List of publications and scientific presentations

Dr. Lami Suleiman

October 20, 2024

1 Publications

"Heating in magnetar crusts from electron captures", Nicolas Chamel, Anthea Francesca Fantina, Lami Suleiman, Julian-Leszek Zdunik and Pawel Haensel, Universe 2021, 7(6), 193 – Published 8 June 2021

"Influence of the crust on the neutron star macrophysical quantities and universal relations", Lami Suleiman, Morgane Fortin, Julian Leszek Zdunik and Pawel Haensel, Phys. Rev. C 104, 015801 - Published 6 July 2021

"Partially accreted crusts of neutron stars", Lami Suleiman, Julian Leszek Zdunik, Pawel Haensel, and Morgane Fortin, A&A, 662, A63 (2022) - Published 16 June 2022 (highlighted in the journal A&A)

"Accreting neutron stars from the nuclear energy-density functional theory II. Equation of state and global properties", Anthea Francesca Fantina, Julian Leszek Zdunik, Nicolas Chamel, J. M. Pearson, Lami Suleiman and Stephane Goriely, A&A 665, A74 (2022) - Published 12 September 2022

"Polytropic fits of modern and unified equations of state", Lami Suleiman, Morgane Fortin, Julian Leszek Zdunik, and Constança Providência, Phys. Rev. C 106, 035805 – Published 20 September 2022

"Modified Urca neutrino emissivity at finite temperature", Lami Suleiman, Micaela Oertel and Marco Mancini, Phys. Rev. C 108, 035803 - Published 11 September 2023

"Quasi-universal relations in the context of future neutron star detections", Lami Suleiman and Jocelyn Read, Phys. Rev. D 109, 103029 – Published 17 May 2024.

"Inference of neutron-star properties with unified crust-core equations of state for parameter estimation", Philip Davis, Hoa Dinh Thi, Anthea Francesca Fantina, Francesca Gulminelli, Micaela Oertel and Lami Suleiman, A&A, 687, A44 (2024) - Published 25 June 2024. Note the alphabetical order, I had an important contribution in this paper.

"Observation of Gravitational Waves from the Coalescence of a 2.5–4.5 $M_\odot$ Compact Object and a Neutron Star" LIGO/Virgo/KAGRA collaboration. Contribution: analysis for the neutron star tidal deformability.

"Layers of electron captures in the crust of accreting neutron stars", Lami Suleiman, Julian Leszek Zdunik, Pawel Haensel, A&A 690, A301 (2024) - Published 18 October 2024

2 Scientific presentations

2.1 Seminars

"The importance of crust modeling for Neutron Star's physics", PhD seminar Nicolas Copernicus Astronomical Center from the Polish Academy of Science (Warsaw, Polska), June 23, 2022.

"Crusts of accreting neutron stars", Colloquium Nicolas Copernicus Astronomical Center from the Polish Academy of Science (Warsaw, Polska), January 18, 2023.

"Neutrino emission in hot neutron stars: efficiency of Urca processes", seminar at Institut Denis Poisson (Tours, France), April 13, 2023 (in person).

"Neutron star's crust compression related phenomena: news on how we approach deep crustal heating", seminar Laboratoire de Physique des 2 Infinis Irène Joliot-Curie (Orsay, France), May 16, 2023 (in person).

"Exploring dense matter with observations of Neutron Stars", Texas A&M University (Commerce, USA), March 28, 2024 (in person).

"Neutron stars in gravitational waves: current observations and future challenges", Los Alamos National Laboratory New Mexico, June 27, 2024 (in person).

"Colliding Nuclear Physics and Astrophysics in Neutron Stars", Institut de Recherche en Astrophysique et Planétologie (Toulouse, France), October 4, 2024 (in person).

"Colliding Nuclear Physics and Astrophysics in Neutron Stars", Institut Denis Poisson (Tours, France), October 10, 2024 (in person).

2.2 Conferences

"Compression and heat sources in neutron star's crusts" ECT* - NS As Multi-Messenger Laboratories For Dense Matter (Trento, Italy), June 06, 2022 (in person)

"Neutrino emission in (proto-)neutron star matter: Urca reactions" NuSym23, XIth International Symposium on Nuclear Symmetry Energy, GSI (Darmstadt, Germany) September 09, 2023 (in person)

"Can quasi-universal relations be used in the future of Neutron Star's detections ?" APS April meeting (Sacramento, USA), April 3, 2024 (in person)

"Exploring Neutron Stars with Gravitational waves: current observations and future challenges" NUSYM 2024 XIIth International Symposium on Nuclear Symmetry Energy, GANIL (Caen, France) September 9, 2024. Invited speaker, talk given on behalf of the LIGO/Virgo/KAGRA Extreme Matter group (in person).

2.3 Workshops

"Layers of electron captures in the crust of accreting neutron stars", Assemblée générale du GdR Resanet, September 26, 2022 (online).

"Analytical representations of unified and modern Equations of State", Atelier API Ondes gravitationelles et objets compacts, Observatoire de Paris (Meudon, France), November 14, 2022 (in person).

"Modified Urca neutrino emissivity in hot neutron star matter", rencontres du projet de recherche international du CNRS "Origine des éléments lourds dans l'univers: Astres Compacts et Nucléosynthèse ", Université Libre de Bruxelles (Bruxelles, Belgium), January 24, 2023 (in person).

"CUTER: a new tool for dense matter equation of state construction", Extreme Matter in Extreme Stars, Lorentz Center (Leiden, Netherlands) September 26, 2024 (in person).

2.4 Within international collaborations

"A new tool to compute a consistent crust for neutron star modeling ", Virgo Week, July 3, 2023 (online)

"Update on the Equation of State framework", LIGO/Virgo/KAGRA meeting Japan, September 10, 2023 (online)

"Quasi-universal relations for 3G gravitational wave detectors" Extreme matter call of the LIGO/Virgo/KAGRA collaboration, February 5, 2024 (online)

"GW230529 Extreme Matter Update" LIGO/Virgo/KAGRA Meeting Baton Rouge, March 11, 2023 (online)

"Consistent crust for neutron star modeling: CUTER Update" Extreme matter call of the LIGO/Virgo/KAGRA collaboration, April 22, 2024 (online)

"Quasi-universal relations for 3G gravitational wave detectors" Division 6 meeting of the Einstein Telescope collaboration, online February 6th 2024