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Chronicles of cosmic dawn: high redshift quasars as probes of supermassive black holes and the intergalactic medium

Onorato, S.

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BIBLIOGRAPHY

- Ahn C. P., et al., 2012, *ApJS*, 203, 21
- Aihara H., et al., 2018, *PASJ*, 70, S4
- Alexander D. M., Hickox R. C., 2012, *New Astronomy Reviews*, 56, 93
- Almgren A. S., Bell J. B., Lijewski M. J., Lukić Z., Van Andel E., 2013, *ApJ*, 765, 39
- Andika I. T., et al., 2020, *ApJ*, 903, 34
- Andika I. T., et al., 2022, *AJ*, 163, 251
- Andika I. T., et al., 2024, *A&A*, 685, A25
- Anglés-Alcázar D., Davé R., Faucher-Giguère C.-A., Özel F., Hopkins P. F., 2017, *MNRAS*, 464, 2840
- Antonucci R., 1993, *ARA&A*, 31, 473
- Appenzeller I., et al., 1998, *The Messenger*, 94, 1
- Arita J., et al., 2023, *ApJ*, 954, 210
- Bañados E., et al., 2014, *AJ*, 148, 14
- Bañados E., Decarli R., Walter F., Venemans B. P., Farina E. P., Fan X., 2015, *ApJ*, 805, L8
- Bañados E., et al., 2016, *ApJS*, 227, 11
- Bañados E., et al., 2018, *Nature*, 553, 473
- Bañados E., et al., 2019, *ApJ*, 885, 59
- Bañados E., et al., 2021, *ApJ*, 909, 80
- Bañados E., et al., 2023, *ApJS*, 265, 29
- Bañados E., et al., 2025, *Nature Astronomy*, 9, 293
- Baldwin J. A., 1977, *ApJ*, 214, 679
- Bardeen J. M., Press W. H., Teukolsky S. A., 1972, *ApJ*, 178, 347
- Becker G. D., Bolton J. S., Lidz A., 2015a, *PASA*, 32, e045
- Becker G. D., Bolton J. S., Madau P., Pettini M., Ryan-Weber E. V., Venemans B. P., 2015b, *MNRAS*, 447, 3402
- Becker G. D., Davies F. B., Furlanetto S. R., Malkan M. A., Boera E., Douglass C., 2018, *ApJ*, 863, 92
- Becker G. D., D’Aloisio A., Christenson H. M., Zhu Y., Worseck G., Bolton J. S., 2021, *MNRAS*, 508, 1853
- Begelman M. C., Blandford R. D., Rees M. J., 1984, *Reviews of Modern Physics*, 56, 255
- Belladitta S., et al., 2025, *arXiv e-prints*, p. arXiv:2505.15923
- Bentz M. C., et al., 2013, *ApJ*, 767, 149
- Best P. N., Heckman T. M., 2012, *MNRAS*, 421, 1569
- Bigwood L., Eilers A.-C., Simcoe R. A., 2024, *MNRAS*,
- Bischetti M., et al., 2022, *Nature*, 605, 244
- Bischetti M., et al., 2023, *ApJ*, 952, 44
- Blandford R. D., Payne D. G., 1982, *MNRAS*, 199, 883
- Blandford R. D., Znajek R. L., 1977, *MNRAS*, 179, 433
- Bochanski J. J., et al., 2009, *PASP*, 121, 1409

- Bolan P., et al., 2022, *MNRAS*, 517, 3263
- Bolton J. S., Haehnelt M. G., 2007a, *MNRAS*, 374, 493
- Bolton J. S., Haehnelt M. G., 2007b, *MNRAS*, 381, L35
- Bondi H., 1952, *MNRAS*, 112, 195
- Borisova E., Lilly S. J., Cantalupo S., Prochaska J. X., Rakic O., Worseck G., 2016, *ApJ*, 830, 120
- Bosman S. E. I., Becker G. D., Haehnelt M. G., Hewett P. C., McMahon R. G., Mortlock D. J., Simpson C., Venemans B. P., 2017, *MNRAS*, 470, 1919
- Bosman S. E. I., Ďurovčiková D., Davies F. B., Eilers A.-C., 2021, *MNRAS*, 503, 2077
- Bosman S. E. I., et al., 2022, *MNRAS*, 514, 55
- Bouwens R. J., et al., 2012, *ApJ*, 752, L5
- Bromm V., 2013, *Reports on Progress in Physics*, 76, 112901
- Bromm V., Larson R. B., 2004, *ARA&A*, 42, 79
- Bromm V., Yoshida N., 2011, *ARA&A*, 49, 373
- Bruton S., Lin Y.-H., Scarlata C., Hayes M. J., 2023, *ApJ*, 949, L40
- Bustamante S., Springel V., 2019, *MNRAS*, 490, 4133
- Buzzoni B., et al., 1984, *The Messenger*, 38, 9
- Cantalupo S., Arrigoni-Battaia F., Prochaska J. X., Hennawi J. F., Madau P., 2014, *Nature*, 506, 63
- Carilli C. L., et al., 2007, *ApJ*, 666, L9
- Carilli C. L., et al., 2010, *ApJ*, 714, 834
- Carnall A. C., et al., 2015, *MNRAS*, 451, L16
- Cen R., Haiman Z., 2000, *ApJ*, 542, L75
- Cepa J., et al., 2000, in Iye M., Moorwood A. F., eds, *Society of Photo-Optical Instrumentation Engineers (SPIE) Conference Series Vol. 4008, Optical and IR Telescope Instrumentation and Detectors*. pp 623–631, doi:10.1117/12.395520
- Chehade B., et al., 2018, *MNRAS*, 478, 1649
- Chen H., Gnedin N. Y., 2018, *ApJ*, 868, 126
- Chen X., Miralda-Escudé J., 2004, *ApJ*, 602, 1
- Choquette J., Cline J. M., Cornell J. M., 2019, *JCAP*, 2019, 036
- Clough S. A., Shephard M. W., Mlawer E. J., Delamere J. S., Iacono M. J., Cady-Pereira K., Boukabara S., Brown P. D., 2005, *J. Quant. Spectrosc. Radiat. Transfer*, 91, 233
- Crenshaw D. M., Kraemer S. B., George I. M., 2003, *ARA&A*, 41, 117
- Cybert R. H., Fields B. D., Olive K. A., Yeh T.-H., 2016, *Reviews of Modern Physics*, 88, 015004
- D’Aloisio A., McQuinn M., Trac H., 2015, *ApJ*, 813, L38
- D’Aloisio A., McQuinn M., Davies F. B., Furlanetto S. R., 2018, *MNRAS*, 473, 560
- D’Odorico V., et al., 2023, *MNRAS*, 523, 1399
- Davies F. B., Furlanetto S. R., 2016, *MNRAS*, 460, 1328

- Davies F. B., Furlanetto S. R., 2022, *MNRAS*, **514**, 1302
- Davies F. B., Becker G. D., Furlanetto S. R., 2018a, *ApJ*, **860**, 155
- Davies F. B., et al., 2018b, *ApJ*, **864**, 142
- Davies F. B., et al., 2018c, *ApJ*, **864**, 143
- Davies F. B., Hennawi J. F., Eilers A.-C., 2019, *ApJ*, **884**, L19
- Davies F. B., Hennawi J. F., Eilers A.-C., 2020a, *MNRAS*, **493**, 1330
- Davies F. B., Wang F., Eilers A.-C., Hennawi J. F., 2020b, *ApJ*, **904**, L32
- Davies R. L., et al., 2023, *MNRAS*, **521**, 289
- Davis S. W., Laor A., 2011, *ApJ*, **728**, 98
- Decarli R., et al., 2018, *ApJ*, **854**, 97
- Di Matteo T., Angles-Alcazar D., Shankar F., 2023, *arXiv e-prints*, p. [arXiv:2304.11541](https://arxiv.org/abs/2304.11541)
- DiPompeo M. A., Myers A. D., Hickox R. C., Geach J. E., Hainline K. N., 2014, *MNRAS*, **442**, 3443
- Draine B. T., 2011, *Physics of the Interstellar and Intergalactic Medium*
- Duane S., Kennedy A. D., Pendleton B. J., Roweth D., 1987, *Physics Letters B*, **195**, 216
- Dye S., et al., 2018, *MNRAS*, **473**, 5113
- Eddington A. S., 1926, *The Internal Constitution of the Stars*
- Eilers A.-C., Davies F. B., Hennawi J. F., Prochaska J. X., Lukić Z., Mazzucchelli C., 2017, *ApJ*, **840**, 24
- Eilers A.-C., Davies F. B., Hennawi J. F., 2018a, *ApJ*, **864**, 53
- Eilers A.-C., Hennawi J. F., Davies F. B., 2018b, *ApJ*, **867**, 30
- Eilers A.-C., et al., 2020, *ApJ*, **900**, 37
- Eilers A.-C., et al., 2021a, *ApJ*, **914**, 74
- Eilers A.-C., Hennawi J. F., Davies F. B., Simcoe R. A., 2021b, *ApJ*, **917**, 38
- Eilers A.-C., et al., 2024, *ApJ*, **974**, 275
- Eisenstein D. J., et al., 2011, *AJ*, **142**, 72
- Elias J. H., Rodgers B., Joyce R. R., Lazo M., Doppmann G., Winge C., Rodríguez-Ardila A., 2006a, in McLean I. S., Iye M., eds, *Society of Photo-Optical Instrumentation Engineers (SPIE) Conference Series Vol. 6269*, Society of Photo-Optical Instrumentation Engineers (SPIE) Conference Series. p. 626914, [doi:10.1117/12.671765](https://doi.org/10.1117/12.671765)
- Elias J. H., Joyce R. R., Liang M., Muller G. P., Hileman E. A., George J. R., 2006b, in McLean I. S., Iye M., eds, *Society of Photo-Optical Instrumentation Engineers (SPIE) Conference Series Vol. 6269*, Society of Photo-Optical Instrumentation Engineers (SPIE) Conference Series. p. 62694C, [doi:10.1117/12.671817](https://doi.org/10.1117/12.671817)
- Ellis J., Wands D., 2023, *arXiv e-prints*, p. [arXiv:2312.13238](https://arxiv.org/abs/2312.13238)
- Elvis M., et al., 1994, *ApJS*, **95**, 1
- Endsley R., Stark D. P., Whitler L., Topping M. W., Chen Z., Plat A., Chisholm J., Charlot S., 2023, *MNRAS*, **524**, 2312

- Faber S. M., et al., 2003, in Iye M., Moorwood A. F. M., eds, Society of Photo-Optical Instrumentation Engineers (SPIE) Conference Series Vol. 4841, Instrument Design and Performance for Optical/Infrared Ground-based Telescopes. pp 1657–1669, doi:10.1117/12.460346
- Fabian A. C., 1999, *MNRAS*, 308, L39
- Fan X., et al., 2000, *AJ*, 120, 1167
- Fan X., et al., 2001, *AJ*, 122, 2833
- Fan X., et al., 2003, *AJ*, 125, 1649
- Fan X., Carilli C. L., Keating B., 2006a, *ARA&A*, 44, 415
- Fan X., et al., 2006b, *AJ*, 131, 1203
- Fan X., et al., 2006c, *AJ*, 132, 117
- Fan X., et al., 2019, *ApJ*, 870, L11
- Fan X., Bañados E., Simcoe R. A., 2023, *ARA&A*, 61, 373
- Fanaroff B. L., Riley J. M., 1974, *MNRAS*, 167, 31P
- Farina E. P., et al., 2022, *ApJ*, 941, 106
- Fausey H. M., et al., 2025, *MNRAS*, 536, 2839
- Ferland G. J., Osterbrock D. E., 1986, *ApJ*, 300, 658
- Fernandez R., Bryan G. L., Haiman Z., Li M., 2014, *MNRAS*, 439, 3798
- Ferrarese L., Merritt D., 2000, *ApJ*, 539, L9
- Fields B., Sarkar S., 2006, *arXiv e-prints*, pp astro-ph/0601514
- Foreman-Mackey D., Hogg D. W., Lang D., Goodman J., 2013, *PASP*, 125, 306
- Fujimoto S., et al., 2023, *arXiv e-prints*, p. arXiv:2308.11609
- Furlanetto S. R., Zaldarriaga M., Hernquist L., 2004, *ApJ*, 613, 1
- Furlanetto S. R., Oh S. P., Briggs F. H., 2006, *Phys. Rep.*, 433, 181
- Furtak L. J., et al., 2023, *arXiv e-prints*, p. arXiv:2308.05735
- Gaikwad P., et al., 2023, *MNRAS*, 525, 4093
- Garaldi E., Kannan R., Smith A., Springel V., Pakmor R., Vogelsberger M., Hernquist L., 2022, *MNRAS*, 512, 4909
- Gaskell C. M., 1982, *ApJ*, 263, 79
- Gnedin N. Y., Kaurov A. A., 2014, *ApJ*, 793, 30
- Gnedin N. Y., Madau P., 2022, *Living Reviews in Computational Astrophysics*, 8, 3
- Goto H., et al., 2021, *ApJ*, 923, 229
- Goulding A. D., et al., 2023, *ApJ*, 955, L24
- Greene J. E., et al., 2023, *arXiv e-prints*, p. arXiv:2309.05714
- Greenstein J. L., 1963, *Nature*, 197, 1041
- Greig B., Mesinger A., Haiman Z., Simcoe R. A., 2017, *MNRAS*, 466, 4239
- Greig B., Mesinger A., Bañados E., 2019, *MNRAS*, 484, 5094
- Greig B., Mesinger A., Davies F. B., Wang F., Yang J., Hennawi J. F., 2022, *MNRAS*, 512, 5390
- Greig B., et al., 2024a, *MNRAS*, 530, 3208
- Greig B., et al., 2024b, *MNRAS*, 533, 3312
- Gullikson K., Dodson-Robinson S., Kraus A., 2014, *AJ*, 148, 53

- Gunn J. E., Peterson B. A., 1965, *ApJ*, **142**, 1633
- Haardt F., Madau P., 2012, *ApJ*, **746**, 125
- Haardt F., Maraschi L., 1991, *ApJ*, **380**, L51
- Hada R., Takada M., Inoue A. K., 2024, *MNRAS*, **531**, 2912
- Haiman Z., 2004, *ApJ*, **613**, 36
- Haiman Z., Cen R., 2001, in Umemura M., Susa H., eds, *Astronomical Society of the Pacific Conference Series Vol. 222, The Physics of Galaxy Formation*. p. 101
- Haiman Z., Hui L., 2001, *ApJ*, **547**, 27
- Häring N., Rix H.-W., 2004, *ApJ*, **604**, L89
- Heckman T. M., Best P. N., 2014, *ARA&A*, **52**, 589
- Hennawi J. F., Prochaska J. X., Cantalupo S., Arrigoni-Battaia F., 2015, *Science*, **348**, 779
- Hennawi J. F., Kist T., Davies F. B., Tamanas J., 2024, *arXiv e-prints*, p. [arXiv:2406.12070](https://arxiv.org/abs/2406.12070)
- Hennawi J. F., Kist T., Davies F. B., Tamanas J., 2025, *MNRAS*, **539**, 2621
- Hook I. M., Jørgensen I., Allington-Smith J. R., Davies R. L., Metcalfe N., Murowinski R. G., Crampton D., 2004, *PASP*, **116**, 425
- Horne K., 1986, *PASP*, **98**, 609
- Iliev I. T., Mellema G., Pen U. L., Merz H., Shapiro P. R., Alvarez M. A., 2006, *MNRAS*, **369**, 1625
- Inayoshi K., Visbal E., Haiman Z., 2020, *ARA&A*, **58**, 27
- Ishimoto R., et al., 2020, *ApJ*, **903**, 60
- Jenkins E. B., Ostriker J. P., 1991, *ApJ*, **376**, 33
- Jeon J., Bromm V., Liu B., Finkelstein S. L., 2025, *ApJ*, **979**, 127
- Jiang L., McGreer I. D., Fan X., Bian F., Cai Z., Clément B., Wang R., Fan Z., 2015, *AJ*, **149**, 188
- Jiang L., et al., 2016, *ApJ*, **833**, 222
- Jin X., et al., 2023, *ApJ*, **942**, 59
- Kashikawa N., et al., 2002, *PASJ*, **54**, 819
- Kashino D., Lilly S. J., Matthee J., Eilers A.-C., Mackenzie R., Bordoloi R., Simcoe R. A., 2023, *ApJ*, **950**, 66
- Kaspi S., Smith P. S., Netzer H., Maoz D., Jannuzi B. T., Giveon U., 2000, *ApJ*, **533**, 631
- Kaspi S., Maoz D., Netzer H., Peterson B. M., Vestergaard M., Jannuzi B. T., 2005, *ApJ*, **629**, 61
- Kaurov A. A., Gnedin N. Y., 2015, *ApJ*, **810**, 154
- Keel W. C., et al., 2012, *MNRAS*, **420**, 878
- Kellermann K. I., Sramek R., Schmidt M., Shaffer D. B., Green R., 1989, *AJ*, **98**, 1195
- Khrykin I. S., Hennawi J. F., McQuinn M., Worseck G., 2016, *ApJ*, **824**, 133
- Khrykin I. S., Hennawi J. F., Worseck G., 2019, *MNRAS*, **484**, 3897

- Khrykin I. S., Hennawi J. F., Worseck G., Davies F. B., 2021, *MNRAS*, **505**, 649
- Kirkman D., Tytler D., 2008, *MNRAS*, **391**, 1457
- Kist T., Hennawi J. F., Davies F. B., 2024, *arXiv e-prints*, p. [arXiv:2406.12071](#)
- Kist T., Hennawi J. F., Davies F. B., 2025a, *arXiv e-prints*, p. [arXiv:2508.21812](#)
- Kist T., Hennawi J. F., Davies F. B., 2025b, *MNRAS*, **538**, 2704
- Kokorev V., et al., 2023, *ApJ*, **957**, L7
- Kokorev V., et al., 2024, *arXiv e-prints*, p. [arXiv:2401.09981](#)
- Kormendy J., Gebhardt K., 2001, in Wheeler J. C., Martel H., eds, American Institute of Physics Conference Series Vol. 586, 20th Texas Symposium on relativistic astrophysics. pp 363–381 ([arXiv:astro-ph/0105230](#)), doi:10.1063/1.1419581
- Kormendy J., Ho L. C., 2013, *ARA&A*, **51**, 511
- Kormendy J., Richstone D., 1995, *ARA&A*, **33**, 581
- Kulkarni G., Keating L. C., Haehnelt M. G., Bosman S. E. I., Puchwein E., Chardin J., Aubert D., 2019, *MNRAS*, **485**, L24
- Labbe I., et al., 2023, *arXiv e-prints*, p. [arXiv:2306.07320](#)
- Lai S., et al., 2022, *MNRAS*, **513**, 1801
- Larson R. L., et al., 2023, *ApJ*, **953**, L29
- Laurent P., et al., 2017, *JCAP*, **2017**, 017
- Lawrence A., et al., 2007, *MNRAS*, **379**, 1599
- Lee K.-G., et al., 2015, *ApJ*, **799**, 196
- Lewis J. S. W., et al., 2022, *MNRAS*, **516**, 3389
- Lidz A., McQuinn M., Zaldarriaga M., Hernquist L., Dutta S., 2007, *ApJ*, **670**, 39
- Lukić Z., Stark C. W., Nugent P., White M., Meiksin A. A., Almgren A., 2015, *MNRAS*, **446**, 3697
- Lusso E., Worseck G., Hennawi J. F., Prochaska J. X., Vignali C., Stern J., O’Meara J. M., 2015, *MNRAS*, **449**, 4204
- Lynden-Bell D., 1969, *Nature*, **223**, 690
- Madau P., Rees M. J., 2001, *ApJ*, **551**, L27
- Madau P., Haardt F., Rees M. J., 1999, *ApJ*, **514**, 648
- Magorrian J., et al., 1998, *AJ*, **115**, 2285
- Maiolino R., et al., 2005, *A&A*, **440**, L51
- Maiolino R., et al., 2023, *arXiv e-prints*, p. [arXiv:2306.00953](#)
- Maiolino R., et al., 2024, *Nature*, **627**, 59
- Marconi A., Risaliti G., Gilli R., Hunt L. K., Maiolino R., Salvati M., 2004, *MNRAS*, **351**, 169
- Marshall J. L., et al., 2008, in McLean I. S., Casali M. M., eds, Society of Photo-Optical Instrumentation Engineers (SPIE) Conference Series Vol. 7014, Ground-based and Airborne Instrumentation for Astronomy II. p. 701454 ([arXiv:0807.3774](#)), doi:10.1117/12.789972

- Martini P., 2004, in Ho L. C., ed., *Coevolution of Black Holes and Galaxies*. p. 169 ([arXiv:astro-ph/0304009](#)), doi:10.48550/arXiv.astro-ph/0304009
- Martini P., Weinberg D. H., 2001, *ApJ*, **547**, 12
- Mascia S., et al., 2023, *A&A*, **672**, A155
- Mason C. A., et al., 2019, *MNRAS*, **485**, 3947
- Matsuoka Y., et al., 2018, *ApJS*, **237**, 5
- Matsuoka Y., et al., 2019a, *ApJ*, **872**, L2
- Matsuoka Y., et al., 2019b, *ApJ*, **883**, 183
- Matsuoka Y., et al., 2022, *ApJS*, **259**, 18
- Matthee J., et al., 2024, *ApJ*, **963**, 129
- Matthews T. A., Sandage A. R., 1963, *ApJ*, **138**, 30
- Mazzucchelli C., et al., 2017, *ApJ*, **849**, 91
- Mazzucchelli C., et al., 2023, *A&A*, **676**, A71
- McGreer I. D., Mesinger A., D’Odorico V., 2015, *MNRAS*, **447**, 499
- McLean I. S., et al., 2010, in McLean I. S., Ramsay S. K., Takami H., eds, *Society of Photo-Optical Instrumentation Engineers (SPIE) Conference Series Vol. 7735, Ground-based and Airborne Instrumentation for Astronomy III*. p. 77351E, doi:10.1117/12.856715
- McLean I. S., et al., 2012, in McLean I. S., Ramsay S. K., Takami H., eds, *Society of Photo-Optical Instrumentation Engineers (SPIE) Conference Series Vol. 8446, Ground-based and Airborne Instrumentation for Astronomy IV*. p. 84460J, doi:10.1117/12.924794
- McMahon R. G., Banerji M., Gonzalez E., Koposov S. E., Bejar V. J., Lodieu N., Rebolo R., VHS Collaboration 2013, *The Messenger*, **154**, 35
- McNamara B. R., Nulsen P. E. J., 2007, *ARA&A*, **45**, 117
- McQuinn M., 2016, *ARA&A*, **54**, 313
- McQuinn M., Oh S. P., Faucher-Giguère C.-A., 2011, *ApJ*, **743**, 82
- Mesinger A., ed. 2016, *Understanding the Epoch of Cosmic Reionization Astrophysics and Space Science Library Vol. 423*, doi:10.1007/978-3-319-21957-8.
- Mesinger A., Furlanetto S., Cen R., 2011, *MNRAS*, **411**, 955
- Meyer R. A., Bosman S. E. I., Ellis R. S., 2019, *MNRAS*, **487**, 3305
- Miralda-Escudé J., 1998, *ApJ*, **501**, 15
- Moorwood A., Cuby J. G., Lidman C., 1998, *The Messenger*, **91**, 9
- Morales M. F., Wyithe J. S. B., 2010, *ARA&A*, **48**, 127
- Morales A. M., Mason C. A., Bruton S., Gronke M., Haardt F., Scarlata C., 2021, *ApJ*, **919**, 120
- Morey K. A., Eilers A.-C., Davies F. B., Hennawi J. F., Simcoe R. A., 2021, *ApJ*, **921**, 88
- Mortlock D. J., et al., 2009, *A&A*, **505**, 97
- Mortlock D. J., et al., 2011, *Nature*, **474**, 616
- Murray N., Chiang J., Grossman S. A., Voit G. M., 1995, *ApJ*, **451**, 498
- Naidu R. P., et al., 2022, *MNRAS*, **510**, 4582

- Novak G. S., Ostriker J. P., Ciotti L., 2011, *ApJ*, **737**, 26
- Oke J. B., Gunn J. E., 1982, *PASP*, **94**, 586
- Oke J. B., et al., 1995, *PASP*, **107**, 375
- Omukai K., Schneider R., Haiman Z., 2008, *ApJ*, **686**, 801
- Onorato S., Hennawi J. F., Pizzati E., Venemans B. P., Eilers A.-C., 2025a, *arXiv e-prints*, p. [arXiv:2505.09676](https://arxiv.org/abs/2505.09676)
- Onorato S., et al., 2025b, *MNRAS*, **540**, 1308
- Onoue M., et al., 2019, *The Astrophysical Journal*, 880, 77
- Oppenheimer B. D., Segers M., Schaye J., Richings A. J., Crain R. A., 2018, *MNRAS*, **474**, 4740
- Padovani P., et al., 2017, *A&A Rev.*, **25**, 2
- Pâris I., et al., 2011, *A&A*, **530**, A50
- Peebles P. J. E., 1993, *Principles of Physical Cosmology*, [doi:10.1515/9780691206721](https://doi.org/10.1515/9780691206721).
- Peirani S., de Freitas Pacheco J. A., 2008, *Phys. Rev. D*, **77**, 064023
- Penzias A. A., Wilson R. W., 1965, *ApJ*, **142**, 419
- Pérez-González P. G., et al., 2024, *arXiv e-prints*, p. [arXiv:2401.08782](https://arxiv.org/abs/2401.08782)
- Perlmutter S., et al., 1999, *ApJ*, **517**, 565
- Peterson B. M., et al., 2004, *ApJ*, **613**, 682
- Pizzati E., Hennawi J. F., Schaye J., Schaller M., 2024a, *MNRAS*, **528**, 4466
- Pizzati E., et al., 2024b, *MNRAS*, **534**, 3155
- Planck Collaboration et al., 2020, *A&A*, **641**, A6
- Pogge R. W., et al., 2010, in McLean I. S., Ramsay S. K., Takami H., eds, *Society of Photo-Optical Instrumentation Engineers (SPIE) Conference Series Vol. 7735, Ground-based and Airborne Instrumentation for Astronomy III*. p. 77350A, [doi:10.1117/12.857215](https://doi.org/10.1117/12.857215)
- Pritchard J. R., Loeb A., 2012, *Reports on Progress in Physics*, **75**, 086901
- Prochaska J. X., et al., 2020a, *pypeit/PypeIt: Release 1.0.0*, [doi:10.5281/zenodo.3743493](https://doi.org/10.5281/zenodo.3743493)
- Prochaska J., et al., 2020b, *The Journal of Open Source Software*, **5**, 2308
- Reed S. L., et al., 2015, *MNRAS*, **454**, 3952
- Reed S. L., et al., 2017, *MNRAS*, **468**, 4702
- Reed S. L., et al., 2019, *MNRAS*, **487**, 1874
- Regan J. A., Wise J. H., Woods T. E., Downes T. P., O'Shea B. W., Norman M. L., 2020, *The Open Journal of Astrophysics*, **3**, 15
- Richards G. T., Vanden Berk D. E., Reichard T. A., Hall P. B., Schneider D. P., SubbaRao M., Thakar A. R., York D. G., 2002, *AJ*, **124**, 1
- Richards G. T., et al., 2006, *ApJS*, **166**, 470
- Riess A. G., et al., 1998, *AJ*, **116**, 1009
- Robertson B. E., Ellis R. S., Furlanetto S. R., Dunlop J. S., 2015, *ApJ*, **802**, L19
- Rockosi C., et al., 2010, in McLean I. S., Ramsay S. K., Takami H., eds, *Society of Photo-Optical Instrumentation Engineers (SPIE) Conference*

- Series Vol. 7735, Ground-based and Airborne Instrumentation for Astronomy III. p. 77350R, [doi:10.1117/12.856818](#)
- Ross N. P., Cross N. J. G., 2020, *MNRAS*, **494**, 789
- Salpeter E. E., 1964, *ApJ*, **140**, 796
- Satyavolu S., Kulkarni G., Keating L. C., Haehnelt M. G., 2023a, *MNRAS*, **521**, 3108
- Satyavolu S., et al., 2023b, *MNRAS*, **522**, 4918
- Schindler J.-T., et al., 2020, *ApJ*, **905**, 51
- Schmidt M., 1963, *Nature*, **197**, 1040
- Schmidt G. D., Weymann R. J., Foltz C. B., 1989, *PASP*, **101**, 713
- Schmidt T. M., Worseck G., Hennawi J. F., Prochaska J. X., Crighton N. H. M., 2017, *ApJ*, **847**, 81
- Schmidt T. M., Hennawi J. F., Worseck G., Davies F. B., Lukić Z., Oñorbe J., 2018, *ApJ*, **861**, 122
- Schwarzschild K., 1916, Abh. Konigl. Preuss. Akad. Wissenschaften Jahre 1906,92, Berlin,1907, **1916**, 189
- Scott D., Silk J., White M., 1995, *Science*, **268**, 829
- Seifert W., et al., 2003, in Iye M., Moorwood A. F. M., eds, Society of Photo-Optical Instrumentation Engineers (SPIE) Conference Series Vol. 4841, Instrument Design and Performance for Optical/Infrared Ground-based Telescopes. pp 962–973, [doi:10.1117/12.459494](#)
- Selsing J., Fynbo J. P. U., Christensen L., Krogager J. K., 2016, *A&A*, **585**, A87
- Seyfert C. K., 1943, *ApJ*, **97**, 28
- Shakura N. I., Sunyaev R. A., 1973, *A&A*, **24**, 337
- Shankar F., Weinberg D. H., Miralda-Escudé J., 2009, *ApJ*, **690**, 20
- Shankar F., Weinberg D. H., Shen Y., 2010, *MNRAS*, **406**, 1959
- Sheinis A. I., Bolte M., Epps H. W., Kibrick R. I., Miller J. S., Radovan M. V., Bigelow B. C., Sutin B. M., 2002, *PASP*, **114**, 851
- Shen Y., et al., 2007, *AJ*, **133**, 2222
- Shen Y., et al., 2009, *ApJ*, **697**, 1656
- Shen Y., et al., 2016, *ApJ*, **831**, 7
- Shen Y., et al., 2019, *ApJ*, **873**, 35
- Simcoe R. A., et al., 2013, *PASP*, **125**, 270
- Soltan A., 1982, *MNRAS*, **200**, 115
- Spergel D. N., et al., 2003, *ApJS*, **148**, 175
- Suzuki N., Tytler D., Kirkman D., O’Meara J. M., Lubin D., 2005, *The Astrophysical Journal*, **618**, 592
- Tanabashi M., et al., 2018, *Phys. Rev. D*, **98**, 030001
- Tang J.-J., et al., 2017, *MNRAS*, **466**, 4568
- Tang M., Stark D. P., Chevallard J., Charlot S., 2019, *MNRAS*, **489**, 2572
- Telfer R. C., Zheng W., Kriss G. A., Davidsen A. F., 2002, *ApJ*, **565**, 773
- Trainor R., Steidel C. C., 2013, *ApJ*, **775**, L3
- Tytler D., Fan X.-M., 1992, *ApJS*, **79**, 1

- Umeda H., Ouchi M., Nakajima K., Harikane Y., Ono Y., Xu Y., Isobe Y., Zhang Y., 2024, *ApJ*, **971**, 124
- Urry C. M., Padovani P., 1995, *PASP*, **107**, 803
- Vanden Berk D. E., et al., 2001, *AJ*, **122**, 549
- Venemans B. P., et al., 2013, *ApJ*, **779**, 24
- Venemans B. P., et al., 2015, *ApJ*, **801**, L11
- Venemans B. P., Walter F., Zschaechner L., Decarli R., De Rosa G., Findlay J. R., McMahon R. G., Sutherland W. J., 2016, *ApJ*, **816**, 37
- Venemans B. P., et al., 2017, *ApJ*, **851**, L8
- Venemans B. P., et al., 2020, *ApJ*, **904**, 130
- Vernet J., et al., 2011, *A&A*, **536**, A105
- Vestergaard M., Peterson B. M., 2006, *ApJ*, **641**, 689
- Visbal E., Haiman Z., Bryan G. L., 2014, *MNRAS*, **445**, 1056
- Volonteri M., 2010, *A&A Rev.*, **18**, 279
- Volonteri M., 2012, *Science*, **337**, 544
- Wang F., et al., 2017, *ApJ*, **839**, 27
- Wang F., et al., 2018, *ApJ*, **869**, L9
- Wang F., et al., 2019, *ApJ*, **884**, 30
- Wang F., et al., 2020, *ApJ*, **896**, 23
- Wang F., et al., 2021a, *ApJ*, **907**, L1
- Wang F., et al., 2021b, *ApJ*, **908**, 53
- Wang F., et al., 2023, *ApJ*, **951**, L4
- Wang F., et al., 2024, *arXiv e-prints*, p. [arXiv:2404.15413](https://arxiv.org/abs/2404.15413)
- Weinberger R., et al., 2018, *MNRAS*, **479**, 4056
- Wellons S., et al., 2023, *MNRAS*, **520**, 5394
- White M., Scott D., Silk J., 1994, *ARA&A*, **32**, 319
- White M., et al., 2012, *MNRAS*, **424**, 933
- Willott C. J., et al., 2007, *AJ*, **134**, 2435
- Wilson J. C., et al., 2004, in Moorwood A. F. M., Iye M., eds, *Society of Photo-Optical Instrumentation Engineers (SPIE) Conference Series Vol. 5492, Ground-based Instrumentation for Astronomy*. pp 1295–1305, [doi:10.1117/12.550925](https://doi.org/10.1117/12.550925)
- Wise J. H., Regan J. A., O’Shea B. W., Norman M. L., Downes T. P., Xu H., 2019, *Nature*, **566**, 85
- Wold I. G. B., et al., 2022, *ApJ*, **927**, 36
- Woods T. E., et al., 2019, *PASA*, **36**, e027
- Worseck G., Fechner C., Wisotzki L., Dall’Aglio A., 2007, *A&A*, **473**, 805
- Worseck G., et al., 2014, *MNRAS*, **445**, 1745
- Worseck G., Khrykin I. S., Hennawi J. F., Prochaska J. X., Farina E. P., 2021, *MNRAS*, **505**, 5084
- Wu X.-B., et al., 2015, *Nature*, **518**, 512
- Xu H., Ahn K., Wise J. H., Norman M. L., O’Shea B. W., 2014, *ApJ*, **791**, 110
- Yang J., et al., 2019, *AJ*, **157**, 236

- Yang J., et al., 2020a, *ApJ*, 897, L14
Yang J., et al., 2020b, *ApJ*, 904, 26
Yang J., et al., 2021, *ApJ*, 923, 262
Yang J., et al., 2023, *ApJ*, 951, L5
Yoshida N., Abel T., Hernquist L., Sugiyama N., 2003, *ApJ*, 592, 645
Yu Q., Tremaine S., 2002, *MNRAS*, 335, 965
Zhu Y., et al., 2021, *ApJ*, 923, 223
Zhu Y., et al., 2022, *ApJ*, 932, 76
Žurovčíková D., et al., 2024, *arXiv e-prints*, p. [arXiv:2401.10328](#)
Žurovčíková D., et al., 2025, *arXiv e-prints*, p. [arXiv:2505.00080](#)
Šoltinský T., et al., 2021, *MNRAS*, 506, 5818
van Dokkum P. G., 2001, *PASP*, 113, 1420