

Abhijeet Anand

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Postdoctoral Scientist, Lawrence Berkeley National Lab, Berkeley, CA

Positions

Sep'22 - Aug'25: Postdoctoral Scientist, Lawrence Berkeley National Lab (LBNL), Berkeley, CA, USA

Aug'22: Bridge Postdoctoral Fellow, Max Planck Institute for Astrophysics, Garching, Germany

Sep'18 - Jul'22: IMPRS PhD Fellow, Max Planck Institute for Astrophysics, Garching, Germany

Education

Sep 2018 - Jul 2022: PhD in Astrophysics, Ludwig Maximilian University - Max Planck Institute for Astrophysics (MPA), Germany.

- Thesis: [Probing cool and warm circumgalactic gas in galaxies and clusters with large spectroscopic and imaging surveys](#)
- Advisors: [Prof. Dr. Guinevere Kauffmann](#) & [Dr. Dylan Nelson](#)

Jul 2016 - Jul 2017: MS, Physics, Indian Institute of Science (IISc), Bangalore, India.

- Thesis: [A sensitive search for HI 21 cm emission from super disks in radio galaxies](#)
- Advisor: [Prof. Nirupam Roy](#)

Aug 2012 - June 2016: BSc (Research), Physics, Indian Institute of Science, Bangalore, India.

- Thesis: [Sources of Continuum Opacity in Hydrogen deficient stars](#)
- Advisors: [Prof. Gajendra Pandey](#), Indian Institute of Astrophysics (IIA)

Publications

- 23 Abdul Karim, M.; Aguilar, J.; Ahlen, S.; Alam, S.; Allen, L.; *et al.* (incl. **A. Anand**), 2025, *DESI DR2 results. II. Measurements of baryon acoustic oscillations and cosmological constraints*, Physical Review D, **112**, 083515 ([arXiv:2503.14738](#)) [544 citations]
- 22 Abdul Karim, M.; Aguilar, J.; Ahlen, S.; Allende Prieto, C.; Alves, O.; *et al.*, 2025, *DESI DR2 results. I. Baryon acoustic oscillations from the Lyman alpha forest*, Physical Review D, **112**, 083514 ([arXiv:2503.14739](#)) [107 citations]
- 21 Brodzeller, A.; Wolfson, M.; Santos, D. M.; Ho, M.; Tan, T.; *et al.* (incl. **A. Anand**), 2025, *Construction of the damped $Ly\alpha$ absorber catalog for DESI DR2*, Physical Review D, **112**, 083510 ([arXiv:2503.14740](#)) [15 citations]
- 20 Adame, A. G.; Aguilar, J.; Ahlen, S.; Alam, S.; Alexander, D. M.; *et al.* (incl. **A. Anand**), 2025, *DESI 2024 V: Full-Shape galaxy clustering from galaxies and quasars*, Journal of Cosmology and Astroparticle Physics, **2025**, 008 ([arXiv:2411.12021](#)) [111 citations]
- 19 **Anand, Abhijeet**; Aguilar, J.; Ahlen, S.; Bianchi, D.; Brodzeller, A.; *et al.*, 2025, *The Cosmic Evolution of C IV Absorbers at $1.4 < z < 4.5$: Insights from 100,000 Systems in DESI Quasars*, The Astrophysical Journal, **990**, 151 ([arXiv:2504.20299](#)) [1 citations]

- 18 Adame, A. G.; Aguilar, J.; Ahlen, S.; Alam, S.; Alexander, D. M.; et al. (incl. **A. Anand**), 2025, *DESI 2024 VII: cosmological constraints from the full-shape modeling of clustering measurements*, Journal of Cosmology and Astroparticle Physics, **2025**, 028 (arXiv:2411.12022) [193 citations]
- 17 Adame, A. G.; Aguilar, J.; Ahlen, S.; Alam, S.; Alexander, D. M.; et al. (incl. **A. Anand**), 2025, *DESI 2024 II: sample definitions, characteristics, and two-point clustering statistics*, Journal of Cosmology and Astroparticle Physics, **2025**, 017 (arXiv:2411.12020) [74 citations]
- 16 Adame, A. G.; Aguilar, J.; Ahlen, S.; Alam, S.; Alexander, D. M.; et al. (incl. **A. Anand**), 2025, *DESI 2024 III: baryon acoustic oscillations from galaxies and quasars*, Journal of Cosmology and Astroparticle Physics, **2025**, 012 (arXiv:2404.03000) [384 citations]
- 15 Wu, Xuanyi; Cai, Z.; Lan, T.-W.; Zou, S.; **Anand, Abhijeet**; et al., 2025, *Tracing the Evolution of the Cool Gas in CGM and IGM Environments through Mg II Absorption from Redshift $z = 0.75$ to $z = 1.65$ Using DESI-Y1 Data*, The Astrophysical Journal, **983**, 186 (arXiv:2407.17809) [7 citations]
- 14 Adame, A. G.; Aguilar, J.; Ahlen, S.; Alam, S.; Alexander, D. M.; et al. (incl. **A. Anand**), 2025, *DESI 2024 VI: cosmological constraints from the measurements of baryon acoustic oscillations*, Journal of Cosmology and Astroparticle Physics, **2025**, 021 (arXiv:2404.03002) [1163 citations]
- 13 Adame, A. G.; Aguilar, J.; Ahlen, S.; Alam, S.; Alexander, D. M.; et al. (incl. **A. Anand**), 2025, *DESI 2024 IV: Baryon Acoustic Oscillations from the Lyman alpha forest*, Journal of Cosmology and Astroparticle Physics, **2025**, 124 (arXiv:2404.03001) [293 citations]
- 12 Ross, A. J.; Aguilar, J.; Ahlen, S.; Alam, S.; **Anand, Abhijeet**; et al., 2025, *The construction of large-scale structure catalogs for the Dark Energy Spectroscopic Instrument*, Journal of Cosmology and Astroparticle Physics, **2025**, 125 (arXiv:2405.16593) [36 citations]
- 11 Scholte, Dirk; Saintonge, Amélie; Moustakas, John; Catinella, Barbara; Zou, Hu; et al. (incl. **A. Anand**), 2024, *The atomic gas sequence and mass-metallicity relation from dwarfs to massive galaxies*, Monthly Notices of the Royal Astronomical Society, **535**, 2341 (arXiv:2408.03996) [13 citations]
- 10 Chang, Yu-Ling; Lan, Ting-Wen; Prochaska, J. Xavier; Napolitano, Lucas; **Anand, Abhijeet**; et al., 2024, *Probing the Impact of Radio-mode Feedback on the Properties of the Cool Circumgalactic Medium*, The Astrophysical Journal, **974**, 191 (arXiv:2405.08314) [5 citations]
- 9 Galiullin, Ilkham; Rodriguez, Antonio C.; El-Badry, Kareem; Szkody, Paula; **Anand, Abhijeet**; et al., 2024, *Searching for new cataclysmic variables in the Chandra Source Catalog*, Astronomy and Astrophysics, **690**, A374 (arXiv:2408.00078) [5 citations]
- 8 **Anand, Abhijeet**; Guy, Julien; Bailey, Stephen; Moustakas, John; Aguilar, J.; et al., 2024, *Archetype-based Redshift Estimation for the Dark Energy Spectroscopic Instrument Survey*, The Astronomical Journal, **168**, 124 (arXiv:2405.19288) [26 citations]
- 7 DESI Collaboration; Adame, A. G.; Aguilar, J.; Ahlen, S.; Alam, S.; et al. (incl. **A. Anand**), 2024, *The Early Data Release of the Dark Energy Spectroscopic Instrument*, The Astronomical Journal, **168**, 58 (arXiv:2306.06308) [422 citations]
- 6 DESI Collaboration; Adame, A. G.; Aguilar, J.; Ahlen, S.; Alam, S.; et al. (incl. **A. Anand**), 2024, *Validation of the Scientific Program for the Dark Energy Spectroscopic Instrument*, The Astronomical Journal, **167**, 62 (arXiv:2306.06307) [233 citations]
- 5 Napolitano, Lucas; Pandey, Agnesh; Myers, Adam D.; Lan, Ting-Wen; **Anand, Abhijeet**; et al., 2023, *Detecting and Characterizing Mg II Absorption in DESI Survey Validation Quasar Spectra*, The Astronomical Journal, **166**, 99 (arXiv:2305.20016) [21 citations]

- 4 Ayromlou, Mohammadreza; Kauffmann, Guinevere; **Anand, Abhijeet**; & White, Simon D. M., 2023, *The physical origin of galactic conformity: from theory to observation*, Monthly Notices of the Royal Astronomical Society, **519**, 1913 (arXiv:2207.02218) [25 citations]
- 3 **Anand, Abhijeet**; Kauffmann, Guinevere; & Nelson, Dylan, 2022, *Cool circumgalactic gas in galaxy clusters: connecting the DESI legacy imaging survey and SDSS DR16 Mg II absorbers*, Monthly Notices of the Royal Astronomical Society, **513**, 3210 (arXiv:2201.07811) [26 citations]
- 2 **Anand, Abhijeet**; Nelson, Dylan; & Kauffmann, Guinevere, 2021, *Characterizing the abundance, properties, and kinematics of the cool circumgalactic medium of galaxies in absorption with SDSS DR16*, Monthly Notices of the Royal Astronomical Society, **504**, 65 (arXiv:2103.15842) [52 citations]
- 1 **Anand, Abhijeet**; Roy, Nirupam; & Gopal-Krishna, 2019, *Search for H I emission from superdisk candidates associated with radio galaxies*, Research in Astronomy and Astrophysics, **19**, 083 (arXiv:1812.06875) [2 citations]