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EDUCATION

1983 Ph. D. in Physics, Massachusetts Institute of Technology.  
1970 B. S. with Distinction, Honors in Physics, University of Michigan, Ann Arbor.

EMPLOYMENT

2013– Fellow, JPL  
2012– Senior Research Scientist, JPL  
2000– Principal Scientist, Astrophysics, JPL  
1993–2000 Research Scientist, Astrophysics, JPL  
1993–1994 Visiting Associate, California Institute of Technology  
1991–1993 Senior Research Associate, California Institute of Technology  
1986–1991 Senior Research Fellow, California Institute of Technology  
1983–1986 Research Fellow, California Institute of Technology  
1978–1983 Research Assistant, Massachusetts Institute of Technology  
1970–1977 Physics Teacher, Baltimore County Public Schools, MD

PROFESSIONAL ACTIVITIES

2019– Member, Electromagnetic Observations from Space 2 panel of Astro2020, the NAS decadal review of astronomy and astrophysics  
2016–2017 Chair, Concept Definition Taskforce for the CMB-S4 experiment  
2014– Chief Scientist, Astronomy, Physics, and Space Technology Directorate  
2010– Co-Chair then Chair, Planck Editorial Board  
2008–2009 Co-I & Lead for the coherent detector component, CMBPol Mission Concept Study and workshops  
2007–2010 Member, NASA Primordial Polarization Program Definition Team  
2003– Lead, Center for Longwavelength Astrophysics and Science Visitor and Colloquium Program, JPL  
2000 Member of Organizing Committee, NASA Space Astrophysics Detector workshop  
1999 Chair, Infrared, Submillimeter, & Radio Detector Panel, ROSS-99 NRA evaluation  
1999–2002 Chair, JPL-Palomar Time Allocation Committee.  
1998–2004 Group Supervisor, Astrophysics Instruments Group (Div 32+38)  
1998– Deputy Project Scientist for SIRTF/Spitzer  
1998– Survey Scientist for Low Frequency Instrument on Planck, member of Planck Science Team  
1997–2000 Program Scientist for the Structure and Evolution of the Universe Program at JPL  
1997– Project Scientist, US Planck Project, and PI, US Low Frequency Instrument team  
1996–1997 Manager, Structure and Evolution of the Universe Program at JPL

1996– Instrument Scientist for the SIRTf Infrared Spectrograph  
 1996–2001 Member, NASA Structure and Evolution of the Universe Subcommittee.  
 1995 Chair, Cosmology Panel, NASA ADP proposal review.  
 1994–1999 PI, JPL-TAP Cryogenic HEMT Technology Program  
 1994–1999 Member, JPL-Palomar Time Allocation Committee.  
 1994 Visiting Scientist, Institute for Advanced Study, Princeton, NJ  
 1993–1996 Member, NASA ISRMOWG.  
 1992–1998 Member (Chair, 1995–1998), NSF review panel, Center for Astrophysical Research  
 in Antarctica.  
 1992–1997 Study Scientist, NASA Submillimeter Mission.  
 1992–1997 Member, NASA Submillimeter Science Working Group.  
 1991–1994 Member, NASA Space VLBI Project Science Group.  
 1984–1988 Member, U.S. QUASAT science team.

#### AWARDS

2019 2019 Giuseppe and Vanna Cocconi Prize of the European Physical Society, to the  
 WMAP and Planck Collaborations, “for providing high-precision measurements  
 of the cosmic microwave background temperature and polarization anisotropies,  
 leading to detailed information on properties of the universe and tests of  
 cosmological models and fundamental physics.”  
 2019 NASA Distinguished Public Service Medal for distinguished leadership and service  
 to NASA and the Nation in the pursuit and advancement of the fields of  
 astrophysics and cosmology.  
 2018 Gruber 2018 Cosmology Prize, to “the Planck Team, and to Jean-Loup Puget and  
 Nazzareno Mandolesi, the leaders of the HFI and LFI instrument consortia”  
 2018 2018 Royal Astronomical Society Group Achievement Award to “the Planck team”  
 2016 JPL Magellan Award for exceptional leadership of the International Planck Mission  
 science data analysis as the U.S. Planck Project Scientist  
 2014 NASA Exceptional Achievement Medal for exceptional achievement with the Planck  
 Project science research effort, significantly advancing our understanding of the  
 origin and evolution of the Universe  
 2010 NASA Outstanding Leadership Medal for leadership of the US Planck science and  
 data analysis effort from concept through spacecraft launch and commissioning  
 2004 NASA Outstanding Leadership Medal for scientific and technical leadership  
 in addressing and resolving major technical issues on Spitzer  
 1999 JPL Level A Leadership Award  
 1999 NASA Exceptional Achievement Medal for Development of the Cryogenic  
 HEMT Optimization Program  
 1999 JPL Technical Excellence Award, MMIC Low Noise Amplifier Development Team

#### PROFESSIONAL SOCIETIES

1983– American Astronomical Society, full member

## REFEREED PUBLICATIONS

*Planck constraints on the tensor-to-scalar ratio*

Tristram, M., Banday, A. J., Górski, K., M., Keskitalo, R., Lawrence, C. R., Andersen, K. J., Barreiro, R. B., Borrill, J., Eriksen, H., K., Fernandez-Cobus, R., Kisner, T. S., Martínez-González, E., Partridge, B., Scott, D., Svalheim, T. L., Thommesen, H., Wehus, I. K. 2020, *A&A*, submitted

*Planck intermediate results. LVII. NPIPE: Joint Planck LFI and HFI data processing*

Planck Collaboration 2020, *A&A*, accepted

*Planck intermediate results. LVI. Detection of the CMB dipole through modulation of the thermal Sunyaev-Zeldovich effect: Eppur si muove II*

Planck Collaboration 2020, *A&A*, accepted

*Planck intermediate results. LV. Reliability and thermal properties of high-frequency sources in the Second Planck Catalogue of Compact Sources*

Planck Collaboration 2019, *A&A*, accepted

*Planck 2018 results. XII. Galactic astrophysics using polarized dust emission*

Planck Collaboration 2019, *A&A*, **641**, A12

*Planck 2018 results. XI. Polarized dust foregrounds*

Planck Collaboration 2019, *A&A*, **641**, A11

*Planck 2018 results. X. Constraints on inflation*

Planck Collaboration 2019, *A&A*, **641**, A10

*Planck 2018 results. IX. Constraints on primordial non-Gaussianity*

Planck Collaboration 2019, *A&A*, **641**, A9

*Planck 2018 results. VIII. Gravitational lensing*

Planck Collaboration 2019, *A&A*, **641**, A8

*Planck 2018 results. VII. Isotropy and Statistics of the CMB*

Planck Collaboration 2019, *A&A*, **641**, A7

*Planck 2018 results. VI. Cosmological parameters*

Planck Collaboration 2019, *A&A*, **641**, A6

*Planck 2018 results. V. CMB power spectra and likelihoods*

Planck Collaboration 2019, *A&A*, **641**, A5

*Planck 2018 results. IV. Diffuse component separation*

Planck Collaboration 2019, *A&A*, **641**, A4

*Planck 2018 results. III. High Frequency Instrument data processing and frequency maps*

Planck Collaboration 2019, *A&A*, **641**, A3

*Planck 2018 results. II. Low Frequency Instrument data processing*

Planck Collaboration 2019, *A&A*, **641**, A2

*Planck 2018 results. I. Overview, and the cosmological legacy of Planck*

Planck Collaboration 2019, *A&A*, **641**, A1

*Characterization of the in-flight properties of the Planck telescope*

Tauber et al. 2019, *A&A*, **622**, A55

*Planck intermediate results. LIV. The Planck Multi-frequency Catalogue of Non-thermal Sources*

Planck Collaboration 2018, *A&A*, **619**, A94

- Planck intermediate results. LIII. Detection of velocity dispersion from the kinetic Sunyaev-Zeldovich effect*  
Planck Collaboration 2018, *A&A*, **617**, A48
- Planck intermediate results. LII. Planet flux densities*  
Planck Collaboration 2017, *A&A*, **607**, A122
- Planck intermediate results. LI. Features in the cosmic microwave background temperature power spectrum and shifts in cosmological parameters*  
Planck Collaboration 2017, *A&A*, **607**, A95
- Calibrating the Planck Cluster Mass Scale with Cluster Velocity Dispersions*  
Amodeo, S., Mei, S., Stanford, S. A., Bartlett, J. G., Melin, J.-B., Lawrence, C. R., Chary, R.-R., Shim, H., Marleau, F., and Stern, D. 2017, *ApJ*, **844**, 101
- Planck intermediate results. L. Evidence for spatial variation of the polarized thermal dust spectral energy distribution and implications for CMB B-mode analysis*  
Planck Collaboration 2017, *A&A*, **599**, A51
- Monopole and dipole estimation for multi-frequency sky maps by linear regression*  
Wehus, I. K., Fuskeland, U., Eriksen, H. K., Banday, A. J., Dickinson, C., Ghosh, T., Górski, K. M., Lawrence, C. R., Leahy, J. P., Maino, D., Reich, P., and Reich, W. 2017, *A&A*, **597**, 131
- Planck intermediate results. XLIX. Parity-violation constraints from polarization data*  
Planck Collaboration 2016, *A&A*, **596**, A110
- Planck intermediate results. XLVIII. Disentangling Galactic dust emission and cosmic infrared background anisotropies*  
Planck Collaboration 2016, *A&A*, **596**, A109
- Planck intermediate results. XLVII. Constraints on reionization history*  
Planck Collaboration 2016, *A&A*, **596**, A108
- Planck intermediate results. XLVI. Reduction of large-scale systematic effects in HFI polarization maps and estimation of the reionization optical depth*  
Planck Collaboration 2016, *A&A*, **596**, A107
- Planck intermediate results. XLV. Radio spectra of northern extragalactic radio sources*  
Planck Collaboration 2016, *A&A*, **596**, A106
- Planck intermediate results. XLIV. The structure of the Galactic magnetic field from dust polarization maps of the southern Galactic cap*  
Planck Collaboration 2016, *A&A*, **596**, A105
- Planck intermediate results. XLIII. The spectral energy distribution of dust in clusters of galaxies*  
Planck Collaboration 2016, *A&A*, **596**, A104
- A MMIC Low-Noise Amplifier Design Technique*  
Varonen, M., Reeves, R., Kangaslahti, P., Samoska, L., Cleary, K., Akgiray, A., Gawande, R., Kooi, J., Fung, A., Gaier, T., Weinreb, S., Readhead, A. C. S., Lawrence, C., Sarkozy, S., and Lai, R. 2015, *IEEE Microwave Theory and Techniques*, **64**, 826
- Planck intermediate results. XLII. Large-scale Galactic magnetic fields*  
Planck Collaboration 2016, *A&A*, **596**, A103
- Planck intermediate results. XLI. A map of lensing-induced B modes*  
Planck Collaboration 2016, *A&A*, **596**, A102
- Planck intermediate results. XL. The Sunyaev-Zeldovich signal from the Virgo cluster*  
Planck Collaboration 2016, *A&A*, **596**, A101

- Planck intermediate results. XXXIX. The Planck list of high-redshift source candidates*  
Planck Collaboration 2016, *A&A*, **596**, A100
- Planck 2015 results. XXVIII. The Planck Catalogue of Galactic Cold Clumps*  
Planck Collaboration 2016, *A&A*, **594**, A28
- Planck 2015 results. XXVII. The Second Planck Catalogue of Sunyaev-Zeldovich Sources*  
Planck Collaboration 2016, *A&A*, **594**, A27
- Planck 2015 results. XXVI. The Second Planck Catalogue of Compact Sources*  
Planck Collaboration 2016, *A&A*, **594**, A26
- Planck 2015 results. XXV. Diffuse, low-frequency Galactic foregrounds*  
Planck Collaboration 2016, *A&A*, **594**, A25
- Planck 2015 results. XXIV. Cosmology from Sunyaev-Zeldovich cluster counts*  
Planck Collaboration 2016, *A&A*, **594**, A24
- Planck 2015 results. XXIII. Thermal Sunyaev-Zeldovich cluster counts*  
Planck Collaboration 2016, *A&A*, **594**, A23
- Planck 2015 results. XXII. A map of the thermal Sunyaev-Zeldovich effect*  
Planck Collaboration 2016, *A&A*, **594**, A22
- Planck 2015 results. XXI. The integrated Sachs-Wolfe effect*  
Planck Collaboration 2016, *A&A*, **594**, A21
- Planck 2015 results. XX. Constraints on inflation*  
Planck Collaboration 2016, *A&A*, **594**, A20
- Planck 2015 results. XIX. Constraints on primordial magnetic fields*  
Planck Collaboration 2016, *A&A*, **594**, A19
- Planck 2015 results. XVIII. Background geometry & topology of the Universe*  
Planck Collaboration 2016, *A&A*, **594**, A18
- Planck 2015 results. XVII. Constraints on primordial non-Gaussianity*  
Planck Collaboration 2016, *A&A*, **594**, A17
- Planck 2015 results. XVI. Isotropy and statistics of the CMB*  
Planck Collaboration 2016, *A&A*, **594**, A16
- Planck 2015 results. XV. Gravitational lensing*  
Planck Collaboration 2016, *A&A*, **594**, A15
- Planck 2015 results. XIV. Dark energy and modified gravity*  
Planck Collaboration 2016, *A&A*, **594**, A14
- Planck 2015 results. XIII. Cosmological parameters*  
Planck Collaboration 2016, *A&A*, **594**, A13
- Planck 2015 results. XII. Full focal plane simulations*  
Planck Collaboration 2016, *A&A*, **594**, A12
- Planck 2015 results. XI. CMB power spectra, likelihoods, and robustness of cosmological parameters*  
Planck Collaboration 2016, *A&A*, **594**, A11
- Planck 2015 results. X. Diffuse component separation: Foreground maps*  
Planck Collaboration 2016, *A&A*, **594**, A10
- Planck 2015 results. IX. Diffuse component separation: CMB maps*  
Planck Collaboration 2016, *A&A*, **594**, A9

- Planck 2015 results. VIII. High Frequency Instrument data processing: Calibration and maps*  
Planck Collaboration 2016, *A&A*, **594**, A8
- Planck 2015 results. VII. High Frequency Instrument data processing: Time-ordered information and beam processing*  
Planck Collaboration 2016, *A&A*, **594**, A7
- Planck 2015 results. VI. LFI maps*  
Planck Collaboration 2016, *A&A*, **594**, A6
- Planck 2015 results. V. LFI calibration*  
Planck Collaboration 2016, *A&A*, **594**, A5
- Planck 2015 results. IV. LFI beams and window functions*  
Planck Collaboration 2016, *A&A*, **594**, A4
- Planck 2015 results. III. LFI systematic uncertainties*  
Planck Collaboration 2016, *A&A*, **594**, A3
- Planck 2015 results. II. Low Frequency Instrument data processing*  
Planck Collaboration 2016, *A&A*, **594**, A2
- Planck 2015 results. I. Overview of products and scientific results*  
Planck Collaboration 2016, *A&A*, **594**, A1
- Planck intermediate results. XXXVIII. E- and B-modes of dust polarization from the magnetized filamentary structure of the interstellar medium*  
Planck Collaboration 2016, *A&A*, **586**, A141
- Planck intermediate results. XXXVII. Evidence of unbound gas from the kinetic Sunyaev-Zeldovich effect*  
Planck Collaboration 2016, *A&A*, **586**, A140
- Planck intermediate results. XXXVI. Optical identification and redshifts of Planck SZ sources with telescopes in the Canary Islands Observatories*  
Planck Collaboration 2016, *A&A*, **586**, A139
- Planck intermediate results. XXXV. Probing the role of the magnetic field in the formation of structure in molecular clouds*  
Planck Collaboration 2016, *A&A*, **586**, A138
- Planck intermediate results. XXXIV. The magnetic field structure in the Rosette nebula*  
Planck Collaboration 2016, *A&A*, **586**, A137
- Planck intermediate results. XXXIII. Signature of the magnetic field geometry of interstellar filaments in dust polarization maps*  
Planck Collaboration 2016, *A&A*, **586**, A136
- Planck intermediate results. XXXII. The relative orientation between the magnetic field and structures traced by interstellar dust*  
Planck Collaboration 2016, *A&A*, **586**, A135
- Planck intermediate results. XXXI. Planck survey of microwave emission from supernova remnants*  
Planck Collaboration 2016, *A&A*, **586**, A134
- Planck intermediate results. XXX. The angular power spectrum of polarized dust emission at intermediate and high Galactic latitudes*  
Planck Collaboration 2016, *A&A*, **586**, A133

- Planck intermediate results. XXIX. All-sky dust modelling with Planck, IRAS, and WISE observations*  
Planck Collaboration 2016, *A&A*, **586**, A132
- Planck intermediate results. XXVIII. Interstellar gas and dust in the Chamaeleon clouds as seen by Fermi LAT and Planck*  
Planck Collaboration 2015, *A&A*, **582**, A31
- Planck intermediate results. XXVII. High-redshift infrared galaxy overdensity candidates and lensed sources discovered by Planck and confirmed by Herschel-SPIRE*  
Planck Collaboration 2015, *A&A*, **582**, A30
- Planck intermediate results. XXVI. Optical identification and redshifts of Planck clusters with the RTT150 telescope*  
Planck Collaboration 2015, *A&A*, **582**, A29
- Planck intermediate results. XXV. The Andromeda Galaxy as seen by Planck*  
Planck Collaboration 2015, *A&A*, **582**, A28
- Planck intermediate results. XXIV. Constraints on variation of fundamental constants*  
Planck Collaboration 2015, *A&A*, **580**, A22
- Planck intermediate results. XXIII. Galactic plane emission components derived from Planck with ancillary data*  
Planck Collaboration 2015, *A&A*, **580**, A13
- Planck intermediate results. XXII. Frequency dependence of thermal emission from Galactic dust in intensity and polarization*  
Planck Collaboration 2015, *A&A*, **576**, A107
- Planck intermediate results. XXI. Comparison of polarized thermal emission from Galactic dust at 353 GHz with optical interstellar polarization*  
Planck Collaboration 2015, *A&A*, **576**, A106
- Planck intermediate results. XX. Comparison of polarized thermal emission from Galactic dust with simulations of MHD turbulence*  
Planck Collaboration 2015, *A&A*, **576**, A105
- Planck intermediate results. XIX. An overview of the polarized thermal emission from Galactic dust*  
Planck Collaboration 2015, *A&A*, **576**, A104
- Star formation in  $z > 1$  3CR host galaxies as seen by Herschel*  
Podigachoski, P., Barthel, P. D., et al. 2015, *A&A*, **575**, 80
- Joint Analysis of BICEP2/Keck Array and Planck Data*  
BICEP2/Keck and Planck Collaborations 2015, *Phys. Rev. Lett.*, **114**, 101301
- Planck intermediate results. XVIII. The millimetre and sub-millimetre emission from planetary nebulae*  
Planck Collaboration 2015, *A&A*, **573**, A6
- Planck intermediate results. XVII. Emission of dust in the diffuse interstellar medium from the far-infrared to microwave frequencies*  
Planck Collaboration 2014, *A&A*, **566**, A55
- Planck intermediate results. XVI. Profile likelihoods for cosmological parameters*  
Planck Collaboration 2014, *A&A*, **566**, A54
- Planck intermediate results. XV. A study of anomalous microwave emission in Galactic clouds*  
Planck Collaboration 2014, *A&A*, **565**, A103

- Planck 2013 results. XXXI. Consistency of the Planck data*  
Planck Collaboration 2014, *A&A*, **571**, A31
- Planck 2013 results. XXX. Cosmic infrared background measurements and implications for star formation*  
Planck Collaboration 2014, *A&A*, **571**, A30
- Planck 2013 results. XXIX. Planck catalogue of Sunyaev-Zeldovich sources*  
Planck Collaboration 2014, *A&A*, **571**, A29
- Planck 2013 results. XXVIII. The Planck Catalogue of Compact Sources*  
Planck Collaboration 2014, *A&A*, **571**, A28
- Planck 2013 results. XXVII. Doppler boosting of the CMB: Eppur si muove*  
Planck Collaboration 2014, *A&A*, **571**, A27
- Planck 2013 results. XXVI. Background geometry and topology of the Universe*  
Planck Collaboration 2014, *A&A*, **571**, A26
- Planck 2013 results. XXV. Searches for cosmic strings and other topological defects*  
Planck Collaboration 2014, *A&A*, **571**, A25
- Planck 2013 results. XXIV. Constraints on primordial non-Gaussianity*  
Planck Collaboration 2014, *A&A*, **571**, A24
- Planck 2013 results. XXIII. Isotropy and Statistics of the CMB*  
Planck Collaboration 2014, *A&A*, **571**, A23
- Planck 2013 results. XXII. Constraints on inflation*  
Planck Collaboration 2014, *A&A*, **571**, A22
- Planck 2013 results. XXI. Cosmology with the all-sky Planck Compton parameter  $y$ -map*  
Planck Collaboration 2014, *A&A*, **571**, A21
- Planck 2013 results. XX. Cosmology from Sunyaev-Zeldovich cluster counts*  
Planck Collaboration 2014, *A&A*, **571**, A20
- Planck 2013 results. XIX. The integrated Sachs-Wolfe effect*  
Planck Collaboration 2014, *A&A*, **571**, A19
- Planck 2013 results. XVIII. Gravitational lensing-infrared background correlation*  
Planck Collaboration 2014, *A&A*, **571**, A18
- Planck 2013 results. XVII. Gravitational lensing by large-scale structure*  
Planck Collaboration 2014, *A&A*, **571**, A17
- Planck 2013 results. XVI. Cosmological parameters*  
Planck Collaboration 2014, *A&A*, **571**, A16
- Planck 2013 results. XV. CMB power spectra and likelihood*  
Planck Collaboration 2014, *A&A*, **571**, A15
- Planck 2013 results. XIV. Zodiacal emission*  
Planck Collaboration 2014, *A&A*, **571**, A14
- Planck 2013 results. XIII. Galactic CO emission*  
Planck Collaboration 2014, *A&A*, **571**, A13
- Planck 2013 results. XII. Component separation*  
Planck Collaboration 2014, *A&A*, **571**, A12
- Planck 2013 results. XI. All-sky model of thermal dust emission*  
Planck Collaboration 2014, *A&A*, **571**, A11



- Planck 2013 results. X. Energetic particle effects: characterization, removal, and simulation*  
Planck Collaboration 2014, *A&A*, **571**, A10
- Planck 2013 results. IX. HFI spectral response*  
Planck Collaboration 2014, *A&A*, **571**, A9
- Planck 2013 results. VIII. HFI photometric calibration and mapmaking*  
Planck Collaboration 2014, *A&A*, **571**, A8
- Planck 2013 results. VII. HFI time response and beams*  
Planck Collaboration 2014, *A&A*, **571**, A7
- Planck 2013 results. VI. High Frequency Instrument data processing*  
Planck Collaboration 2014, *A&A*, **571**, A6
- Planck 2013 results. V. LFI calibration*  
Planck Collaboration 2014, *A&A*, **571**, A5
- Planck 2013 results. IV. LFI beams*  
Planck Collaboration 2014, *A&A*, **571**, A4
- Planck 2013 results. III. LFI systematic uncertainties*  
Planck Collaboration 2014, *A&A*, **571**, A3
- Planck 2013 results. II. Low Frequency Instrument data processing*  
Planck Collaboration 2014, *A&A*, **571**, A2
- Planck 2013 results. I. Overview of products and scientific results*  
Planck Collaboration 2014, *A&A*, **571**, A1
- Planck intermediate results. XIV. Dust emission at millimetre wavelengths in the Galactic plane*  
Planck Collaboration 2014, *A&A*, **564**, A45
- Planck intermediate results. XIII. Constraints on peculiar velocities*  
Planck Collaboration 2014, *A&A*, **561**, A97
- Planck intermediate results. XII. Diffuse Galactic components in the Gould Belt system*  
Planck Collaboration 2013, *A&A*, **557**, A53
- Planck intermediate results. XI. The gas content of dark matter halos: the Sunyaev-Zeldovich-stellar mass relation for locally brightest galaxies*  
Planck Collaboration 2013, *A&A*, **557**, A52
- Revealing the Heavily Obscured Active Galactic Nucleus Population of High-redshift 3CRR Sources with Chandra X-Ray Observations*  
Belinda J. Wilkes, Joanna Kuraszkiewicz, Martin Haas, Peter Barthel, Christian Leipski, S. P. Willner, D. M. Worrall, Mark Birkinshaw, Robert Antonucci, M. L. N. Ashby, Rolf Chini, G. G. Fazio, Charles Lawrence, Patrick Ogle, Bernhard Schulz 2013, *Ap. J.*, **773**, 15
- Planck intermediate results. X. Physics of the hot gas in the Coma cluster*  
Planck Collaboration 2013, *A&A*, **554**, A140
- Planck intermediate results. IX. Detection of the Galactic haze with Planck*  
Planck Collaboration 2013, *A&A*, **554**, A139
- The Q/U Imaging Experiment Instrument*  
QUIET Collaboration 2013, *Ap. J.*, **768**, 9
- Planck intermediate results. VIII. Filaments between interacting clusters*  
Planck Collaboration 2013, *A&A*, **550**, A134

- Planck intermediate results. VII. Statistical properties of infrared and radio extragalactic sources from the Planck Early Release Compact Source Catalogue at frequencies between 100 and 857 GHz*  
Planck Collaboration 2013, *A&A*, **550**, A133
- Planck intermediate results. VI. The dynamical structure of PLCKG214.6+37.0, a triple system of galaxy clusters*  
Planck Collaboration 2013, *A&A*, **550**, A132
- Planck intermediate results. V. Pressure profiles of galaxy clusters from the Sunyaev-Zeldovich effect*  
Planck Collaboration 2013, *A&A*, **550**, A131
- Planck intermediate results. IV. The XMM-Newton validation programme for new Planck clusters*  
Planck Collaboration 2013, *A&A*, **550**, A130
- Planck intermediate results. III. The relation between galaxy cluster mass and Sunyaev-Zeldovich signal*  
Planck Collaboration 2013, *A&A*, **550**, A129
- Planck intermediate results. II. Comparison of Sunyaev-Zeldovich measurements from Planck and from the Arcminute Microkelvin Imager for 11 galaxy clusters*  
Planck and AMI Collaborations 2013, *A&A*, **550**, A128
- Second Season QUIET Observations: Measurements of the CMB Polarization Power Spectrum at 95 GHz*  
QUIET Collaboration 2012, *Ap. J.*, **760**, 145
- Spitzer Observations of Hotspots in Radio Lobes*  
M. W. Werner, David W. Murphy, John H. Livingston, Varoujian Gorjian, Dayton L. Jones, David L. Meier, Charles R. Lawrence, Anthony C. S. Readhead 2012, *Ap. J.*, **759**, 86
- Analysis of WMAP 7-year temperature data: Astrophysics of the Galactic haze*  
D. Pietrobon, K. Górski, J. Bartlett, A. J. Banday, G. Dobler, L. P. L. Colombo, L. Pagano, G. Rocha, R. Saha, J. B. Jewell, S. R. Hildetrandt, H. K. Eriksen, & C. R. Lawrence 2012, *Ap. J.*, **755**, 69
- Planck intermediate results. I. Further validation of new Planck clusters with XMM-Newton*  
Planck Collaboration 2012, *A&A*, **543**, A102
- Simultaneous Planck, Swift, and Fermi observations of X-ray and  $\gamma$ -ray selected blazars*  
P. Giommi *et al.* 2012, *A&A*, **541**, 160
- On-Wafer S-Parameter Measurements in the 325–508 GHz Band*  
Andy Fung *et al.* 2012, *IEEE Transactions on Terahertz Science & Technology*, **Vol. 2, No. 2**, 186
- Chandra X-ray Observations of the Redshift 1.53 Radio-Loud Quasar 3C 270.1*  
Belinda J. Wilkes *et al.* 2012, *Ap. J.*, **745**, 84
- Planck early results. I. The Planck mission*  
Planck Collaboration 2011, *A&A*, **536**, A1
- Planck early results. II. The thermal performance of Planck*  
Planck Collaboration 2011, *A&A*, **536**, A2
- Planck early results. III. First assessment of the Low Frequency Instrument in-flight performance*  
A. Mennella, M. Bersanelli, *et al.* 2011, *A&A*, **536**, A3
- Planck early results. IV. First assessment of the High Frequency Instrument in-flight performance*  
HFI Core Team 2011, *A&A*, **536**, A4

- Planck early results. V. Low Frequency Instrument data processing*  
A. Zacchei, D. Maino, *et al.* 2011, *A&A*, **536**, A5
- Planck early results. VI. High Frequency Instrument data processing*  
HFI Core Team 2011, *A&A*, **536**, A6
- Planck early results. VII. The Early Release Compact Source Catalogue*  
Planck Collaboration 2011, *A&A*, **536**, A7
- Planck early results. VIII. The all-sky early Sunyaev-Zeldovich cluster sample*  
Planck Collaboration 2011, *A&A*, **536**, A8
- Planck early results. IX. XMM-Newton follow-up for validation of Planck cluster candidates*  
Planck Collaboration 2011, *A&A*, **536**, A9
- Planck early results. X. Statistical analysis of Sunyaev-Zeldovich scaling relations for X-ray galaxy clusters*  
Planck Collaboration 2011, *A&A*, **536**, A10
- Planck early results. XI. Calibration of the local galaxy cluster Sunyaev-Zeldovich scaling relations*  
Planck Collaboration 2011, *A&A*, **536**, A11
- Planck early results. XII. Cluster Sunyaev-Zeldovich optical Scaling relations*  
Planck Collaboration 2011, *A&A*, **536**, A12
- Planck early results. XIII. Statistical properties of extragalactic radio sources in the Planck Early Release Compact Source Catalogue*  
Planck Collaboration 2011, *A&A*, **536**, A13
- Planck early results. XIV. Early Release Compact Source Catalogue validation and extreme radio sources*  
Planck Collaboration 2011, *A&A*, **536**, A14
- Planck early results. XV. Spectral energy distributions and radio continuum spectra of northern extragalactic radio sources*  
Planck Collaboration 2011, *A&A*, **536**, A15
- Planck early results. XVI. The Planck view of nearby galaxies*  
Planck Collaboration 2011, *A&A*, **536**, A16
- Planck early results. XVII. Origin of the submillimeter excess dust emission in the Magellanic Clouds*  
Planck Collaboration 2011, *A&A*, **536**, A17
- Planck early results. XVIII. The power spectrum of cosmic infrared background anisotropies*  
Planck Collaboration 2011, *A&A*, **536**, A18
- Planck early results. XIX. All-sky temperature and dust optical depth from Planck and IRAS – constraints on the “dark gas” in our Galaxy*  
Planck Collaboration 2011, *A&A*, **536**, A19
- Planck early results. XX. New light on anomalous microwave emission from spinning dust grains*  
Planck Collaboration 2011, *A&A*, **536**, A20
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