

LEAH K. MORABITO

Durham University
UKRI Future Leaders Fellow

PERSONAL DETAILS

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EMPLOYMENT HISTORY

Nov 2020 - Present UKRI Future Leaders Fellow, *Durham University*
Oct 2019 - Present Assistant Professor, *Durham University*
Oct 2016 - Sep 2019 Hintze Fellow & PDRA in Galaxy Evolution, *University of Oxford*
Apr 2005 - Aug 2011 Air Battle Manager (highest rank: Captain), *United States Air Force*

- Electronic Combat Officer (ECO) *Sep 2008 - Aug 2011*
- Air Weapons Officer (AWO) *Jun 2005 - Aug 2008*

EDUCATION

Sep 2012 - Sep 2016 **Leiden University**, Astronomy PhD Researcher
Thesis: '*Radio Galaxies at Low Frequencies*'
Sep 2009 - Apr 2012 **University of Oklahoma**, M.Sc. Astronomy (with Honours. 1 equiv.)
Thesis: '*AGN: From Supermassive Black Holes to Rare FeLoBALs*'
Sep 2001 - Apr 2005 **University of Michigan**, B.Sc. Physics & B.Sc. Astrophysics (2i equiv.)

SCIENCE HIGHLIGHTS

- Led special issue of Astronomy & Astrophysics on high resolution imaging with LOFAR
- Linked radio emission in broad absorption line quasars with AGN activity
- First spatially resolved maps of high redshift radio galaxies, 1'' resolution at 55 MHz

RESEARCH GOALS

My main goal is to answer fundamental questions on how super-massive black holes co-evolve with the galaxies in which they reside. I do this by using low frequency radio observations coupled with multi-wavelength data. Over the next five years, I will lead the use of high-resolution, wide-field radio imaging at low frequencies to clearly distinguish two main components in galaxy evolution: star formation, and processes associated with active galactic nuclei. This unique approach will help change our view of how active galactic nuclei help shape galaxy evolution.

LEADERSHIP

Current Leadership positions

Chair, LOFAR Long Baseline Working Group *since Jan 2020*
Training of 10+ early career researchers on technical challenges for high-resolution imaging with LOFAR.
Co-chair, LOFAR Surveys KSP: AGN & Galaxy Evolution Working Group *since Dec 2021*
STuff and things.

- **Co-chair, LOFAR Surveys KSP: AGN & Galaxy Evolution Working Group** *since Dec 2021*
- **UK Square Kilometre Array Regional Centre Forum member, by invitation** *since Dec 2021*
- **Chair, e-MERLIN Time Allocation Group** *Sep 2021 - Aug 2024*
- **UK Square Kilometre Array Science Committee member** *Jan 2020 - Jan 2023*
- **Mentor, The Supernova Foundation (mentoring 2 young women in STEM)** *since Jan 2021*
- **LOFAR Surveys KSP Core Team, member** *since Jan 2020*

Previous Leadership experience

- **Co-chair, LOFAR Long Baseline Working Group** *2016 - 2019*
- **Aurora Leadership programme, AdvanceHE** *Nov 2019 - Mar 2021*
- **President, Oxford Women in Physics Society** *Jan 2018 - Aug 2019*

- Oxford Physics Equality & Diversity Committee, member *Jan 2019 - Aug 2019*
- Organizer, Galaxies Coffee *Oct 2017 - Aug 2019*
- Head of AWACS PEX software implementation *Apr - Jun 2011*
- Chair, Electronic Support Team, deployed *Jan - Sep 2009*
- Package Lead for Command, control, intelligence, surveillance and reconnaissance *Feb - Mar 2009*
- Operations Group Commander, US Air Force ROTC Detachment *Sep - Dec 2004*
- Co-Founder / President, Society of Women in Physics, University of Michigan *Sep 2004 - Apr 2005*

PROFESSIONAL EXPERIENCE

- PhD interview panel member.** Helped evaluate PhD applications, select candidates, and conduct interviews. *Feb - Mar 2022*
- e-MERLIN Time Allocation Group member.** Appointed member for 3 year period. *Nov 2020 - Oct 2023*
- Scientific Organising Committee, VLBI in the SKA Era.** Helping organise scientific programme for upcoming symposium. *Feb 2022*
- Scientific Organising Committee, EAS SS16: New Physics with Gravitational Cluster Lenses.** Helped define scope, invited speakers, and select contributed talks. *Jun 2021*
- Scientific & Local organising committee, UK SKA Town Hall.** Helped organise scientific programme and logistics for online workshop. *Feb 2021*
- Organiser, LOFAR-VLBI Mini-symposium.** Organised 7 talk mini-symposium for LOFAR Surveys Collaboration. *Jun 2020*
- Scientific Organising Committee, EAS SS4: Radio-loud AGN.** Helped define scope, invited speakers, and select contributed talks. *Jun 2020*
- Lorentz Centre Workshop: High Resolution Surveying with LOFAR.** Main organiser: including writing proposal and securing funding. *Mar 2018*
- LOFAR Long Baseline Workshops.** Helped with and then co-led developing the LOFAR long baseline data reduction pipeline, and training of new users. *2015 - present*
- LOFAR Low Band Antenna Busy Week.** Led first busy week exclusively devoted to working on challenges for the LOFAR Low Band Antenna. *Mar 2016*
- LOFAR Commissioning Busy Weeks.** Participated in 10 busy weeks to commission software for low-frequency, wide-field imaging. *Jul 2012 - 2017*
- Chair of Local Organising Committee, LOFAR Busy Week 21.** Workshop with specialized talks / training for new users; 40+ global participants. *Jan 2013*
- Evaluator/Instructor Electronic Combat Officer (ECO), USAF, Capt.** Operated Passive Detection System on E-3 Airborne Warning And Control System (AWACS). Culminated career as Chief Evaluator / subject matter expert. *Aug 2008 - Aug 2011*
- Air Weapons Officer, USAF, 1Lt.** Controlled tactical aircraft from AWACS. Deployed in support of combat missions in Southwest Asia. *Jun 2005 - Aug 2008*

INDICATORS OF ESTEEM

- **Mock Interviewer.** For James Webb Space Telescope Fellowship candidate (Jul 2021)
- **Degree Examiner.** PhD theses: Njeri (2022) Dudzevičiūtė (2021), Madhanpall (2019). MSc theses: Cawood (2022), Mohan (2022), O'Brien (2021), Bempong-Manful (2018)
- **Member of LOFAR 2.0 Science Advisory Panel.** Expert on using LOFAR international stations for high resolution imaging. (2018 - present)
- **Referee for papers in peer-reviewed journals.** Monthly Notices of the Royal Astronomical Society, Journal of Astrophysics and Astronomy. (2018 - present)
- **Technical review of observing proposals.** The Low Frequency Array, the Giant Metre-wave Radio Telescope, and e-MERLIN. (2017 - present)
- **Resident Shared Risk Observing, JVLA.** Granted telescope time as an expert user and assessed P-band spectroscopic utility on-site with staff at National Radio Astronomy Observatory. (Apr 2015)
- **Early upgrade to ECO instructor.** Hand-picked based on performance and ability to teach to become an instructor after only 8 months (minimum requirement 1 year).

FUNDING AWARDS

Mar 2021	Computing resources on SURFsara (EINF-262; 300k cpu hours)
Apr 2021	LOFAR-UK Request for Continued funding (3yr Software technician)
Nov 2020	UKRI Future Leaders Fellowship (~1m GBP; PDRA and PhD student)
Mar 2018	Lorentz Center workshop: High-Resolution Imaging with LOFAR (10,985 Euro) <ul style="list-style-type: none">• RadioNet funding to support early-career researchers (2,000 Euro)• Funding from ASTRON to support minority researchers (1,000 Euro)• Lorentz Center support for workshop (7,985 Euro)
Dec 2017	Grant for 100 TB disk for working on data, Christ Church Research Centre (8,580 GBP)
Oct 2017	Millard & Lee Alexander Post-Doctoral Fellowship, Christ Church, 2 year room & board
Jun 2014	Leids Kerkhoven-Bosscha Fonds grant for travel to international conference (1,000 Euro)
Nov 2013	Award for contribution to successful NWO-TOP1 grant (total grant 4 million Euro)
Sep 2001	Reserve Officer Training Corps Scholarship (approximately 120,000 USD)
May 2001	University of Michigan Regents Merit Scholarship (3,000 USD)

HONOURS

Jul 2020	Nominated for Student Choice Award: Excellent Project Supervisor in Physics Teaching
Oct 2018	Better Satellite World Award for Development in Africa with Radio Astronomy
Apr 2017	Top 5% of applicants for L'Oréal-UNESCO For Women in Science Awards
2010	Electronic Combat Officer of the year
Mar 2010	'Exceptionally Qualified' Rating (top 1%), Initial Electronic Combat Officer Evaluation
Feb 2010	Distinguished Graduate, Instructor Electronic Combat Officer Training
Dec 2008	Distinguished Graduate, Electronic Combat Officer Training (perfect exam score average)
Sep 2009	Air Medal (Oak leaf cluster), for flying combat hours
Sep 2009	Air Force Achievement Medal, for leadership of Deployed Electronic Support Team
May 2008	Air Medal, for flying combat hours
May 2007	Distinguished Graduate, Initial Air Weapons Officer Qualification Training
Jul 2006	Top Scope Award, Undergraduate Air Battle Management Training
Apr 2005	College of Literature, Science & the Arts 'Angell Scholar'

PROFESSIONAL SOCIETY MEMBERSHIPS

Aug 2018 – present	Junior member of International Astronomical Union
Jan 2018 – present	Oxford Society of Women in Physics, President
Feb 2017 – present	Member of Royal Astronomical Society, by election
Oct 2016 – Jan 2018	Oxford Society of Women in Physics, Outreach Officer
Sep 2011 – Dec 2015	Member of American Astronomical Society
Apr 2005 – present	Member of Sigma Pi Sigma, National Physics Honors Society, by election
2004 - 2005	Co-President/founder of Society for Women in Physics, University of Michigan

LARGE SURVEY MEMBERSHIP

- **Member of:** LOFAR Surveys Key Science Project, SKA Extragalactic Continuum Surveys Working Group, 4MOST Community Surveys (4G-PAQS and ORCHIDSS), WEAVE-LOFAR, HETDEX, MIGHTEE, AGES-XL, RadioNet RINGS

ALLOCATION OF TELESCOPE TIME

- **LOFAR:** 150+ hours PI projects; 250+ hours co-I projects; 1500+ hours for LOFAR Surveys
- **JVLA:** 17 hours PI projects; 230+ hours co-I projects
- **VLBA:** 450 hours co-I project (JWST NEP field)
- **GMRT:** 116 hours co-I projects
- **INT:** 12 nights co-I projects

OBSERVING EXPERIENCE

- GMRT radio telescope, Pune, India, 5 nights
- INT 2.5 m optical telescope, Roque de los Muchachos, La Palma, 18 nights
- MDM 2.4 m Hiltner optical telescope, Tucson, AZ, USA, 7+ nights

COMPUTING SKILLS

- **High Performance Computing:** TORQUE and slurm queuing systems, PBS scripting, processing hundreds of TB of data simultaneously
- **Data interfacing:** Implemented Google Earth for intelligence fusion used during combat flights
- **Operating systems:** Linux, Mac, Windows, and standard packages therein
- **Programming Languages:** R, Python, IDL, Bash, FORTRAN
- **Data pipelines:** Written end-to-end pipelines for LOFAR data (high resolution / ultra low frequency)
- **Astronomical Software:** LOFAR software, AIPS, CASA, ParselTongue, HEASOFT, PIMMS, XSELECT, IRAF, CIAO, SHERPA, XSPEC, FTOOLS, STILTS

TEACHING EXPERIENCE

Postgraduate Certificate in Academic Practice, Module 1. Successful completion of first (of two) modules required for HEA fellowship.	Sep 2021
Unit 4 DARA training (virtual; Ghana). Delivered lectures as part of Development in Africa with Radio Astronomy (DARA) course, held in Ghana but lecturing virtually.	May 2021
Radio Astronomy Lectures. For first year PhD students, added topic to module for the first time.	Feb 2021
Physics Tutorials. Led tutorial groups for first year Physics course.	2019/2020
LOFAR Data School. Invited lecturer and subject matter expert in high resolution imaging (50 students).	Sep 2018, Mar 2021
Lecturer, Oxford Prospects Programme. Lecturer on the topic of astrophysics for groups of about 50 students, 2 week programme repeated 3x per year for Chinese students.	2017 - 2019
Unit 2 & 3 DARA training at HartRAO. Delivered lectures, tutorials, and an invited talk as part of Development in Africa with Radio Astronomy (DARA) course at Hartbeesthoek Radio Astronomy Observatory, South Africa.	Apr 2018
Teaching Assistant, Radio Astronomy MSc class. Developed tutorials and practical project for 14 students, supervised hands-on sessions, organized and conducted field trip to Dutch radio observatories.	Jan - Jul 2015
Instructor, Initial Electronic Combat Officer Training. Primary instructor for 4 month lecture/practical course, repeated every 5 months for 4-8 students. Delivered lectures, led discussions, and helped students with simulated missions to learn critical tasks.	Sep 2009 - Aug 2011
ECO Syllabus Review Conference. Led ECO training syllabus review amongst instructors/evaluators, identified 50 updates to the Training Task list.	Jul 2010
Squadron ECO continuing education program. Designed and implemented squadron ECO continuing education program, adopted by two other squadrons.	Feb 2009
Electronic Support Fundamentals Class. Designed curriculum, coordinated guest speakers, and taught 5-day course to correct training deficiencies.	Jun 2011

STUDENT SUPERVISION

- Supervision of students.** Currently supervising 2 PhD students. Formally supervised 3 MSc and 3 summer students to successful completion of research projects using low frequency radio data. Informally supervise 2 PhD students working on LOFAR high resolution projects. Sep 2013 – present
- Co-supervision of PhD minor project.** Collaboration with Prof. Gal in Computer Science department at Oxford to supervise PhD project on topic of using machine learning to cross-match multi-wavelength surveys. Apr – Jun 2018
- Instructor, Initial Electronic Combat Officer Flight Training.** Trained individuals on-the-job during flights (6 per student). Trained 35 students with an unprecedented 40% rate of Distinguished graduates (top 10% of class). Sep 2009 - Aug 2011

PUBLIC ENGAGEMENT

- Media coverage, high resolution imaging with LOFAR.** Extensive international coverage including BBC interview on 6pm / 10pm news; YouTube feature (Dr. Becky's channel, 320,000+ subscribers). Release of 10 papers detailing LOFAR high-resolution imaging and scientific results Aug 2021
- Invited Public Lectures.** Lectures for general public on super-massive black holes and galaxy evolution.
- Bishop Auckland Astronomical Society (12 people; 1 Jul 2022)
 - British Astronomical Association, Radio Division (40 people; 3 Jun 2022)
 - Whitley Bay Rotary Club (25 people; 1 Feb 2022)
 - Cleveland and Darlington Astronomical Society (35 people; 10 Sep 2021)
 - Sunderland Astronomical Society (40 people; 17 Jan 2021)
 - Guildford Astronomical Society (85 people; 7 Nov 2019)
 - Green Templeton College, Oxford (65 people; 21 Feb 2018)
- Soapbox Science, Reading.** Designed and ran interactive public engagement activity on super-massive black holes for Soapbox Science, which showcases women scientists as role models for the public. 8 Jun 2019.
- Outreach Coordinator, Oxford Women in Physics.** New position in the organisation, planning two major upcoming events within the next eight months. Contributed to events like Somerville Girls into Science Day 2017. Oct 2016 – Jan 2018
- Public Outreach, Leiden Old Observatory.** Helped with open day for public to view the observatory, visitor's center, and participate in outreach activities. Oct 2012, 2014
- Physics Girls' Inreach.** Developed content for and organized all logistics for public inreach targeted to 10/11 year old girls with the intent to interest them in science and show them strong female role models. Apr 2005
- Angell Hall Public Viewing Nights.** Operated 0.6 meter telescope, Celestron 8 telescopes, and planetarium at Angell Hall Observatory for public viewing nights with the Student Astronomical Society. Jan 2003 - Apr 2005
- Physics Public Outreach.** Taught multiple hour-long workshops on various physical principles with the Society of Physics Students. Aug 2004 - Apr 2005

SCIENTIFIC PRESENTATIONS

Invited talks at Conferences and Workshops

- Inaugural speaker, URSI Commission J (Radio Astronomy) seminar series (virtual) *High resolution imaging at the lowest frequencies: technical advances driving science* 23 Mar 2022
- Science at Low Frequencies (virtual) *AGN science with sub-arcsecond imaging at MHz frequencies* 8 Dec 2021
- Keynote talk, South African Radio Astronomy Observatory Bursary Conference (virtual) *AGN highlights from sub-arcsecond imaging at low frequencies* 2 Dec 2021
- LOFAR2.0 Large Programmes Information Sessions (virtual) *LOFAR Long baseline status* 7 & 12 Oct 2021

- LOFAR Magnetism KSP Annual Meeting (virtual) 5 Jul 2021
Sub-arcsecond imaging with LOFAR
- SKA Precursor workshop, Extragalactic Continuum meeting (virtual) 19 Mar 2021
Sub-arcsecond imaging with the Low Frequency Array
- European Astronomical Society Annual Meeting Special Session 16 (Virtual) 29 Jun 2020
High resolution at low frequencies: sub-arcsecond imaging with LOFAR
- SKA-VLBI Workshop (SKA Headquarters) 15 Oct 2019
AGN Surveys at low frequencies with the International LOFAR Telescope
- Multi-messenger astronomy with SKA precursors and pathfinders (Aveiro, PT) 13 May 2019
The Low Frequency Array and the power of radio surveys
- Oxford Scientist launch event (Oxford, UK) 2 Jun 2019
My Journey in Science
- Astronomy and Science from the Moon (Paris Observatory, FR) 22 Jun 2017
LOFAR to SKA: an observer's perspective
- Google Tech Talk (Munich, DE) 11 Oct 2013
High Redshift Radio Galaxies and the Advent of LOFAR

Invited Colloquia and seminars, typically on *A Low Frequency Radio Perspective on AGN*

- University of Edinburgh, UK 19 Jan 2022
- ICRAR / Curtin University, AU 27 May 2021
- University of Hertfordshire, UK 14 Jul 2021
- Liverpool John Moores University, UK 30 Oct 2019
- University of Sheffield, UK 12 Jun 2019
- Jodrell Bank Centre for Astrophysics, UK 1 May 2019
- ASTRON, NL 25 Oct 2018
- University of Southampton, UK 16 Oct 2018
- University College Dublin, IE 4 Oct 2018
- Oskar Klein Centre, SE 12 Jun 2018
- University of Sussex, UK 26 May 2017
- University of Hertfordshire, UK 13 Nov 2015
- University of Oxford, UK 12 Nov 2015
- Carnegie Observatory, USA 24 Jul 2015
- IPAC/Caltech, USA 22 Jul 2015
- University of Oklahoma, USA 16 Dec 2013
- National Radio Astronomy Observatory (Socorro), USA 25 Jul 2012

PUBLICATION RECORD

11 first-author, 4 second-author, and 55 co-author peer-reviewed publications; also 8 conference proceedings. Total of 2440 citations as of 08 Jul 2022.

First Author

- (1) **Morabito**, L. K., Jackson, N. J., Mooney, S., and 71 colleagues *Sub-arcsecond imaging with the International LOFAR Telescope. I. Foundational calibration strategy and pipeline*. *A&A*, 658, A1. **2022**, cit. 15
- (2) **Morabito**, L. K. and Silk, J. *Reaching small scales with low-frequency imaging: applications to the Dark Ages*. *Philosophical Transactions of the Royal Society of London Series A*, 379, 20190571. **2021**, cit. 3
- (3) **Morabito**, L. K., Matthews, J. H., Best, P. N., and 14 colleagues *The origin of radio emission in broad absorption line quasars: Results from the LOFAR Two-metre Sky Survey*. *A&A*, 622, A15. **2019**, cit. 17
- (4) **Morabito**, Leah K. and Harwood, Jeremy J. *Investigating the cause of the α -z relation*. *MNRAS*, 480, 2726-2732. **2018**, cit. 13

- (5) **Morabito**, Leah K., Williams, W. L., Duncan, Kenneth J., and 17 colleagues *Investigating the unification of LOFAR-detected powerful AGN in the Boötes field*. MNRAS, 469, 1883-1896. **2017**, cit. 12
- (6) **Morabito**, Leah K., Deller, Adam T., Röttgering, Huub, and 8 colleagues *LOFAR VLBI studies at 55 MHz of 4C 43.15, a $z = 2.4$ radio galaxy*. MNRAS, 461, 2676-2687. **2016**, cit. 17
- (7) **Morabito**, Leah K., Oonk, J. B. R., Salgado, Francisco, and 30 colleagues *Discovery of Carbon Radio Recombination Lines in M82*. ApJ, 795, L33. **2014**, cit. 20
- (8) **Morabito**, Leah K., Dai, Xinyu, Leighly, Karen M., Sivakoff, Gregory R., and Shankar, Francesco *Unveiling the Intrinsic X-Ray Properties of Broad Absorption Line Quasars with a Relatively Unbiased Sample*. ApJ, 786, 58. **2014**, cit. 15
- (9) **Morabito**, Leah K., van Harten, Gerard, Salgado, Francisco, and 3 colleagues *Exact bound-bound Gaunt factor values for quantum levels up to $n = 2000$* . MNRAS, 441, 2855-2860. **2014**, cit. 3
- (10) **Morabito**, Leah K. and Dai, Xinyu *A Bayesian Monte Carlo Analysis of the M - σ Relation*. ApJ, 757, 172. **2012**, cit. 10
- (11) **Morabito**, Leah K., Dai, Xinyu, Leighly, Karen M., Sivakoff, Gregory R., and Shankar, Francesco *Suzaku Observations of Three FeLoBAL Quasi-stellar Objects: SDSS J0943+5417, J1352+4239, and J1723+5553*. ApJ, 737, 46. **2011**, cit. 16

Second Author

- (1) Sweijen, F., **Morabito**, L. K., Harwood, J., and 6 colleagues *High-resolution international LOFAR observations of 4C 43.15. Spectral ages and injection indices in a high- z radio galaxy*. A&A, 658, A3. **2022**, cit. 1
- (2) Salgado, F., **Morabito**, L. K., Oonk, J. B. R., and 4 colleagues *Low-frequency Carbon Radio Recombination Lines. I. Calculations of Departure Coefficients*. ApJ, 837, 141. **2017**, cit. 23
- (3) Salgado, F., **Morabito**, L. K., Oonk, J. B. R., and 4 colleagues *Low-frequency Carbon Radio Recombination Lines. II. The Diffuse Interstellar Medium*. ApJ, 837, 142. **2017**, cit. 16
- (4) Oonk, R., **Morabito**, L., Salgado, F., and 4 colleagues *The Physics of the Cold Neutral Medium: Low-frequency Radio Recombination Lines with the Square Kilometre Array*. Advancing Astrophysics with the Square Kilometre Array (AASKA14), 139. **2015**, cit. 6

Co-Author

- (1) Shimwell, T. W., Hardcastle, M. J., Tasse, C., and 103 colleagues *The LOFAR Two-metre Sky Survey. V. Second data release*. A&A, 659, A1. **2022**, cit. 37
- (2) Jackson, N., Badole, S., Morgan, J., and 69 colleagues *Sub-arcsecond imaging with the International LOFAR Telescope. II. Completion of the LOFAR Long-Baseline Calibrator Survey*. A&A, 658, A2. **2022**, cit. 7
- (3) Groeneveld, C., van Weeren, R. J., Miley, G. K., and 12 colleagues *Pushing sub-arcsecond resolution imaging down to 30 MHz with the trans-European International LOFAR Telescope*. A&A, 658, A9. **2022**, cit. 2
- (4) Kukreti, Pranav, Morganti, Raffaella, Shimwell, Timothy W., and 10 colleagues *Unmasking the history of 3C 293 with LOFAR sub-arcsecond imaging*. A&A, 658, A6. **2022**, cit. 2
- (5) Sweijen, F., van Weeren, R. J., Röttgering, H. J. A., and 11 colleagues *Deep sub-arcsecond wide-field imaging of the Lockman Hole field at 144 MHz*. Nature Astronomy, 6, 350-356. **2022**, cit. 2
- (6) Fawcett, V. A., Alexander, D. M., Rosario, D. J., and 4 colleagues *Fundamental differences in the properties of red and blue quasars: measuring the reddening and accretion properties with X-shooter*. MNRAS, 513, 1254-1274. **2022**, cit. 1
- (7) Timmerman, R., van Weeren, R. J., Callingham, J. R., and 18 colleagues *Origin of the ring structures in Hercules A. Sub-arcsecond 144 MHz to 7 GHz observations*. A&A, 658, A5. **2022**, cit. 1
- (8) Kukreti, Pranav, Morganti, Raffaella, Bondi, Marco, and 19 colleagues *Seeing the forest and the trees: a radio investigation of the ULIRG Mrk 273*. arXiv e-prints, arXiv:2206.02847. **2022**, cit. 0
- (9) Kappes, A., Burd, P. R., Kadler, M., and 14 colleagues *Subarcsecond view on the high-redshift blazar GB 1508+5714 by the International LOFAR Telescope*. arXiv e-prints, arXiv:2205.11288. **2022**, cit. 0

- (10) Bonnassieux, Etienne, Sweijen, Frits, Brienza, Marisa, and 11 colleagues *Spectral analysis of spatially resolved 3C295 (sub-arcsecond resolution) with the International LOFAR Telescope*. A&A, 658, A10. **2022**, cit. 0
- (11) Badole, S., Venkattu, D., Jackson, N., and 7 colleagues *High-resolution imaging with the International LOFAR Telescope: Observations of the gravitational lenses MG 0751+2716 and CLASS B1600+434*. A&A, 658, A7. **2022**, cit. 0
- (12) Tasse, C., Shimwell, T., Hardcastle, M. J., and 29 colleagues *The LOFAR Two-meter Sky Survey: Deep Fields Data Release 1. I. Direction-dependent calibration and imaging*. A&A, 648, A1. **2021**, cit. 83
- (13) de Gasperin, F., Williams, W. L., Best, P., and 38 colleagues *The LOFAR LBA Sky Survey. I. Survey description and preliminary data release*. A&A, 648, A104. **2021**, cit. 40
- (14) Duncan, K. J., Kondapally, R., Brown, M. J. I., and 21 colleagues *The LOFAR Two-meter Sky Survey: Deep Fields Data Release 1. IV. Photometric redshifts and stellar masses*. A&A, 648, A4. **2021**, cit. 26
- (15) Delhaize, J., Heywood, I., Prescott, M., and 31 colleagues *MIGHTEE: are giant radio galaxies more common than we thought?*. MNRAS, 501, 3833-3845. **2021**, cit. 15
- (16) Calistro Rivera, G., Alexander, D. M., Rosario, D. J., and 11 colleagues *The multiwavelength properties of red QSOs: Evidence for dusty winds as the origin of QSO reddening*. A&A, 649, A102. **2021**, cit. 14
- (17) Macfarlane, C., Best, P. N., Sabater, J., and 9 colleagues *The radio loudness of SDSS quasars from the LOFAR Two-metre Sky Survey: ubiquitous jet activity and constraints on star formation*. MNRAS, 506, 5888-5907. **2021**, cit. 11
- (18) Rosario, D. J., Alexander, D. M., Moldon, J., and 5 colleagues *Fundamental differences in the radio properties of red and blue quasars: kiloparsec-scale structures revealed by e-MERLIN*. MNRAS, 505, 5283-5300. **2021**, cit. 5
- (19) Jimenez-Gallardo, A., Massaro, F., Paggi, A., and 20 colleagues *Extended X-Ray Emission around FR II Radio Galaxies: Hot Spots, Lobes, and Galaxy Clusters*. ApJS, 252, 31. **2021**, cit. 5
- (20) Rankine, Amy L., Matthews, James H., Hewett, Paul C., and 3 colleagues *Placing LOFAR-detected quasars in C IV emission space: implications for winds, jets and star formation*. MNRAS, 502, 4154-4169. **2021**, cit. 4
- (21) Rosario, D. J., Fawcett, V. A., Klindt, L., and 5 colleagues *Fundamental differences in the radio properties of red and blue quasars: insight from the LOFAR Two-metre Sky Survey (LoTSS)*. MNRAS, 494, 3061-3079. **2020**, cit. 18
- (22) Fawcett, V. A., Alexander, D. M., Rosario, D. J., and 5 colleagues *Fundamental differences in the radio properties of red and blue quasars: enhanced compact AGN emission in red quasars*. MNRAS, 494, 4802-4818. **2020**, cit. 17
- (23) Muxlow, T. W. B., Thomson, A. P., Radcliffe, J. F., and 37 colleagues *The e-MERGE Survey (e-MERLIN Galaxy Evolution Survey): overview and survey description*. MNRAS, 495, 1188-1208. **2020**, cit. 11
- (24) Shimwell, T. W., Tasse, C., Hardcastle, M. J., and 104 colleagues *The LOFAR Two-metre Sky Survey. II. First data release*. A&A, 622, A1. **2019**, cit. 286
- (25) de Gasperin, F., Dijkema, T. J., Drabent, A., and 17 colleagues *Systematic effects in LOFAR data: A unified calibration strategy*. A&A, 622, A5. **2019**, cit. 90
- (26) Mingo, B., Croston, J. H., Hardcastle, M. J., and 15 colleagues *Revisiting the Fanaroff-Riley dichotomy and radio-galaxy morphology with the LOFAR Two-Metre Sky Survey (LoTSS)*. MNRAS, 488, 2701-2721. **2019**, cit. 86
- (27) Sabater, J., Best, P. N., Hardcastle, M. J., and 18 colleagues *The LoTSS view of radio AGN in the local Universe. The most massive galaxies are always switched on*. A&A, 622, A17. **2019**, cit. 79
- (28) Williams, W. L., Hardcastle, M. J., Best, P. N., and 38 colleagues *The LOFAR Two-metre Sky Survey. III. First data release: Optical/infrared identifications and value-added catalogue*. A&A, 622, A2. **2019**, cit. 78

- (29) Hardcastle, M. J., Williams, W. L., Best, P. N., and 20 colleagues *Radio-loud AGN in the first LoTSS data release. The lifetimes and environmental impact of jet-driven sources.* A&A, 622, A12. **2019**, cit. 75
- (30) Duncan, K. J., Sabater, J., Röttgering, H. J. A., and 24 colleagues *The LOFAR Two-metre Sky Survey. IV. First Data Release: Photometric redshifts and rest-frame magnitudes.* A&A, 622, A3. **2019**, cit. 45
- (31) O’Sullivan, S. P., Machalski, J., Van Eck, C. L., and 27 colleagues *The intergalactic magnetic field probed by a giant radio galaxy.* A&A, 622, A16. **2019**, cit. 33
- (32) Gürkan, Gülay, Hardcastle, M. J., Best, P. N., and 17 colleagues *LoTSS/HETDEX: Optical quasars. I. Low-frequency radio properties of optically selected quasars.* A&A, 622, A11. **2019**, cit. 32
- (33) Mahatma, V. H., Hardcastle, M. J., Williams, W. L., and 19 colleagues *LoTSS DR1: Double-double radio galaxies in the HETDEX field.* A&A, 622, A13. **2019**, cit. 31
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