse structure as a unifying feature for radio-emitting neutron stars (2024), *Nature Astronomy*, 8, 230.

[2] Fisher, R., Butterworth, E. M., Rajwade, K. M., et al., Radio pulse profile evolution of magnetar Swift J1818.0-1607 (2024), *MNRAS*, 528, 3833.

[3] Nițu, I. C., Keith, M. J., Tiburzi, C., et al., A Gaussian-processes approach to fitting for time-variable spherical solar wind in pulsar timing data (2024), *MNRAS*, 528, 3304.

[4] Paraschos, G. F., Kim, J.-Y., Wielgus, M., et al., Ordered magnetic fields around the 3C 84 central black hole (2024), *A&A*, 682, L3.

[5] Event Horizon Telescope Collaboration, Akiyama, K., Alberdi, A., et al., The persistent shadow of the supermassive black hole of M 87. I. Observations, calibration, imaging, and analysis (2024), *A&A*, 681, A79.

[6] Quelquejay Leclere, H., Auclair, P., Babak, S., et al., Practical approaches to analyzing PTA data: Cosmic strings with six pulsars (2023), *PhRvD*, 108, 123527.

- [7] Torne, P., Liu, K., Eatough, R. P., et al., A Search for Pulsars around Sgr A* in the First Event Horizon Telescope Data Set (2023), *ApJ*, 959, 14.
- [8] Roelofs, F., Johnson, M. D., Chael, A., et al., Polarimetric Geometric Modeling for mm-VLBI Observations of Black Holes (2023), *ApJL*, 957, L21.
- [9] Event Horizon Telescope Collaboration, Akiyama, K., Alberdi, A., et al., First M87 Event Horizon Telescope Results. IX. Detection of Near-horizon Circular Polarization (2023), *ApJL*, 957, L20.
- [10] Men, Y., Barr, E., Clark, C. J., et al., PulsarX: A new pulsar searching package. I. A high performance folding program for pulsar surveys (2023), *A&A*, 679, A20.
- [11] Smarra, C., Goncharov, B., Barausse, E., et al., Second Data Release from the European Pulsar Timing Array: Challenging the Ultralight Dark Matter Paradigm (2023), *PhRvL*, 131, 171001.
- [12] Colom i Bernadich, M., Balakrishnan, V., Barr, E., et al., The MPIfR-MeerKAT Galactic Plane Survey. II. The eccentric double neutron star system PSR J1208-5936 and a neutron star merger rate update (2023), *A&A*, 678, A187.
- [13] EPTA Collaboration, InPTA Collaboration, Antoniadis, J., et al., The second data release from the European Pulsar Timing Array. III. Search for gravitational wave signals (2023), *A&A*, 678, A50.
- [14] EPTA Collaboration, InPTA Collaboration, Antoniadis, J., et al., The second data release from the European Pulsar Timing Array. II. Customised pulsar noise models for spatially correlated gravitational waves (2023), *A&A*, 678, A49.
- [15] EPTA Collaboration, Antoniadis, J., Babak, S., et al., The second data release from the European Pulsar Timing Array. I. The dataset and timing analysis (2023), *A&A*, 678, A48.
- [16] Abbate, F., Noutsos, A., **Desvignes, G.**, et al., Rotation measure variations in Galactic Centre pulsars (2023), *MNRAS*, 524, 2966.
- [17] Falxa, M., Babak, S., Baker, P. T., et al., Searching for continuous Gravitational Waves in the second data release of the International Pulsar Timing Array (2023), *MNRAS*, 521, 5077.
- [18] Prather, B. S., Dexter, J., Moscibrodzka, M., et al., Comparison of Polarized Radiative Transfer Codes Used by the EHT Collaboration (2023), *ApJ*, 950, 35.
- [19] Gao, Y., Shao, L., **Desvignes, G.**, et al., Precession of magnetars: dynamical evolutions and modulations on polarized electromagnetic waves (2023), *MNRAS*, 519, 1080.
- [20] Jorstad, S., Wielgus, M., Lico, R., et al., The Event Horizon Telescope Image of the Quasar NRAO 530 (2023), *ApJ*, 943, 170.
- [21] **Desvignes, G.**, Cognard, I., Smith, D. A., et al., The SPAN512 mid-latitude pulsar survey at the Nançay Radio Telescope (2022), *A&A*, 667, A79.
- [22] Issaoun, S., Wielgus, M., Jorstad, S., et al., Resolving the Inner Parsec of the Blazar J1924-2914 with the Event Horizon Telescope (2022), *ApJ*, 934, 145.
- [23] Rajwade, K. M., Stappers, B. W., Lyne, A. G., et al., Long term radio and X-ray evolution of the magnetar Swift J1818.0-1607 (2022), *MNRAS*, 512, 1687.
- [24] Broderick, A. E., Gold, R., Georgiev, B., et al., Characterizing and Mitigating Intraday Variability: Reconstructing Source Structure in Accreting Black Holes with mm-VLBI (2022), *ApJL*, 930, L21.
- [25] Georgiev, B., Pesce, D. W., Broderick, A. E., et al., A Universal Power-law Prescription for Variability from Synthetic Images of Black Hole Accretion Flows (2022), *ApJL*, 930, L20.

- [26] Wielgus, M., Marchili, N., Martí-Vidal, I., et al., Millimeter Light Curves of Sagittarius A* Observed during the 2017 Event Horizon Telescope Campaign (2022), *ApJL*, 930, L19.
- [27] Farah, J., Galison, P., Akiyama, K., et al., Selective Dynamical Imaging of Interferometric Data (2022), *ApJL*, 930, L18.
- [28] Event Horizon Telescope Collaboration, Akiyama, K., Alberdi, A., et al., First Sagittarius A* Event Horizon Telescope Results. VI. Testing the Black Hole Metric (2022), *ApJL*, 930, L17.
- [29] Event Horizon Telescope Collaboration, Akiyama, K., Alberdi, A., et al., First Sagittarius A* Event Horizon Telescope Results. V. Testing Astrophysical Models of the Galactic Center Black Hole (2022), *ApJL*, 930, L16.
- [30] Event Horizon Telescope Collaboration, Akiyama, K., Alberdi, A., et al., First Sagittarius A* Event Horizon Telescope Results. IV. Variability, Morphology, and Black Hole Mass (2022), *ApJL*, 930, L15.
- [31] Event Horizon Telescope Collaboration, Akiyama, K., Alberdi, A., et al., First Sagittarius A* Event Horizon Telescope Results. III. Imaging of the Galactic Center Supermassive Black Hole (2022), *ApJL*, 930, L14.
- [32] Event Horizon Telescope Collaboration, Akiyama, K., Alberdi, A., et al., First Sagittarius A* Event Horizon Telescope Results. II. EHT and Multiwavelength Observations, Data Processing, and Calibration (2022), *ApJL*, 930, L13.
- [33] Event Horizon Telescope Collaboration, Akiyama, K., Alberdi, A., et al., First Sagittarius A* Event Horizon Telescope Results. I. The Shadow of the Supermassive Black Hole in the Center of the Milky Way (2022), *ApJL*, 930, L12.
- [34] Antoniadis, J., Arzoumanian, Z., Babak, S., et al., The International Pulsar Timing Array second data release: Search for an isotropic gravitational wave background (2022), *MNRAS*, 510, 4873.
- [35] Caleb, M., Rajwade, K., **Desvignes, G.**, et al., Radio and X-ray observations of giant pulses from XTE J1810 - 197 (2022), *MNRAS*, 510, 1996.
- [36] Chalumeau, A., Babak, S., Petiteau, A., et al., Noise analysis in the European Pulsar Timing Array data release 2 and its implications on the gravitational-wave background search (2022), *MNRAS*, 509, 5538.
- [37] Torne, P., Bell, G. S., Bintley, D., et al., Submillimeter Pulsations from the Magnetar XTE J1810-197 (2022), *ApJL*, 925, L17.
- [38] Satapathy, K., Psaltis, D., Özel, F., et al., The Variability of the Black Hole Image in M87 at the Dynamical Timescale (2022), *ApJ*, 925, 13.
- [39] Chen, S., Caballero, R. N., Guo, Y. J., et al., Common-red-signal analysis with 24-yr high-precision timing of the European Pulsar Timing Array: inferences in the stochastic gravitational-wave background search (2021), *MNRAS*, 508, 4970.
- [40] Grunthal, K., Kramer, M., & **Desvignes, G.**, Revisiting the Galactic Double Neutron Star merger and LIGO detection rates (2021), *MNRAS*, 507, 5658.
- [41] Eatough, R. P., Torne, P., **Desvignes, G.**, et al., Multi-epoch searches for relativistic binary pulsars and fast transients in the Galactic Centre (2021), *MNRAS*, 507, 5053.
- [42] Kramer, M., Stairs, I. H., Manchester, R. N., et al., Strong-Field Gravity Tests with the Double Pulsar (2021), *PhRvX*, 11, 041050.
- [43] Janssen, M., Falcke, H., Kadler, M., et al., Event Horizon Telescope observations of the jet launching and collimation in Centaurus A (2021), *Nature Astronomy*, 5, 1017.

- [44] Bailes, M., Bassa, C. G., Bernardi, G., et al., Multifrequency observations of SGR J1935+2154 (2021), MNRAS, 503, 5367.
- [45] Liu, K., **Desvignes, G.**, Eatough, R. P., et al., An 86 GHz Search for Pulsars in the Galactic Center with the Atacama Large Millimeter / submillimeter Array (2021), ApJ, 914, 30.
- [46] Torne, P., **Desvignes, G.**, Eatough, R. P., et al., Searching for pulsars in the Galactic centre at 3 and 2 mm (2021), A&A, 650, A95.
- [47] Kocherlakota, P., Rezzolla, L., Falcke, H., et al., Constraints on black-hole charges with the 2017 EHT observations of M87* (2021), PhRvD, 103, 104047.
- [48] Narayan, R., Palumbo, D. C. M., Johnson, M. D., et al., The Polarized Image of a Synchrotron-emitting Ring of Gas Orbiting a Black Hole (2021), ApJ, 912, 35.
- [49] EHT MWL Science Working Group, Algaba, J. C., Anczarski, J., et al., Broadband Multi-wavelength Properties of M87 during the 2017 Event Horizon Telescope Campaign (2021), ApJL, 911, L11.
- [50] Goddi, C., Martí-Vidal, I., Messias, H., et al., Polarimetric Properties of Event Horizon Telescope Targets from ALMA (2021), ApJL, 910, L14.
- [51] Event Horizon Telescope Collaboration, Akiyama, K., Algaba, J. C., et al., First M87 Event Horizon Telescope Results. VIII. Magnetic Field Structure near The Event Horizon (2021), ApJL, 910, L13.
- [52] Event Horizon Telescope Collaboration, Akiyama, K., Algaba, J. C., et al., First M87 Event Horizon Telescope Results. VII. Polarization of the Ring (2021), ApJL, 910, L12.
- [53] Hilmarsson, G. H., Michilli, D., Spitler, L. G., et al., Rotation Measure Evolution of the Repeating Fast Radio Burst Source FRB 121102 (2021), ApJL, 908, L10.
- [54] Liu, K., Guillemot, L., Istrate, A. G., et al., A revisit of PSR J1909-3744 with 15-yr high-precision timing (2020), MNRAS, 499, 2276.
- [55] Champion, D., Cognard, I., Cruces, M., et al., High-cadence observations and variable spin behaviour of magnetar Swift J1818.0-1607 after its outburst (2020), MNRAS, 498, 6044.
- [56] Noutsos, A., **Desvignes, G.**, Kramer, M., et al., Understanding and improving the timing of PSR J0737-3039B (2020), A&A, 643, A143.
- [57] Psaltis, D., Medeiros, L., Christian, P., et al., Gravitational Test beyond the First Post-Newtonian Order with the Shadow of the M87 Black Hole (2020), PhRvL, 125, 141104.
- [58] Wielgus, M., Akiyama, K., Blackburn, L., et al., Monitoring the Morphology of M87* in 2009-2017 with the Event Horizon Telescope (2020), ApJ, 901, 67.
- [59] Torne, P., Macías-Pérez, J., Ladjelate, B., et al., Detection of the magnetar XTE J1810-197 at 150 and 260 GHz with the NIKA2 kinetic inductance detector camera (2020), A&A, 640, L2.
- [60] Kim, J.-Y., Krichbaum, T. P., Broderick, A. E., et al., Event Horizon Telescope imaging of the archetypal blazar 3C 279 at an extreme 20 microarcsecond resolution (2020), A&A, 640, A69.
- [61] Gold, R., Broderick, A. E., Younsi, Z., et al., Verification of Radiative Transfer Schemes for the EHT (2020), ApJ, 897, 148.
- [62] Broderick, A. E., Gold, R., Karami, M., et al., THEMIS: A Parameter Estimation Framework for the Event Horizon Telescope (2020), ApJ, 897, 139.
- [63] Voisin, G., Cognard, I., Freire, P. C. C., et al., An improved test of the strong equivalence principle with the pulsar in a triple star system (2020), A&A, 638, A24.
- [64] Bak Nielsen, A.-S., Janssen, G. H., Shaifullah, G., et al., Timing stability of three black widow pulsars (2020), MNRAS, 494, 2591.

- [65] Roelofs, F., Janssen, M., Natarajan, I., et al., SYMBA: An end-to-end VLBI synthetic data generation pipeline. Simulating Event Horizon Telescope observations of M 87 (2020), *A&A*, 636, A5.
- [66] Hobbs, G., Guo, L., Caballero, R. N., et al., A pulsar-based time-scale from the International Pulsar Timing Array (2020), *MNRAS*, 491, 5951.
- [67] Perera, B. B. P., DeCesar, M. E., Demorest, P. B., et al., The International Pulsar Timing Array: second data release (2019), *MNRAS*, 490, 4666.
- [68] Liu, K., Young, A., Wharton, R., et al., Detection of Pulses from the Vela Pulsar at Millimeter Wavelengths with Phased ALMA (2019), *ApJL*, 885, L10.
- [69] Levin, L., Lyne, A. G., **Desvignes, G.**, et al., Spin frequency evolution and pulse profile variations of the recently re-activated radio magnetar XTE J1810-197 (2019), *MNRAS*, 488, 5251.
- [70] **Desvignes, G.**, Kramer, M., Lee, K., et al., Radio emission from a pulsar’s magnetic pole revealed by general relativity (2019), *Science*, 365, 1013.
- [71] Guillemot, L., Octau, F., Cognard, I., et al., Timing of PSR J2055+3829, an eclipsing black widow pulsar discovered with the Nançay Radio Telescope (2019), *A&A*, 629, A92.
- [72] Porth, O., Chatterjee, K., Narayan, R., et al., The Event Horizon General Relativistic Magnetohydrodynamic Code Comparison Project (2019), *ApJS*, 243, 26.
- [73] Martinez, J. G., Gentile, P., Freire, P. C. C., et al., The Discovery of Six Recycled Pulsars from the Arecibo 327 MHz Drift-Scan Pulsar Survey (2019), *ApJ*, 881, 166.
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- [75] Event Horizon Telescope Collaboration, Akiyama, K., Alberdi, A., et al., First M87 Event Horizon Telescope Results. V. Physical Origin of the Asymmetric Ring (2019), *ApJL*, 875, L5.
- [76] Event Horizon Telescope Collaboration, Akiyama, K., Alberdi, A., et al., First M87 Event Horizon Telescope Results. IV. Imaging the Central Supermassive Black Hole (2019), *ApJL*, 875, L4.
- [77] Event Horizon Telescope Collaboration, Akiyama, K., Alberdi, A., et al., First M87 Event Horizon Telescope Results. III. Data Processing and Calibration (2019), *ApJL*, 875, L3.
- [78] Event Horizon Telescope Collaboration, Akiyama, K., Alberdi, A., et al., First M87 Event Horizon Telescope Results. II. Array and Instrumentation (2019), *ApJL*, 875, L2.
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- [80] Zhu, W. W., **Desvignes, G.**, Wex, N., et al., Tests of gravitational symmetries with pulsar binary J1713+0747 (2019), *MNRAS*, 482, 3249.
- [81] Caballero, R. N., Guo, Y. J., Lee, K. J., et al., Studying the Solar system with the International Pulsar Timing Array (2018), *MNRAS*, 481, 5501.
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- [86] Berezhina, M., Champion, D. J., Freire, P. C. C., et al., The discovery of two mildly recycled binary pulsars in the Northern High Time Resolution Universe pulsar survey (2017), *MNRAS*, 470, 4421.
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