

## List of Publications – Mathew Madhavacheril

h-index: 45

9700+ citations

**Last updated:** May 31, 2024

### Legend:

🎓 indicates that I supervised or co-supervised the corresponding student-led publication.

✓ indicates that it has been accepted in a journal after peer-review.


■ indicates that it is intended for peer-review but has not been accepted yet.












Out of 109 articles, 89 are intended for peer-review and 83 of those have been accepted.




### Papers with major contributions

1. ■ Constraints on Dark Matter-Dark Energy Scattering from ACT DR6 CMB Lensing  
A. Lague, F. McCarthy, **MS Madhavacheril**, J. C. Hill, F. J. Qu, 02/2024, [arxiv:2402.08149](#),  
*submitted to PRD*
2. ✓ The Atacama Cosmology Telescope: High-resolution component-separated maps across one-third of the sky  
W. R. Coulton, **MS Madhavacheril**, A. J. Duivenvoorden, J. Colin Hill et al ACT, 07/2023, [arxiv:2307.01258](#), *Phys. Rev. D 109, 063530*
3. ✓ Cosmological constraints from the tomography of DES-Y3 galaxies with CMB lensing from ACT DR4  
G. Marques, **MS Madhavacheril** et al ACT, 07/2023, [arxiv:2306.17268](#), *JCAP01(2024)033*
4. ✓ The Atacama Cosmology Telescope: DR6 Gravitational Lensing Map and Cosmological Parameters  
**MS Madhavacheril**, F. J. Qu, B. D. Sherwin, N. MacCrann, Y. Li et al ACT, 04/2023, [arxiv:2304.05203](#), *ApJ 962 113*
5. 🎓 ✓ The Atacama Cosmology Telescope: A Measurement of the DR6 CMB Lensing Power Spectrum and its Implications for Structure Growth  
F. J. Qu, B. D. Sherwin, **MS Madhavacheril**, D. Han, K. T. Crowley et al ACT, 04/2023, [arxiv:2304.05202](#), *ApJ 962 112*
6. ✓ The Atacama Cosmology Telescope: Mitigating the impact of extragalactic foregrounds for the DR6 CMB lensing analysis  
N. MacCrann, B. D. Sherwin, F. J. Qu, T. Namikawa, **MS Madhavacheril**, 04/2023, [arxiv:2304.05196](#), *accepted, to appear in ApJ*
7. ✓ The Atacama Cosmology Telescope: Map-Based Noise Simulations for DR6  
Z. Atkins et al ACT (incl. **MS Madhavacheril**), 03/2023, [arxiv:2303.04180](#), *JCAP11(2023)073*
8. ✓ High-accuracy emulators for observables in LCDM and extended cosmologies  
B. Bolliet, A. Spurio Mancini, J. Hill, **MS Madhavacheril** et al, 03/2023, [arxiv:2303.01591](#),  
*accepted, to appear in MNRAS*








9.  Constraints on primordial non-Gaussianity from halo bias measured through CMB lensing cross-correlations  
F. McCarthy, **MS Madhavacheril**, A. Maniyar, 10/2022, [arxiv:2210.01049](#), *Phys. Rev. D* 108, 083522
10.  De-kSZing the cosmic microwave background with surveys of large-scale structure  
S. Foreman, S. Hotinli, **MS Madhavacheril**, A. van Engelen, C. Kreisch, 09/2022, [arxiv:2209.03973](#), *Phys. Rev. D* 107, 083502
11.  Probing early structure and model-independent neutrino mass with high-redshift CMB lensing mass maps  
F. J. Qu, B. D. Sherwin, O. Darwish, T. Namikawa, **MS Madhavacheril**, 08/2022, [arxiv:2208.04253](#), *Phys. Rev. D* 107, 123540
12.   The Bias to Cosmic Microwave Background Lensing Reconstruction from the Kinematic Sunyaev-Zel'dovich Effect at Reionization  
H. Cai, **MS Madhavacheril**, J. C. Hill, A. Kosowsky, 11/2021, [arxiv:2111.01944](#), *Phys. Rev. D* 105, 043516
13.   Simulated catalogs and maps of radio galaxies at millimeter wavelengths in Websky  
Z. Li, G. Puglisi, **MS Madhavacheril**, M. Alvarez, 10/2021, [arxiv:2110.15357](#), *JCAP* 08 (2022) 029
14.  Cosmology with the moving lens effect  
S. C. Hotinli, K. M. Smith, **MS Madhavacheril**, M. Kamionkowski, 08/2021, [arxiv:2108.02207](#), *Phys. Rev. D* 104, 083529
15.  A high-resolution view of the filament of gas between Abell 399 and Abell 401 from the Atacama Cosmology Telescope and MUSTANG-2  
A. Hincks, F. Radiconi, C. Romero, **MS Madhavacheril** et al. ACT and MUSTANG-2 collaborations, 07/2021, [arxiv:2107.04611](#), *MNRAS*, Volume 510, Issue 3
16.   Superclustering with the Atacama Cosmology Telescope and Dark Energy Survey: I. Evidence for thermal energy anisotropy using oriented stacking  
M. Lokken, R. Hlozek, A. van Engelen, **MS Madhavacheril** et al. ACT and DES collaborations, 07/2021, [arxiv:2107.05523](#), *ApJ* 933 134
17.   Baryonic feedback biases on fundamental physics from lensed CMB power spectra  
F. McCarthy, J. C. Hill, **MS Madhavacheril**, 03/2021, [arxiv:2103.05582](#), *Phys. Rev. D* 105, 023517
18. Combining information from multiple cosmological surveys: inference and modeling challenges  
D. Alonso et al (incl. **MS Madhavacheril**), 03/2021, [arxiv:2103.05320](#), *response to DOE/NASA RFI*
19.  The Atacama Cosmology Telescope: Summary of DR4 and DR5 Data Products and Data Access  
Mallaby-Kay et al (incl. **MS Madhavacheril**), 03/2021, [arxiv:2103.03154](#), *ApJS* 255 11
20.  Quadratic estimators for CMB weak lensing  
A. Maniyar, Y. Ali-Haïmoud, J. Carron, A. Lewis, **MS Madhavacheril**, 01/2021, [arxiv:2101.12193](#), *Phys. Rev. D* 103, 083524 (2021)

21.   Improving models of the cosmic infrared background using CMB lensing mass maps  
F. McCarthy, **MS Madhavacheril**, 11/2020, [arxiv:2010.16405](https://arxiv.org/abs/2010.16405), *Phys. Rev. D* 103, 103515 (2021)
22.  CMB lensing power spectrum estimation without instrument noise bias  
**MS Madhavacheril**, K. Smith, B. Sherwin, S. Naess, 11/2020, [arxiv:2011.02475](https://arxiv.org/abs/2011.02475), *JCAP*, Volume 2021, 028
23.  The Atacama Cosmology Telescope: Weighing distant clusters with the most ancient light  
**MS Madhavacheril**, C. Sifon, N. Battaglia et al. ACT collaboration, 09/2020, [arxiv:2009.07772](https://arxiv.org/abs/2009.07772), *ApJ Letters*, 903, 1
24.  The Atacama Cosmology Telescope: A Catalog of more than 4000 Sunyaev-Zel'dovich Galaxy Clusters  
M. Hilton, C. Sifón, S. Naess, **MS Madhavacheril** et al. ACT, DES, HSC, KiDS collaborations, 09/2020, [arxiv:2009.11043](https://arxiv.org/abs/2009.11043), *ApJS* 253 3
25.  The Atacama Cosmology Telescope: A Measurement of the Cosmic Microwave Background Power Spectra at 98 and 150 GHz  
S. Choi et al. ACT collaboration (incl. **MS Madhavacheril**), 07/2020, [arxiv:2007.07289](https://arxiv.org/abs/2007.07289), *JCAP*12(2020)045
26.  The Atacama Cosmology Telescope: DR4 Maps and Cosmological Parameters  
S. Aiola et al. ACT collaboration (incl. **MS Madhavacheril**), 07/2020, [arxiv:2007.07288](https://arxiv.org/abs/2007.07288), *JCAP*12(2020)047
27.  The Atacama Cosmology Telescope: Delensed Power Spectra and Parameters  
D. Han, N. Sehgal, A. MacInnis, A. van Engelen, B. D. Sherwin, **MS Madhavacheril** et al. ACT collaboration, 07/2020, [arxiv:2007.14405](https://arxiv.org/abs/2007.14405), *JCAP*, Issue 01, article id. 031 (2021)
28.   The Atacama Cosmology Telescope: A CMB lensing mass map over 2100 square degrees of sky and its cross-correlation with BOSS-CMASS galaxies  
O. Darwish, **MS Madhavacheril**, B. Sherwin et al. ACT collaboration, 04/2020, [arxiv:2004.01139](https://arxiv.org/abs/2004.01139), *MNRAS*, Volume 500, Issue 2
29.  The Atacama Cosmology Telescope: Component-separated maps of CMB temperature and the thermal Sunyaev-Zel'dovich effect  
**MS Madhavacheril**, J. C. Hill, S. Naess et al. ACT Collaboration, 11/2019, [arxiv:1911.05717](https://arxiv.org/abs/1911.05717), *Physical Review D* 102 (2), 023534
30.   Constraining neutrino mass with the tomographic weak lensing bispectrum  
WR Coulton, J Liu, **MS Madhavacheril**, V Böhm, DN Spergel, 05/2019, [arxiv:1810.02374](https://arxiv.org/abs/1810.02374), *Journal of Cosmology and Astroparticle Physics* 2019 (05), 043
31.   Improving Small-Scale CMB Lensing Reconstruction  
B Hadzhiyska, BD Sherwin, **MS Madhavacheril**, S Ferraro, 05/2019, [arxiv:1905.04217](https://arxiv.org/abs/1905.04217), *Physical Review D* 100 (2), 023547
32.  Constraining neutrino mass with the tomographic weak lensing one-point probability distribution function and power spectrum  
J Liu, **MS Madhavacheril**, 04/2019, [arxiv:1809.10747](https://arxiv.org/abs/1809.10747), *Physical Review D* 99 (8), 083508

33.   Improving Constraints on Fundamental Physics Parameters with the Clustering of Sunyaev-Zeldovich Selected Galaxy Clusters  
D Cromer, N Battaglia, **MS Madhavacheril**, 03/2019, [arxiv:1903.00976](#), *Physical Review D* 100 (6), 063529
34.  The Simons Observatory: science goals and forecasts  
Ade et al. Simons Observatory Collaboration (incl. **MS Madhavacheril**), 02/2019, [arxiv:1808.07445](#), *Journal of Cosmology and Astroparticle Physics* 2019 (02), 056
35.   Measuring the small-scale matter power spectrum with high-resolution CMB lensing  
HN Nguyen, N Sehgal, **MS Madhavacheril**, 01/2019, [arxiv:1710.03747](#), *Physical Review D* 99 (2), 023502
36.  Cosmology with kSZ: breaking the optical depth degeneracy with Fast Radio Bursts  
**MS Madhavacheril**, N Battaglia, KM Smith, JL Sievers, 01/2019, [arxiv:1901.02418](#), *Physical Review D* 100 (10), 103532
37.   Disentangling dark physics with cosmic microwave background experiments  
Z Li, V Gluscevic, KK Boddy, **MS Madhavacheril**, 12/2018, [arxiv:1806.10165](#), *Physical Review D* (12), 123524
38.  kSZ tomography and the bispectrum  
KM Smith, **MS Madhavacheril**, M Münchmeyer, S Ferraro, U Giri, MC Johnson, 10/2018, [arxiv:1810.13423](#), in review by *Physical Review D*
39.  Constraining local non-Gaussianities with kSZ tomography  
M Münchmeyer, **MS Madhavacheril**, S Ferraro, MC Johnson, KM Smith, 10/2018, [arxiv:1810.13424](#), *Physical Review D* 100, 083508
40.  Mitigating foreground biases in CMB lensing reconstruction using cleaned gradients  
**MS Madhavacheril**, JC Hill, 07/2018, [arxiv:1802.08230](#), *Physical Review D* 98 (2), 023534
41. The weight of cosmic lenses (invited News and Views article; not peer-reviewed)  
**MS Madhavacheril**, 11/2017, *Nature Astronomy* 1 (11), 751-752
42.  Fundamental physics from future weak-lensing calibrated Sunyaev-Zel'dovich galaxy cluster counts  
**MS Madhavacheril**, N Battaglia, H Miyatake, 11/2017, [arxiv:1708.07502](#), *Physical Review D* 96 (10), 103525
43.  Two-season Atacama Cosmology Telescope polarimeter lensing power spectrum  
BD Sherwin, A Van Engelen, N Sehgal, **MS Madhavacheril** et al. ACTPol Collaboration, 06/2017, [arxiv:1611.09753](#), *Physical Review D* 95 (12), 123529
44.  Internal delensing of cosmic microwave background acoustic peaks  
N Sehgal, **MS Madhavacheril**, B Sherwin, A van Engelen, 05/2017, [arxiv:1612.03898](#), *Physical Review D* (10), 103512
45.  Measurement of a cosmographic distance ratio with galaxy and cosmic microwave background lensing  
H Miyatake, **MS Madhavacheril**, N Sehgal, A Slosar, DN Spergel, B Sherwin, A van Engelen, 04/2017, [arxiv:1605.05337](#), *Physical Review Letters* 118 (16), 161301

46. CMB-S4 science book  
Abazajian et al. CMB-S4 collaboration (incl. **MS Madhavacheril**), 10/2016, [arxiv:1610.02743](#), *unsubmitted (for arXiv only)*
47.  The Atacama Cosmology Telescope: Evidence of lensing of the cosmic microwave background by dark matter halos  
**MS Madhavacheril**, N Sehgal et al. ACTPol Collaboration, 04/2015, [arxiv:1411.7999](#), *Physical Review Letters* 114 (15), 151302
48.  Building unbiased estimators from non-Gaussian likelihoods with application to shear estimation  
**MS Madhavacheril**, P McDonald, N Sehgal, A Slosar, 01/2015, [arxiv:1407.1906](#), *Journal of Cosmology and Astroparticle Physics* 2015 (01), 022
49.  Current dark matter annihilation constraints from CMB and low-redshift data  
**MS Madhavacheril**, N Sehgal, TR Slatyer, 05/2014, [arxiv:1310.3815](#), *Physical Review D* 89 (10), 103508







### Papers with some contribution

50.  The Atacama Cosmology Telescope: DR6 Gravitational Lensing and SDSS BOSS cross-correlation measurement and constraints on gravity with the EG statistic  
Lukas Wenzl et al ACT collaboration (including **MS Madhavacheril**), 05/2024, [arxiv:2405.12795](#), *submitted to PRD*
51.  The Atacama Cosmology Telescope: Reionization kSZ trispectrum methodology and limits  
N. MacCrann et al ACT collaboration (including **MS Madhavacheril**), 05/2024, [arxiv:2405.01188](#)
52.  Sensitive 3mm Imaging of Discrete Sources in the Fields of tSZ-Selected Galaxy Clusters  
S. Dicker et al (incl. **MS Madhavacheril**), 03/2024, [arxiv:2403.09855](#), *submitted to ApJ*
53.  The Atacama Cosmology Telescope: Detection of Patchy Screening of the Cosmic Microwave Background  
W. Coulton et al ACT collaboration (incl. **MS Madhavacheril**), 01/2024, [arxiv:2401.13033](#), *submitted to Science*
54.  Constraining gravity with a new precision EG estimator using Planck + SDSS BOSS  
L. Wenzl, R. Bean, S. Chen, G. Farren, **MS Madhavacheril** et al, 01/2024, [arxiv:2401.12971](#), *accepted, to appear in PRD*
55. class\_sz I: Overview  
B. Bolliet et al (incl. **MS Madhavacheril**), 10/2023, [arxiv:2310.18482](#), *to appear in Proc. of the mm Universe 2023 conference, European Physical Journal Web of Conferences*
56.  Cosmology from Cross-Correlation of ACT-DR4 CMB Lensing and DES-Y3 Cosmic Shear  
S. Shaikh et al. ACT and DES collaborations (incl. **MS Madhavacheril**), 09/2023, [arxiv:2309.04412](#), *MNRAS, Volume 528, Issue 2*
57.  The Atacama Cosmology Telescope: Cosmology from cross-correlations of unWISE galaxies and ACT DR6 CMB lensing  
G S. Farren et al ACT (incl. **MS Madhavacheril**), 09/2023, [arxiv:2309.05659](#), *accepted, to appear in ApJ*

- 58. ✓ The Atacama Cosmology Telescope: Flux Upper Limits from a Targeted Search for Extragalactic Transients  
Hervias-Caimapo et al ACT (incl. **MS Madhavacheril**), 01/2023, [arxiv:2301.07651](#), *accepted, to appear in MNRAS*
- 59. ✓ The Atacama Cosmology Telescope: limits on dark matter-baryon interactions from DR4 power spectra  
Z. Li et al ACT collaboration (incl. **MS Madhavacheril**), 08/2022, [arxiv:2208.08985](#), *JCAP02(2023)046*
- 60. ✓ The Atacama Cosmology Telescope: The Persistence of Neutrino Self-Interaction in Cosmological Measurements  
C. D. Kreisch et al ACT collaboration (incl. **MS Madhavacheril**), 07/2022, [arxiv:2207.03164](#), *Phys. Rev. D 109, 043501*
- 61. Snowmass 2021 CMB-HD White Paper  
Aiola et al. CMB-HD collaboration (incl. **MS Madhavacheril**), 03/2022, [arxiv:2203.05728](#), *Contribution to Snowmass 2021*
- 62. Snowmass 2021 CMB-S4 White Paper  
Abazajian et al. CMB-S4 collaboration (incl. **MS Madhavacheril**), 03/2022, [arxiv:2203.08024](#), *Contribution to Snowmass 2021*
- 63. ✓ The Atacama Cosmology Telescope: Measurement and Analysis of 1D Beams for DR4  
M. Lungu et al ACT collaboration (incl. **MS Madhavacheril**), 12/2021, [arxiv:2112.12226](#), *JCAP 05 (2022) 044*
- 64. ✓ The Simons Observatory: a new open-source power spectrum pipeline applied to the Planck legacy data  
Z. Li et al Simons Observatory collaboration (incl. **MS Madhavacheril**), 12/2021, [arxiv:2112.13839](#), *JCAP 09 (2023) 048*
- 65. ✓ The Simons Observatory: Constraining inflationary gravitational waves with multi-tracer B-mode delensing  
T. Namikawa et al SO collaboration (incl. **MS Madhavacheril**), 10/2021, [arxiv:2110.09730](#), *Phys. Rev. D 105, 023511*
- 66. ✓ The Atacama Cosmology Telescope: Constraints on Pre-Recombination Early Dark Energy  
J. C. Hill, E. Calabrese et al ACT collaboration (incl. **MS Madhavacheril**), 09/2021, [arxiv:2109.04451](#), *Phys. Rev. D 105, 123536*
- 67. ✓ Cross-correlation of DES Y3 lensing and ACT/Planck thermal Sunyaev Zel'dovich Effect I: Measurements, systematics tests, and feedback model constraints  
M. Gatti et al ACT and DES collaborations (including **MS Madhavacheril**), 08/2021, [arxiv:2108.01600](#), *Phys. Rev. D 105, 123525*
- 68. ✓ Cross-correlation of DES Y3 lensing and ACT/Planck thermal Sunyaev Zel'dovich Effect II: Modeling and constraints on halo pressure profiles  
S. Pandey et al ACT and DES collaborations (including **MS Madhavacheril**), 08/2021, [arxiv:2108.01601](#), *Phys. Rev. D 105, 123526*







69.  The Atacama Cosmology Telescope: Microwave Intensity and Polarization Maps of the Galactic Center  
Y. Guan et al. ACT collaboration (including **MS Madhavacheril**), 05/2021, [arxiv:2105.05267](#), *ApJ* 920 6
70.  The mass and galaxy distribution around SZ-selected clusters  
T. Shin et al. ACT collaboration (incl. **MS Madhavacheril**), 05/2021, [arxiv:2105.05914](#), *MNRAS*, Volume 507, Issue 4
71.  The Atacama Cosmology Telescope: A search for Planet 9  
S. Naess et al. ACT collaboration (incl. **MS Madhavacheril**), 04/2021, [arxiv:2104.10264](#), *ApJ* 923 224
72.  The Atacama Cosmology Telescope: Probing the Baryon Content of SDSS DR15 Galaxies with the Thermal and Kinematic Sunyaev-Zel'dovich Effects  
E. Vavagiakis et al. ACT collaboration (incl. **MS Madhavacheril**), 01/2021, [arxiv:2101.08373](#), *Phys. Rev. D* 104, 043503 (2021)
73.  The Atacama Cosmology Telescope: Detection of the Pairwise Kinematic Sunyaev-Zel'dovich Effect with SDSS DR15 Galaxies  
V. Calafut et al. ACT collaboration (incl. **MS Madhavacheril**), 01/2021, [arxiv:2101.08374](#), *Phys. Rev. D* 104, 043502 (2021)
74. NDRIO White Paper: Envisioning Digital Research Infrastructure for the Simons Observatory  
A. Hincks et al. (incl. **MS Madhavacheril**), 12/2020, [arxiv:2012.12205](#), *NDRIO white paper*
75.  The Atacama Cosmology Telescope: Detection of mm-wave transient sources  
S. Naess et al. ACT collaboration (incl. **MS Madhavacheril**), 12/2020, [arxiv:2012.14347](#), *ApJ* 915 14
76.  Strong detection of the CMB lensing x galaxy weak lensing cross-correlation from ACT-DR4, Planck Legacy and KiDS-1000  
N. Robertson et al. ACT collaboration, 11/2020, [arxiv:2011.11613](#), *A&A* 649, A146 (2021)
77.  The Simons Observatory: Bandpass and polarization-angle calibration requirements for B-mode searches  
M. Abitbol et al Simons Observatory collaboration (incl. **MS Madhavacheril**), 11/2020, [arxiv:2011.02449](#), *JCAP*05(2021)032
78.  The Atacama Cosmology Telescope: Combined kinematic and thermal Sunyaev-Zel'dovich measurements from BOSS CMASS and LOWZ halos  
E. Schaan et al. ACT collaboration (incl. **MS Madhavacheril**), 09/2020, [arxiv:2009.05557](#), *Phys. Rev. D* 103, 063513 (2021)
79.  The Atacama Cosmology Telescope: Modelling the Gas Thermodynamics in BOSS CMASS galaxies from Kinematic and Thermal Sunyaev-Zel'dovich Measurements  
S. Amodeo et al. ACT collaboration (incl. **MS Madhavacheril**), 09/2020, [arxiv:2009.05558](#), *Phys. Rev. D* 103, 063514 (2021)
80.  Probing galaxy evolution in massive clusters using ACT and DES: splashback as a cosmic clock  
S. Adhikari et al. ACT, DES collaborations (incl. **MS Madhavacheril**), 08/2020, [arxiv:2008.11663](#), *ApJ* 923 37

81.  CMB-S4: Forecasting Constraints on Primordial Gravitational Waves  
CMB-S4 collaboration (incl. **MS Madhavacheril**), 08/2020, [arxiv:2008.12619](#), *ApJ* 926 54
82.  The Atacama Cosmology Telescope: Arcminute-resolution maps of 18,000 square degrees of the microwave sky from ACT 2008-2018 data combined with Planck  
S. Naess et al. ACT collaboration (incl. **MS Madhavacheril**), 07/2020, [arxiv:2007.07290](#), *JCAP*12(2020)046
83. CMB-HD: Astro2020 RFI Response  
N Sehgal et al. (incl. **MS Madhavacheril**), 02/2020, [arxiv:2002.12714](#), *response to Astro2020 Decadal RFI*
84.  The cross correlation of the ABS and ACT maps  
Z. Li et al. ACT collaboration (incl. **MS Madhavacheril**), 02/2020, [arxiv:2002.05717](#), *Journal of Cosmology and Astroparticle Physics* 09(2020)010
85.  Constraints on Cosmic Birefringence  
T. Namikawa et al. ACT collaboration (incl. **MS Madhavacheril**), 01/2020, [arxiv:2001.10465](#), *Physical Review D* 101 (8), 083527
86. Microwave Spectro-Polarimetry of Matter and Radiation across Space and Time  
Delabrouille et al. (incl. **MS Madhavacheril**), 09/2019, [arxiv:1909.01591](#), *Science White Paper submitted in response to the ESA Voyage 2050 call*
87. A Space Mission to Map the Entire Observable Universe using the CMB as a Backlight  
Basu et al. (incl. **MS Madhavacheril**), 09/2019, [arxiv:1909.01592](#), *Science White Paper submitted in response to the ESA Voyage 2050 call*
88. Astro2020 APC White Paper, Project: The Simons Observatory  
Abitbol et al. Simons Observatory collaboration (incl. **MS Madhavacheril**), 09/2019, [arxiv:1907.08284](#), *Bulletin of the American Astronomical Society*
89. CMB-S4 Science Case, Reference Design, and Project Plan  
Abazajian et al. CMB-S4 collaboration (incl. **MS Madhavacheril**), 07/2019, [arxiv:1907.04473](#), *submitted as a Decadal Survey Report*
90. CMB-S4 Decadal Survey APC White Paper  
Abazajian et al. CMB-S4 collaboration (incl. **MS Madhavacheril**), 07/2019, [arxiv:1908.01062](#), *Project White Paper submitted to the 2020 Decadal Survey*
91. CMB-HD: An Ultra-Deep, High-Resolution Millimeter-Wave Survey Over Half the Sky  
N Sehgal et al. CMB-HD collaboration (incl. **MS Madhavacheril**), 06/2019, [arxiv:1906.10134](#), *submitted to Astro2020 Decadal Survey*
92.  Measurement of the splashback feature around SZ-selected Galaxy clusters with DES, SPT, and ACT  
T Shin et al. DES, SPT and ACT collaborations (incl. **MS Madhavacheril**), 05/2019, [arxiv:1811.06081](#), *Monthly Notices of the Royal Astronomical Society* 487 (2), 2900-2918
93.  Weak-lensing Mass Calibration of ACTPol Sunyaev–Zel’dovich Clusters with the Hyper Suprime-Cam Survey  
H Miyatake et al. ACTPol and HSC collaborations (incl. **MS Madhavacheril**), 04/2019, [arxiv:1804.05873](#), *The Astrophysical Journal* 875 (1), 63



94. Probing Feedback in Galaxy Formation with Millimeter-wave Observations  
N Battaglia et al. (incl. **MS Madhavacheril**), 03/2019, [arxiv:1903.04647](#), *submitted to Astro2020 Decadal Survey*
95. Messengers from the Early Universe: Cosmic Neutrinos and Other Light Relics  
D Green et al. (incl. **MS Madhavacheril**), 03/2019, [arxiv:1903.04763](#), *submitted to Astro2020 Decadal Survey*
96. Cosmological Probes of Dark Matter Interactions: The Next Decade  
V Gluscevic et al. (incl. **MS Madhavacheril**), 03/2019, [arxiv:1903.05140](#), *submitted to Astro2020 Decadal Survey*
97. Science from an Ultra-Deep, High-Resolution Millimeter-Wave Survey  
N Sehgal et al. (incl. **MS Madhavacheril**), 03/2019, [arxiv:1903.03263](#), *submitted to Astro2020 Decadal Survey*
98. Primordial Non-Gaussianity  
D Meerburg et al (incl. **MS Madhavacheril**), 03/2019, [arxiv:1903.04409](#), *submitted to Astro2020 Decadal Survey*
99. PICO: Probe of Inflation and Cosmic Origins  
S Hanany et al. (incl. **MS Madhavacheril**), 02/2019, [arxiv:1902.10541](#), *submitted to Astro2020 Decadal Survey*
100.  The Atacama Cosmology Telescope: Non-Gaussianity of secondary anisotropies from ACT-Pol and Planck  
WR Coulton et al. ACTPol Collaboration (incl. **MS Madhavacheril**), 09/2018, [arxiv:1711.07879](#), *Journal of Cosmology and Astroparticle Physics 2018 (09), 022*
101.  The Atacama Cosmology Telescope: the two-season ACTPol Sunyaev–Zel’dovich effect selected cluster catalog  
M Hilton et al. ACTPol Collaboration (incl. **MS Madhavacheril**), 03/2018, [arxiv:1709.05600](#), *The Astrophysical Journal Supplement Series 235 (1), 20*
102.  MassiveNuS: cosmological massive neutrino simulations  
J Liu, S Bird, JMZ Matilla, JC Hill, Z Haiman, **MS Madhavacheril**, A Petri, DN Spergel , 03/2018, [arxiv:1711.10524](#), *Journal of Cosmology and Astroparticle Physics 2018 (03), 049*
103.  Two-season ACTPol spectra and parameters  
T Louis et al. ACTPol Collaboration (incl. **MS Madhavacheril**), 06/2017, [arxiv:1610.02360](#), *Journal of Cosmology and Astroparticle Physics 2017 (06), 031*
104.  Detection of the pairwise kinematic Sunyaev-Zel’dovich effect with BOSS DR11 and the Atacama Cosmology Telescope  
F De Bernardis et al. ACTPol Collaboration (incl. **MS Madhavacheril**), 03/2017, [arxiv:1607.02139](#), *Journal of Cosmology and Astroparticle Physics 2017 (03), 008*
105.  Survey strategy optimization for the Atacama Cosmology Telescope  
F De Bernardis et al. ACTPol Collaboration (incl. **MS Madhavacheril**), 07/2016, [arxiv:1607.02120](#), *Observatory Operations: Strategies, Processes, and Systems VI 9910, 991014*

- 106.  The Atacama Cosmology Telescope: Evidence for the kinematic Sunyaev-Zel'dovich effect with the Atacama Cosmology Telescope and velocity reconstruction from the Baryon Oscillation Spectroscopic Survey  
E. Schaan et al. ACTPol Collaboration (incl. **MS Madhavacheril**), 04/2016, [arxiv:1510.06442](#), *Physical Review D* 93 (8), 082002
- 107.  The Atacama Cosmology Telescope: Lensing of CMB temperature and polarization derived from cosmic infrared background cross-correlation  
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