Fabian Gittins — Publications

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Publication Summary

Full list of publications can be found on Google Scholar, INSPIRE-HEP and NASA ADS.

h-index—As of 2025-10-03: 12 (according to Google Scholar), 11 (according to INSPIRE-HEP) or 10 (according to NASA ADS).

Top five cited—Excluding long-author papers. Citation counts from Google Scholar.

1. **Gittins, F.**, Andersson, N., Jones, D. I., *Modelling neutron star mountains*, Mon. Not. R. Astron. Soc. **500**, 5570 (2021) [arXiv:2009.12794]. (71 citations)
2. **Gittins, F.**, Andersson, N., *Modelling neutron star mountains in relativity*, Mon. Not. R. Astron. Soc. **507**, 116 (2021) [arXiv:2105.06493]. (58 citations)
3. **Gittins, F.**, Andersson, N., Pereira, J. P., *Tidal deformations of neutron stars with elastic crusts*, Phys. Rev. D **101**, 103025 (2020) [arXiv:2003.05449]. (45 citations)
4. **Gittins, F.**, Andersson, N., *Tidal deformations of hybrid stars with sharp phase transitions and elastic crusts*, Astrophys. J. **895**, 28 (2020) [arXiv:2003.10781]. (37 citations)
5. **Gittins, F.**, Andersson, N., *Population synthesis of accreting neutron stars emitting gravitational waves*, Mon. Not. R. Astron. Soc. **488**, 99 (2019) [arXiv:1811.00550]. (31 citations)

Submitted Publications

[24] Yin, S., Andersson, N., **Gittins, F.**, *A post-Newtonian approach to neutron star oscillations* [arXiv:2504.06918].

Accepted Publications

[23] Abac, A. *et al.*, *The Science of the Einstein Telescope* [arXiv:2503.12263].

Refereed Publications

[22] Pnigouras, P., Andersson, N., **Gittins, F.**, Counsell, A. R., *Dynamical neutron star tides: the signature of a mode resonance*, Mon. Not. R. Astron. Soc. **542**, 1375 (2025) [arXiv:2508.06416].

[21] Counsell, A. R., **Gittins, F.** *et al.*, *Interface modes in inspiralling neutron stars: A gravitational-wave probe of first-order phase transitions*, Phys. Rev. Lett. **135**, 081402 (2025) [arXiv:2504.06181].

[20] **Gittins, F.**, Andersson, N., Yin, S., *Perturbation theory for post-Newtonian neutron stars*, Class. Quantum Gravity **42**, 135014 (2025) [arXiv:2503.03345].

[19] **Gittins, F.**, Andersson, N., *Neutron-star seismology with realistic, finite-temperature nuclear matter*, Phys. Rev. D **111**, 083024 (2025) [arXiv:2406.05177].

[18] **Gittins, F.** *et al.*, *Problematic systematics in neutron-star merger simulations*, Phys. Rev. D **111**, 023049 (2025) [arXiv:2409.13468].

[17] Counsell, A. R., **Gittins, F.** *et al.*, *Neutron star g modes in the relativistic Cowling approximation*, Mon. Not. R. Astron. Soc. **536**, 1967 (2025) [arXiv:2409.20178].

[16] Counsell, A. R., **Gittins, F.**, Andersson, N., *The impact of nuclear reactions on the neutron-star g-mode spectrum*, Mon. Not. R. Astron. Soc. **531**, 1721 (2024) [arXiv:2310.13586].

[15] Pnigouras, P., **Gittins, F.**, *et al.*, *The dynamical tides of spinning Newtonian stars*, Mon. Not. R. Astron. Soc. **527**, 8409 (2024) [arXiv:2205.07577].

[14] Beri, A. *et al.*, *AstroSat and NuSTAR observations of XTE J1739-285 during the 2019-2020 outburst*, Mon. Not. R. Astron. Soc. **521**, 5904 (2023) [arXiv:2303.13085].

[13] **Gittins, F.** *et al.*, *Modelling Neutron-Star Ocean Dynamics*, Universe **9**, 226 (2023) [arXiv:2304.05413].

[12] **Gittins, F.**, Andersson, N., *The r-modes of slowly rotating, stratified neutron stars*, Mon. Not. R. Astron. Soc. **521**, 3043 (2023) [arXiv:2212.04892].

[11] Andersson, N., **Gittins, F.**, *Formulating the r-mode Problem for Slowly Rotating Neutron Stars*, Astrophys. J. **945**, 139 (2023) [arXiv:2212.04837].

[10] Andersson, N., **Gittins, F.** *et al.*, *Building post-Newtonian neutron stars*, Class. Quantum Gravity **40**, 025016 (2023) [arXiv:2209.05871].

[9] Riley, J. *et al.*, *Rapid Stellar and Binary Population Synthesis with COMPAS*, Astrophys. J. Suppl. Ser. **258**, 34 (2022) [arXiv:2109.10352].

[8] **Gittins, F.**, Andersson, N., *Modelling neutron star mountains in relativity*, Mon. Not. R. Astron. Soc. **507**, 116 (2021) [arXiv:2105.06493].

[7] **Gittins, F.**, Andersson, N., Jones, D. I., *Modelling neutron star mountains*, Mon. Not. R. Astron. Soc. **500**, 5570 (2021) [arXiv:2009.12794].

[6] **Gittins, F.**, Andersson, N., Pereira, J. P., *Tidal deformations of neutron stars with elastic crusts*, Phys. Rev. D **101**, 103025 (2020) [arXiv:2003.05449].

[5] **Gittins, F.**, Andersson, N., *Tidal deformations of hybrid stars with sharp phase transitions and elastic crusts*, Astrophys. J. **895**, 28 (2020) [arXiv:2003.10781].

[4] **Gittins, F.**, Andersson, N., *Population synthesis of accreting neutron stars emitting gravitational waves*, Mon. Not. R. Astron. Soc. **488**, 99 (2019) [arXiv:1811.00550].

Review Articles

[3] **Gittins, F.**, *Gravitational waves from neutron-star mountains*, Class. Quantum Gravity **41**, 043001 (2024) [arXiv:2401.01670].

Software Articles

[2] Riley, J. *et al.*, *COMPAS: A rapid binary population synthesis suite*, J. Open Source Softw. **7**, 3838 (2022).

Conference Proceedings

[1] Thomas, A. Stevenson, E., **Gittins, F.** *et al.*, *Galactic Archaeology with TESS: Prospects for Testing the Star Formation History in the Solar Neighbourhood*, EPJ Web Conf. **160**, 05006 (2017) [arXiv:1610.08862].