

CONTACT  
INFORMATION

Institute of Cosmology & Gravitation  
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Portsmouth  
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*ORCID:* [orcid.org/0000-0001-6594-107X](https://orcid.org/0000-0001-6594-107X)

## NATIONALITY

British

RESEARCH  
INTERESTS

Cosmology, large-scale structure, 21cm intensity mapping, multi-wavelength cosmology, hydrodynamical/semi-analytic simulations, galactic foregrounds, galaxy evolution

RESEARCH  
POSITIONS

|                                                                                       |                            |
|---------------------------------------------------------------------------------------|----------------------------|
| <b>University of Portsmouth (ICG), UK</b><br><i>Stephen Hawking Research Fellow</i>   | <b>Apr 2025 - present</b>  |
| <b>University of Manchester, UK</b><br><i>Post-Doctoral Research Associate</i>        | <b>Apr 2022 - Apr 2025</b> |
| <b>University of Edinburgh, UK</b><br><i>Post-Doctoral Research Assistant</i>         | <b>Dec 2021 - Apr 2022</b> |
| <b>Queen Mary University of London, UK</b><br><i>Post-Doctoral Research Assistant</i> | <b>Oct 2019 - Dec 2021</b> |

## EDUCATION

|                                                                                                                                                                                                                                                                                                                           |                            |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|
| <b>University of Portsmouth (ICG), UK</b><br><i>PhD Cosmology – Cert. Feb 2020</i><br>• Supervisors: Prof David Bacon and Prof Alkistis Pourtsidou<br>• Thesis: <i>Synergies Between 21cm &amp; Optical Surveys for Probing Large Scale Cosmic Structure</i><br>• Examiners: Prof David Alonso and Prof Robert Crittenden | <b>Oct 2016 - Sep 2019</b> |
| <b>University of Southampton, UK</b><br><i>BSc (Hons), Physics – First Class Honours</i>                                                                                                                                                                                                                                  | <b>Oct 2012 - Jun 2016</b> |
| University of Portsmouth (ICG)<br><i>Summer Research Placement - Supervisor: Prof Thomas Collett</i>                                                                                                                                                                                                                      | <b>Jun - Sep 2015</b>      |

GRANTS &  
AWARDS

|                                                                                                                                                         |                 |
|---------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|
| Royal Society Dorothy Hodgkin Fellowship<br><i>Cosmology in a new light: mapping the Universe with radio telescopes</i><br>(DHF\R1\261018) [£1,810,608] | <b>Jan 2027</b> |
| Royal Astronomical Society Early Career Award<br>[£1,000]                                                                                               | <b>Jun 2025</b> |
| UKRI Stephen Hawking Fellowship<br><i>Establishing the era for large-scale radio cosmology</i><br>(EP/U536751/1) [£420,248]                             | <b>Sep 2024</b> |
| Royal Society International Exchange Grant<br><i>Mapping the radio Universe with different instruments</i><br>(IES\R1\241071) [£6,000]                  | <b>Jun 2024</b> |
| SKAO sponsorship for annual SWG meeting<br>[€2,000]                                                                                                     | <b>Jan 2023</b> |

|                                                                                                                                                                    |          |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|
| SARAO Postdoctoral Fellowship ( <i>declined</i> )<br><i>Probing cosmology with MeerKAT and the future SKA</i><br>(SPDG210805629184) [R1,743,000 ( $\sim$ £93,000)] | Nov 2021 |
| SEPNet Student Conference fund for student-led conference<br>[£4,500]                                                                                              | Apr 2019 |
| ICG Portsmouth funded studentship and maintenance grant for PhD<br>[ $\sim$ £43,000 + fees]                                                                        | Oct 2016 |
| SEPNet Summer Research Placement Grant<br>[£2,000]                                                                                                                 | Jun 2015 |

#### COLLABORATION MEMBERSHIP & ROLES

|                                                                                      |                       |
|--------------------------------------------------------------------------------------|-----------------------|
| <b>SKA Observatory Cosmology Science Working Group</b>                               | <b>2018 - present</b> |
| • Core member SKAO Cosmology SWG                                                     | Mar 2021 - present    |
| • Simulations Working Group lead                                                     | Mar 2021 - present    |
| • Founding member of SKAO foreground cleaning challenge                              | Jan 2020              |
| • Authored 7 chapters in Advancing Astrophysics with the SKA-II                      | Jun 2026              |
| <b>MeerKAT's Large Area Synoptic Survey (MeerKLASS)</b>                              | <b>2019 - present</b> |
| • Steering Team member                                                               | Sep 2026 - present    |
| • Power Spectrum Working Group lead                                                  | Nov 2024 - Sep 2026   |
| • Power Spectrum and Foreground Cleaning Working Group lead                          | Jun 2022 - Nov 2024   |
| • A leading co-author on the successful MeerKLASS 2,500 hour multi-year proposal     | May 2023              |
| • A leading co-author on the successful extra-large observing proposal (XLP) renewal | Feb 2025              |
| <b>COLIBRE Hydrodynamical Simulations Collaboration</b>                              | <b>2026 - present</b> |
| • Leading the 21cm intensity mapping with COLIBRE project                            | Feb 2026 - present    |
| <b>LSST:UK (Rubin Observatory)</b>                                                   | <b>2026 - present</b> |
| • Affiliate PI status                                                                | Jan 2026 - present    |
| • LSST Dark Energy Science Collaboration member                                      | Feb 2026 - present    |
| <b>Euclid Consortium</b>                                                             | <b>2018 - present</b> |
| • Additional Probes Galaxy Clustering Working Package member                         | Jul 2018-Nov 2021     |
| • Lead for the 21cm-Euclid synergies project, plans to revisit                       | Dec 2020-Nov 2021     |

#### INVITED SEMINAR PRESENTATIONS

Cosmology Seminar, *University of Portsmouth (ICG), UK* 2026  
Astronomy Seminar, *University of Sussex, Brighton, UK* 2025  
LSS Seminar, *University of Edinburgh, UK* 2025  
Cosmology Seminar, *University of Portsmouth (ICG), UK* 2025  
Instituto de Astrofísica Seminar, *CAUP, Porto, Portugal* 2024  
Cosmology Seminar, *DAMTP, University of Cambridge, UK* 2023  
Cosmology Seminar, *University of Geneva* 2022  
LSS Seminar, *IFPU, Trieste, Italy* 2022  
Physics Seminar, *Tata Institute of Fundamental Research, Mumbai, India* 2022

#### INVITED CONFERENCE PRESENTATIONS

21cm & Cosmological Lines 2026, *National Institute for Space Research, Brazil* 2026  
Higgs Centre Workshop, *University of Edinburgh, UK* 2026  
Royal Astronomical Society Highlights Meeting, *Burlington House, London, UK* 2025  
Tianlai Collaboration Meeting, *Hangzhou Dianzi University, China* 2024  
MeerKLASS Workshop, *STIAS: Stellenbosch, South Africa* 2024  
IX Meeting on Fundamental Cosmology, *La Laguna, Canary Islands, Spain* 2023

Cosmology & Particle Physics, *University of Geneva, Switzerland* 2022  
 21cm Cosmology Workshop, *University of Wisconsin, USA* 2022

CONTRIBUTED  
 CONFERENCE  
 PRESENTATIONS

SKAO Science Committee Town Hall, *Cardiff University, UK* 2025  
 National Astronomy Meeting, *Durham University, UK* 2025  
 SKAO General Science Meeting, *Goerlitz, Germany* 2025  
 Frontiers in Cosmology and Gravitational Physics, *University of Portsmouth, UK* 2024  
 Cosmology in the Alps, *Eurotel Victoria, Les Diablerets, Switzerland* 2024  
 SKAO Cosmology SWG Meeting, *Observatoire de la Côte d'Azur, Nice, France* 2024  
 Cosmology from Home 2024, *Virtual Conference* 2024  
 SKAO Cosmology SWG Meeting, *Centro de Astrofísica da Universidade do Porto, Portugal* 2024  
 Present and Future of Line-Intensity Mapping, *Max Planck Institute for Astrophysics, Munich, Germany* 2023  
 Tianlai 21cm Cosmology Workshop 2023  
 A Cosmic Window to Fundamental Physics, *IFT, Madrid, Spain* 2022  
 SKAO HI IM Workshop, *University of Edinburgh, UK* 2022  
 Cosmology from Home 2022, *Virtual Conference* 2022  
 EAS Annual Meeting 2022, *Valencia, Spain* 2022  
 SAZERAC 21cm 2022, *Virtual Conference* 2022

CONFERENCE  
 ORGANISATION

|                                                                           |                    |
|---------------------------------------------------------------------------|--------------------|
| Organiser of 6 editions of biannual MeerKLASS Workshop                    | Mar 2024 - present |
| National Astronomy Meeting (21cm Session) [SOC] <i>Cardiff University</i> | Jul 2023           |
| SKAO Cosmology SWG Annual Meeting [LOC] - <i>Uni. of Manchester</i>       | Jan 2023           |
| SEPnet Student-led Conference [Lead organiser] <i>Uni. of Southampton</i> | Apr 2019           |

PHD  
 SUPERVISION

|                                                         |                     |
|---------------------------------------------------------|---------------------|
| Daniel Tassie, <i>University of Portsmouth</i>          | Oct 2025 - present  |
| Named co-supervisor                                     |                     |
| Tobias Russell, <i>University of Manchester</i>         | Sep 2024 - present  |
| Devised project and assisted the supervision of PhD     |                     |
| Zhaoting Chen, <i>University of Manchester</i>          | Apr 2022 - Sep 2023 |
| Mentor and involved in some PhD projects                |                     |
| Paula S. Soares, <i>Queen Mary University of London</i> | Oct 2019 - Sep 2022 |
| Mentored and assisted the supervision of PhD projects   |                     |

UNDERGRADUATE  
 SUPERVISION

|                                                                      |                     |
|----------------------------------------------------------------------|---------------------|
| José Miguel Vaz Barbosa da Silva (MPhys), <i>University of Porto</i> | Sep 2025 - present  |
| Devised and co-supervised the masters project                        |                     |
| Victoria Nakafingo (MPhys), <i>University of the Western Cape</i>    | Sep 2024 - present  |
| Devised and co-supervised the masters project                        |                     |
| Georgia Kiddier (MPhys), <i>University of Manchester</i>             | Sep 2022 - May 2023 |
| Devised and co-supervised the masters project                        |                     |
| Dounia Nanadoumgar-Lacroze (MPhys) <i>Uni. of Manchester</i>         | Sep 2022 - May 2023 |
| Devised and co-supervised the masters project                        |                     |
| Isabelle Ye (MSc) <i>Queen Mary University of London</i>             | Feb - Aug 2021      |
| Devised and co-supervised the masters project                        |                     |
| Andrew Scullane (MSc) <i>Queen Mary University of London</i>         | Oct 2020 - Jan 2021 |
| Devised and co-supervised the masters project                        |                     |

*Summer placement students:*

|                                                                |                |
|----------------------------------------------------------------|----------------|
| Aleksandra Isajeva (SEPNet placement) University of Portsmouth | Jun - Aug 2026 |
| Sole supervisor for 8-week full time summer research placement |                |
| Samuel Novak (Research intern) University of Manchester        | Jun - Aug 2024 |
| Sole supervisor for 6-week full time summer research placement |                |
| Tobias Russell (Research intern) University of Manchester      | Jul - Aug 2023 |
| Sole supervisor for 6-week full time summer research placement |                |
| Oliver Thomason (Y12 placement) University of Manchester       | Aug 2022       |
| Devised and supervised the 3-week Nuffield placement programme |                |

TEACHING  
EXPERIENCE

|                                                                 |                |
|-----------------------------------------------------------------|----------------|
| University of Manchester                                        |                |
| <i>Guest lecturer:</i> AstroSoc Research Talk                   | Oct 2024       |
| <i>Guest lecturer:</i> PhySoc Research Poster Workshop          | Oct 2022       |
| University of Portsmouth                                        |                |
| <i>Teaching Assistant:</i> Introduction to Mathematical Physics | Oct - Dec 2018 |
| <i>Teaching Assistant:</i> Computational Physics Lab            | Oct - Dec 2017 |

INSTITUTIONAL  
SERVICE

|                                                     |                     |
|-----------------------------------------------------|---------------------|
| <i>JBCA Weekly Colloquium</i> Co-organiser          | Jun 2022 - Apr 2025 |
| University of Manchester                            |                     |
| <i>LSS Weekly Journal Club</i> Co-organiser         | Apr 2021 - Nov 2021 |
| Queen Mary University of London                     |                     |
| <i>Athena Swan Committee</i> Student representative | Feb 2017 - Sep 2019 |
| University of Portsmouth                            |                     |

ASSESSMENT &  
REFEREING

|                                                               |                    |
|---------------------------------------------------------------|--------------------|
| Reviewer for UKRI Future Leaders Fellowship applications      | Sep 2024 - present |
| <i>Journals:</i>                                              |                    |
| Referee for Nature Astronomy                                  | Dec 2023 - present |
| Referee for Physical Review D                                 | Jul 2023 - present |
| Referee for The Astrophysical Journal                         | Jun 2023 - present |
| Referee for Journal of Cosmology & Astroparticle Physics      | Aug 2022 - present |
| Referee for Astronomy & Astrophysics                          | May 2022 - present |
| Referee for Monthly Notices of the Royal Astronomical Society | Feb 2020 - present |

PUBLIC  
ENGAGEMENT &  
VOLUNTEERING

|                                                                              |           |
|------------------------------------------------------------------------------|-----------|
| Meet the Astronomer, <i>Jodrell Bank Centre for Engagement</i>               | Aug 2025  |
| Meet the Expert (SKAO Outreach event), <i>Jodrell Bank Discovery Centre</i>  | Apr 2024  |
| Astronomy on Tap Organiser                                                   | Feb 2018  |
| Stargazing Live Portsmouth Volunteer (several events)                        | 2017-2019 |
| <i>Outreach Talks Presented:</i>                                             |           |
| High Legh Community Observatory, <i>High Legh, UK</i>                        | Sep 2025  |
| Knutsford SciBar, <i>Knutsford, UK</i>                                       | Jul 2025  |
| Didsbury SciBar, <i>Didsbury, UK</i>                                         | Apr 2025  |
| TLG Meeting, <i>Online Talk</i>                                              | Sep 2023  |
| The Local Group Astronomy Club, <i>Online Talk</i>                           | Mar 2022  |
| East Sussex Astronomical Soc., <i>Egerton Park, East Sussex, UK</i>          | Jul 2019  |
| Chichester U3A Science Group, <i>Fishbourne Centre, West Sussex, UK</i>      | Jun 2019  |
| The Local Group Astronomy Club, <i>Cooden Beach Hotel, E. Sussex, UK</i>     | Feb 2019  |
| Eastbourne Astronomical Soc., <i>Willingdon Memorial Hall, E. Sussex, UK</i> | Oct 2018  |
| Winchester Cafe Sci, <i>Winchester Discovery Centre, Hampshire, UK</i>       | Sep 2018  |
| The Local Group Astronomy Club, <i>Cooden Beach Hotel, E. Sussex, UK</i>     | May 2018  |

## PUBLIC CODE

**meer21cm**: Toolkit for line-intensity-mapping analyses (*Python*) [core developer]  
→ [meer21cm.readthedocs.io](https://meer21cm.readthedocs.io) – official pipeline for MeerKLASS data analysis, covering foreground cleaning, regridding, power spectrum estimation, mock simulation, signal loss corrections and parameter inference. Public release paper [available here](#).

**gridimp**: Cartesian regridding of line intensity maps (*Python*) [core developer]  
→ [github.com/stevecunnington/gridimp](https://github.com/stevecunnington/gridimp) – pipeline for transforming pixelised line intensity maps in (R.A., Dec.,  $\nu$ ) coordinates onto a Cartesian comoving grid for clustering analysis.

**gpr4im**: GPR for foreground removal (*Python*) [contributing developer]  
→ [github.com/paulassoares/gpr4im](https://github.com/paulassoares/gpr4im) – toolkit using Gaussian Process Regression (GPR) techniques for foreground removal in HI intensity maps.

**MultipoleExpansion**: HI intensity mapping multipole expansion (*Python*) [core developer]  
→ [github.com/IntensityTools/MultipoleExpansion](https://github.com/IntensityTools/MultipoleExpansion) – pipeline for measuring and modelling the HI intensity mapping power spectrum and its multipole decomposition. Provides example simulated data and investigates the impact from observational effects.

## JOURNAL ARTICLES

*Summary:* (as of 21/09/2026)

Total papers: **41**

Papers as first/corresponding author: **14**

Highest cited paper: **484**

Total citations: **1625**

Solo authored papers: **1**

Highest cited first author paper: **136**

*List of papers:* [\[link to NASA ADS full publication list\]](#)

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Five papers representing particularly key contributions to my research portfolio are identified in **blue bold** text.

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[41] **Beyond  $\Lambda$ CDM with the SKA Observatory – II: Unveiling the Secrets of the Early Universe**  
J. Fonseca, B. Bahr-Kalus, M. Ballardini, et al., **S. Cunningham**, et al. (2026)  
*Advancing Astrophysics with the SKA II* (2026). [[arXiv:2607.08593](#)]

[40] **Cosmology with HI Intensity Mapping**  
L. Wolz, G. Autieri, J.L. Bernal, et al., **S. Cunningham**, et al. (2026)  
*Advancing Astrophysics with the SKA II* (2026). [[arXiv:2607.03259](#)]

[39] **meer21cm: an Analysis Pipeline and Comprehensive Toolkit for HI Intensity Mapping**  
Z. Chen, **S. Cunningham**, D. Tassie, et al. (2026)  
Submitted to The Open Journal of Astrophysics (2026). [[arXiv:2607.01864](#)]

[38] **Cosmology with Intensity Mapping via Statistics Beyond the Power Spectrum in the SKAO Era**  
S. Majumdar, D. Sarkar, L. Noble, et al., **S. Cunningham**, et al. (2026)  
*Advancing Astrophysics with the SKA II* (2026). [[arXiv:2606.30200](#)]

[37] **Methodological Frontiers in 21-cm Intensity Mapping: the Treatment of Systematics and Foreground Contamination**  
M. Spinelli, M. Barberi-Squarotti, J.L. Bernal, et al., **S. Cunningham**, et al. (2026)  
*Advancing Astrophysics with the SKA II* (2026). [[arXiv:2606.27244](#)]

[36] **Cosmology from Synergies Between SKAO Surveys and Gravitational Wave Observations**  
T. Baker, A. Colombo, **S. Cunningham**, et al. (2026)  
*Advancing Astrophysics with the SKA II* (2026). [[arXiv:2606.26011](#)]

[35] **Single-dish HI Intensity Mapping with the SKAO: Precursor Progress with MeerKAT's Large Area Synoptic Survey (MeerKLASS)**  
**S. Cunningham**, J. Wang, M.G. Santos, et al. (2026)  
*Advancing Astrophysics with the SKA II* (2026). [[arXiv:2606.25955](#)]

[34] **HI Simulations for Cosmology with the SKA Observatory**

- T. Ronconi, G. De Lucia, M. Spinelli, et al., **S. Cunningham**, et al. (2026)  
*Advancing Astrophysics with the SKA II* (2026). [[arXiv:2606.25969](#)]
- [33] **Tracing Large-scale Structure with the MeerKLASS On-the-Fly Survey: Angular Clustering of Radio Sources at 816 MHz**  
 S. Paul, S. Chatterjee, K. Grainge, et al., **S. Cunningham**, et al. (2026)  
 Submitted to MNRAS (2026). [[arXiv:2606.22432](#)]
- [32] **Radio sirens: inferring  $H_0$  with binary black holes and neutral hydrogen in the era of the Einstein Telescope and the SKA Observatory**  
 U. Dupletsa, S. Mastrogiovanni, M. Spinelli, et al., **S. Cunningham**, et al. (2026)  
 Submitted to MNRAS (2026). [[arXiv:2605.12606](#)]
- [31] **Bayesian component separation and power spectrum estimation for 21 cm intensity mapping data cubes**  
 G.G. Murphy, P. Bull, M.G. Santos, Z. Zhang, **S. Cunningham** (2026)  
 Submitted to MNRAS (2026). [[arXiv:2604.26890](#)]
- [30] **Revealing cosmological fluctuations in 21 cm intensity maps with MeerKLASS: from maps to power spectra**  
**S. Cunningham**, M. Barberi-Squarotti, J.L. Bernal, et al. (2026)  
*Ap&SS*, **371**, 16 (Feb 2026). [[arXiv:2510.27549](#)]
- [29] **Emission-line Stacking of 21cm Intensity Maps with MeerKLASS: Inference Pipeline and Application to the L-band Deep-field Data**  
 Z. Chen, **S. Cunningham**, A. Pourtsidou, et al. (2025)  
*ApJS*, **279**, 19 (2025). [[arXiv:2504.03908](#)]
- [28] **Square Kilometre Array Science Data Challenge 3a: foreground removal for an EoR experiment**  
 A. Bonaldi, P. Hartley, R. Braun, et al., **S. Cunningham**, et al. (2025)  
*MNRAS*, **543**, 1092 (Sep 2025). [[arXiv:2503.11740](#)]
- [27] **CRAFTS for HI cosmology: I. data processing pipeline and validation tests**  
 W. Yang, L. Wolz, Y. Li, et al., **S. Cunningham**, et al. (2025)  
*ApJS*, **279**, 32 (2025). [[arXiv:2412.08173](#)]
- [26] **Hydrogen intensity mapping with MeerKAT: Preserving cosmological signal by optimising contaminant separation**  
 I.P. Carucci, J.L. Bernal, **S. Cunningham**, et al. (2025)  
*A&A*, **703**, A222 (Nov 2025). [[arXiv:2412.06750](#)]
- [25] **MeerKLASS L-band deep-field intensity maps: entering the HI dominated regime**  
 MeerKLASS Collaboration, ..., **S. Cunningham**, et al. (2025)  
*MNRAS*, **537**, 3632 (Feb 2025). [[arXiv:2407.21626](#)]
- [24] **Modelling the non-linear power spectrum in low-redshift HI intensity mapping**  
 Z. Li, L. Wolz, H. Guo, **S. Cunningham**, Y. Mao (2024)  
*MNRAS*, **534**, 1801 (Oct 2024). [[arXiv:2407.02131](#)]
- [23] **Radio frequency interference from radio navigation satellite systems: simulations and comparison to MeerKAT single-dish data**  
 B.N. Engelbrecht, M.G. Santos, J. Fonseca, et al., **S. Cunningham**, et al. (2024)  
*MNRAS*, **536**, 1035 (Nov 2024). [[arXiv:2404.17908](#)]
- [22] **Cosmology with ESO–SKAO Synergies**  
 M.G. Santos, S. Camera, Z. Chen, **S. Cunningham**, J. Fonseca (2024)  
*The Messenger*, **193**, 20 (2024). [[arXiv:2503.03915](#)]
- [21] **Accurate Fourier-space statistics for line intensity mapping: Cartesian grid sampling without aliased power**  
**S. Cunningham** and L. Wolz (2024)  
*MNRAS*, **528**, 5586 (Feb 2024). [[arXiv:2312.07289](#)]

- [20] **The foreground transfer function for HI intensity mapping signal reconstruction: MeerKLASS and precision cosmology applications**  
**S. Cunnington**, L. Wolz, P. Bull, et al. (2023)  
 MNRAS, 523, 2453 (May 2023). [[arXiv:2302.07034](#)]
- [19] Mitigating the effect of  $1/f$  noise on the detection of the HI intensity mapping power spectrum from single-dish measurements  
 M.O. Irfan, Y. Li, M.G. Santos, et al., **S. Cunnington**, et al. (2023)  
 MNRAS, 527, 4717 (Nov 2023). [[arXiv:2302.02683](#)]
- [18] **HI intensity mapping with MeerKAT: power spectrum detection in cross-correlation with WiggleZ galaxies**  
**S. Cunnington**, Y. Li, M.G. Santos, et al. (2022)  
 MNRAS, 518, 6262 (Dec 2022). [[arXiv:2206.01579](#)]
- [17] Detecting the power spectrum turnover with H i intensity mapping  
**S. Cunnington** (2022)  
 MNRAS, 512, 2408 (Mar 2022). [[arXiv:2202.13828](#)]
- [16] Baryon acoustic oscillations from HI intensity mapping: The importance of cross-correlations in the monopole and quadrupole  
 A. Rubiola, **S. Cunnington**, S. Camera (2022)  
 MNRAS, 516, 5454 (Oct 2022). [[arXiv:2111.11347](#)]
- [15] Gaussian Process Regression for foreground removal in HI Intensity Mapping experiments  
 P.S. Soares, C.A. Watkinson, **S. Cunnington**, A. Pourtsidou (2022)  
 MNRAS, 510, 5872 (Jan 2022). [[arXiv:2105.12665](#)]
- [14] HI constraints from the cross-correlation of eBOSS galaxies and Green Bank Telescope intensity maps  
 L. Wolz, A. Pourtsidou, K.W. Masui, et al., **S. Cunnington**, et al. (2022)  
 MNRAS, 510, 3495 (Jan 2022). [[arXiv:2102.04946](#)]
- [13] Measurements of the diffuse Galactic synchrotron spectral index and curvature from MeerKLASS pilot data  
 M.O. Irfan, P. Bull, M.G. Santos, et al., **S. Cunnington**, et al. (2021)  
 MNRAS, 509, 4923 (Dec 2021). [[arXiv:2111.08517](#)]
- [12] SKAO HI intensity mapping: blind foreground subtraction challenge  
 M. Spinelli, I.P. Carucci, **S. Cunnington**, et al. (2021)  
 MNRAS, 509, 2048 (Nov 2021). [[arXiv:2107.10814](#)]
- [11] HI IM correlation function from UNIT simulations: BAO and observationally induced anisotropy  
 S. Avila, B. Vos-Ginés, **S. Cunnington**, et al. (2021)  
 MNRAS, 510, 292 (Dec 2021). [[arXiv:2105.10454](#)]
- [10] The HI intensity mapping bispectrum including observational effects  
**S. Cunnington**, C. Watkinson, A. Pourtsidou (2021)  
 MNRAS, 507, 1623 (Aug 2021). [[arXiv:2102.11153](#)]
- [9] HI intensity mapping with MeerKAT: calibration pipeline for multidish autocorrelation observations  
 J. Wang, M.G. Santos, P. Bull, et al., **S. Cunnington**, et al. (2021)  
 MNRAS, 505, 3698 (Jun 2021). [[arXiv:2011.13789](#)]
- [8] 21-cm foregrounds and polarization leakage: cleaning and mitigation strategies  
**S. Cunnington**, M.O. Irfan, I.P. Carucci, A. Pourtsidou, J. Bobin (2021)  
 MNRAS, 504, 208 (May 2021). [[arXiv:2010.02907](#)]
- [7] Power spectrum multipole expansion for HI intensity mapping experiments: unbiased parameter estimation  
 P.S. Soares, **S. Cunnington**, A. Pourtsidou, C. Blake (2021)  
 MNRAS, 502, 2549 (Feb 2021). [[arXiv:2008.12102](#)]
- [6] The degeneracy between primordial non-Gaussianity and foregrounds in 21 cm intensity mapping

experiments

**S. Cunnington**, S. Camera, A. Pourtsidou (2020)  
*MNRAS*, 499, 4054 (Nov 2020). [[arXiv:2007.12126](#)]

[5] Multipole expansion for H i intensity mapping experiments: simulations and modelling  
**S. Cunnington**, A. Pourtsidou, P.S. Soares, C. Blake, D. Bacon (2020)  
*MNRAS*, 496, 415 (Jul 2020). [[arXiv:2002.05626](#)]

[4] Cosmology with Phase 1 of the Square Kilometre Array: Red Book 2018: Technical specifications and performance forecasts  
D.J. Bacon, R.A. Battye, P. Bull, et al., **S. Cunnington**, et al. (2020)  
*PASA*, 37, e007 (Mar 2020). [[arXiv:1811.02743](#)]

[3] Impact of foregrounds on HI intensity mapping cross-correlations with optical surveys  
**S. Cunnington**, L. Wolz, A. Pourtsidou, D. Bacon (2019)  
*MNRAS*, 488, 5452 (Oct 2019). [[arXiv:1904.01479](#)]

[2] HI intensity mapping for clustering-based redshift estimation  
**S. Cunnington**, I. Harrison, A. Pourtsidou, D. Bacon (2019)  
*MNRAS*, 482, 3341 (Jan 2019). [[arXiv:1805.04498](#)]

[1] Observational selection biases in time-delay strong lensing and their impact on cosmography  
T.E. Collett and **S.D. Cunnington** (2016)  
*MNRAS*, 462, 3255 (Nov 2016). [[arXiv:1605.08341](#)]