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# *Planck* intermediate results

## V. Pressure profiles of galaxy clusters from the Sunyaev-Zeldovich effect *(Corrigendum)*

Planck Collaboration: P. A. R. Ade[88], N. Aghanim[60], M. Arnaud[75], M. Ashdown[72,6], F. Atrio-Barandela[19], J. Aumont[60], C. Baccigalupi[87], A. Balbi[38], A. J. Banday[96,9], R. B. Barreiro[69], J. G. Bartlett[1,70], E. Battaner[99], K. Benabed[61,94], A. Benoît[58], J.-P. Bernard[9], M. Bersanelli[35,52], R. Bhatia[7], I. Bikmaev[21,3], J. Bobin[75], H. Böhringer[81], A. Bonaldi[71], J. R. Bond[8], S. Borgani[36,49], J. Borrill[14,91], F. R. Bouchet[61,94], H. Bourdin[38], M. L. Brown[71], R. Burenin[89], C. Burigana[51,37], P. Cabella[39], J.-F. Cardoso[76,1,61], P. Carvalho[6], G. Castex[1], A. Catalano[77,74], L. Cayón[32], A. Chamballu[56], L.-Y Chiang[65], G. Chon[81], P. R. Christensen[84,40], E. Churazov[80,90], D. L. Clements[56], S. Colafrancesco[48], S. Colombi[61,94], L. P. L. Colombo[24,70], B. Comis[77], A. Coulais[74], B. P. Crill[70,85], F. Cuttaia[51], A. Da Silva[12], H. Dahle[67,11], L. Danese[87], R. J. Davis[71], P. de Bernardis[34], G. de Gasperis[38], G. de Zotti[47,87], J. Delabrouille[1], J. Démoclès[75], F.-X. Désert[54], J. M. Diego[69], K. Dolag[98,80], H. Dole[60,59], S. Donzelli[52], O. Doré[70,10], U. Dörl[80], M. Douspis[60], X. Dupac[43], G. Efstathiou[66], T. A. Enßlin[80], H. K. Eriksen[67], F. Finelli[51], I. Flores-Cacho[9,96], O. Forni[96,9], P. Fosalba[62], M. Frailis[49], E. Franceschi[51], M. Frommert[18], S. Galeotta[49], K. Ganga[1], R. T. Génova-Santos[68], M. Giard[96,9], Y. Giraud-Héraud[1], J. González-Nuevo[69,87], K. M. Górski[70,100], A. Gregorio[36,49], A. Gruppuso[51], F. K. Hansen[67], D. Harrison[66,72], A. Hempel[68,41], S. Henrot-Versillé[73], C. Hernández-Monteagudo[13,80], D. Herranz[69], S. R. Hildebrandt[10], E. Hivon[61,94], M. Hobson[6], W. A. Holmes[70], G. Hurier[77], T. R. Jaffe[96,9], A. H. Jaffe[56], T. Jagemann[43], W. C. Jones[27], M. Juvela[26], E. Keihänen[26], I. Khamitov[93], T. S. Kisner[79], R. Kneissl[42,7], J. Knoche[80], L. Knox[29], M. Kunz[18,60], H. Kurki-Suonio[26,46], G. Lagache[60], A. Lähteenmäki[2,46], J.-M. Lamarre[74], A. Lasenby[6,72], C. R. Lawrence[70], M. Le Jeune[1], R. Leonardi[43], A. Liddle[25], P. B. Lilje[67,11], M. López-Caniego[69], G. Luzzi[73], J. F. Macías-Pérez[77], D. Maino[35,52], N. Mandolesi[51,5], M. Maris[49], F. Marleau[64], D. J. Marshall[96,9], E. Martínez-González[69], S. Masi[34], M. Massardi[50], S. Matarrese[33], P. Mazzotta[38], S. Mei[45,95,10], A. Melchiorri[34,53], J.-B. Melin[16], L. Mendes[43], A. Mennella[35,52], S. Mitra[55,70], M.-A. Miville-Deschênes[60,8], A. Moneti[61], L. Montier[96,9], G. Morgante[51], D. Mortlock[56], D. Munshi[88], J. A. Murphy[83], P. Naselsky[84,40], F. Nati[34], P. Natoli[37,4,51], H. U. Nørgaard-Nielsen[17], F. Noviello[71], D. Novikov[56], I. Novikov[84], S. Osborne[92], F. Pajot[60], D. Paoletti[51], F. Pasian[49], G. Patanchon[1], O. Perdereau[73], L. Perotto[77], F. Perrotta[87], F. Piacentini[34], M. Piat[1], E. Pierpaoli[24], R. Piffaretti[75,16], S. Plaszczynski[73], E. Pointecouteau[96,9,⋆], G. Polenta[4,48], N. Ponthieu[60,54], L. Popa[63], T. Poutanen[46,26,2], G. W. Pratt[75], S. Prunet[61,94], J.-L. Puget[60], J. P. Rachen[22,80], W. T. Reach[97], R. Rebolo[68,15,41], M. Reinecke[80], M. Remazeilles[60,1], C. Renault[77], S. Ricciardi[51], T. Riller[80], I. Ristorcelli[96,9], G. Rocha[70,10], M. Roman[1], C. Rosset[1], M. Rossetti[35,52], J. A. Rubiño-Martín[68,41], B. Rusholme[57], M. Sandri[51], G. Savini[86], D. Scott[23], G. F. Smoot[28,79,1], J.-L. Starck[75], R. Sudiwala[88], R. Sunyaev[80,90], D. Sutton[66,72], A.-S. Suur-Uski[26,46], J.-F. Sygnet[61], J. A. Tauber[44], L. Terenzi[51], L. Toffolatti[20,69], M. Tomasi[52], M. Tristram[73], J. Tuovinen[82], L. Valenziano[51], B. Van Tent[78], J. Varis[82], P. Vielva[69], F. Villa[51], N. Vittorio[38], L. A. Wade[70], B. D. Wandelt[61,94,31], N. Welikala[60], S. D. M. White[80], M. White[28], D. Yvon[16], A. Zacchei[49], and A. Zonca[30]

*(Affiliations can be found after the references)*

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⋆ Corresponding author: E. Pointecouteau, etienne.pointecouteau@irap.omp.eu

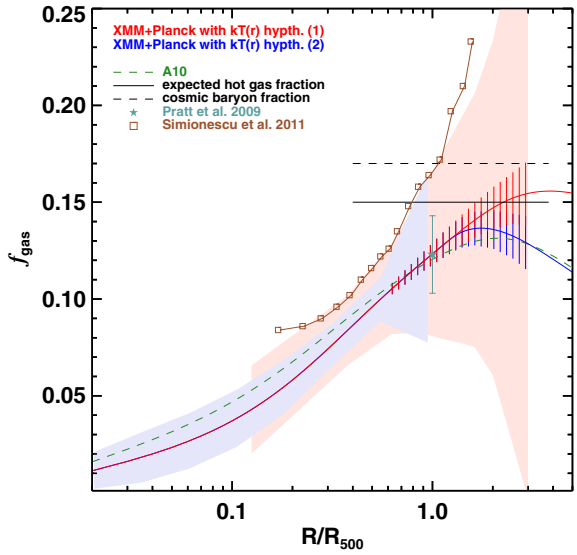


**Fig. 7.** Gas mass fraction profile derived from the combined *Planck* and *XMM-Newton* pressure profile, assuming for the temperature profile: (H1) the average best fit model across the sample from X-ray spectroscopy (red line and striped area); or (H2) the same but extrapolating beyond $R_{500}$ to a constant value equal to the average temperature measured in the last radial bin across the sample (blue line and striped area). The green dashed curve marks the expected gas fraction profile assuming the A10 pressure profile and $kT(r)$ as in hypothesis (1). The star gives $f_{gas}(r = R_{500})$ for REXCESS clusters with $M_{500} > 5 \times 10^{14}\,M_{\odot}$ (Pratt et al. 2009). In maroon we reproduce the gas mass fraction profile derived from *Suzaku* measurements for the Perseus cluster (Simionescu et al. 2011). The solid and dashed black lines mark the cosmic baryon fraction expected from CMB measurements (Komatsu et al. 2011) and the expected gas fraction, assuming that 12% of baryons are in stars, respectively. The shaded blue and red areas translate the dispersion in the pressure profile across the ESZ–*XMM* sample as shown on Fig. 4 in our original paper, assuming hypothesis (H1) for $kT(r)$. See Sect. 7.3 in Planck Collaboration (2013)

Figure 7 of our original publication (Planck Collaboration 2013) is flawed. The correct figure is presented here and we stress that our original conclusion on the radial distribution of the gas fraction remains unchanged.

There was an error in the reconstruction of the temperature profiles used to derive the gas mass distribution from the joint *Planck* and *XMM-Newton* pressure profile, and thereby a prediction for the gas fraction profiles. The error in the temperature profile reconstruction applies to this paper only. The predicted gas fraction profiles for both hypothesis on the temperature profiles, i.e., from hypothesis H1 and H2, were affected similarly. Now corrected, they are in better agreement at $R_{500}$ with the measurement by Pratt et al. (2009) on the REXCESS sample and with the expectations from the CMB. The Perseus profile (Simionescu et al. 2011) is still marginally compatible with our prediction within our large dispersion (shaded blue and red area on the figure).

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[1] APC, AstroParticule et Cosmologie, Université Paris Diderot, CNRS/IN2P3, CEA/lrfu, Observatoire de Paris, Sorbonne Paris Cité, 10 rue Alice Domon et Léonie Duquet, 75205 Paris Cedex 13, France
[2] Aalto University Metsähovi Radio Observatory, Metsähovintie 114, 02540 Kylmälä, Finland
[3] Academy of Sciences of Tatarstan, Bauman Str. 20, 420111 Kazan, Republic of Tatarstan, Russia
[4] Agenzia Spaziale Italiana Science Data Center, c/o ESRIN, via Galileo Galilei, 00044 Frascati, Italy
[5] Agenzia Spaziale Italiana, Viale Liegi 26, 00198 Roma, Italy
[6] Astrophysics Group, Cavendish Laboratory, University of Cambridge, J J Thomson Avenue, Cambridge CB3 0HE, UK
[7] Atacama Large Millimeter/submillimeter Array, ALMA Santiago Central Offices, Alonso de Cordova 3107, Vitacura, 763 0355 Casilla, Santiago, Chile
[8] CITA, University of Toronto, 60 St. George St., Toronto, ON M5S 3H8, Canada
[9] CNRS, IRAP, 9 Av. colonel Roche, BP 44346, 31028 Toulouse Cedex 4, France
[10] California Institute of Technology, Pasadena, California, USA
[11] Centre of Mathematics for Applications, University of Oslo, Blindern, 0317 Oslo, Norway
[12] Centro de Astrofísica, Universidade do Porto, Rua das Estrelas, 4150-762 Porto, Portugal
[13] Centro de Estudios de Física del Cosmos de Aragón (CEFCA), Plaza San Juan, 1 planta 2, 44001 Teruel, Spain
[14] Computational Cosmology Center, Lawrence Berkeley National Laboratory, Berkeley, California, USA
[15] Consejo Superior de Investigaciones Científicas (CSIC), Madrid, Spain
[16] DSM/Irfu/SPP, CEA-Saclay, 91191 Gif-sur-Yvette Cedex, France
[17] DTU Space, National Space Institute, Technical University of Denmark, Elektrovej 327, 2800 Kgs. Lyngby, Denmark
[18] Département de Physique Théorique, Université de Genève, 24 quai E. Ansermet, 1211 Genève 4, Switzerland
[19] Departamento de Física Fundamental, Facultad de Ciencias, Universidad de Salamanca, 37008 Salamanca, Spain
[20] Departamento de Física, Universidad de Oviedo, Avda. Calvo Sotelo s/n, 3307 Oviedo, Spain
[21] Department of Astronomy and Geodesy, Kazan Federal University, Kremlevskaya Str. 18, 420008 Kazan, Russia
[22] Department of Astrophysics, IMAPP, Radboud University, PO Box 9010, 6500 GL Nijmegen, The Netherlands
[23] Department of Physics & Astronomy, University of British Columbia, 6224 Agricultural Road, Vancouver, British Columbia, Canada
[24] Department of Physics and Astronomy, Dana and David Dornsife College of Letter, Arts and Sciences, University of Southern California, Los Angeles, CA 90089, USA
[25] Department of Physics and Astronomy, University of Sussex, Brighton BN1 9QH, UK
[26] Department of Physics, Gustaf Hällströmin katu 2a, University of Helsinki, 00014 Helsinki, Finland
[27] Department of Physics, Princeton University, Princeton, New Jersey, USA
[28] Department of Physics, University of California, Berkeley, California, USA
[29] Department of Physics, University of California, One Shields Avenue, Davis, California, USA
[30] Department of Physics, University of California, Santa Barbara, California, USA
[31] Department of Physics, University of Illinois at Urbana-Champaign, 1110 West Green Street, Urbana, Illinois, USA
[32] Department of Statistics, Purdue University, 250 N. University Street, West Lafayette, Indiana, USA
[33] Dipartimento di Fisica e Astronomia G. Galilei, Università degli Studi di Padova, via Marzolo 8, 35131 Padova, Italy

[34] Dipartimento di Fisica, Università La Sapienza, P. le A. Moro 2, 00185 Roma, Italy
[35] Dipartimento di Fisica, Università degli Studi di Milano, via Celoria 16, 20133 Milano, Italy
[36] Dipartimento di Fisica, Università degli Studi di Trieste, via A. Valerio 2, 34127 Trieste, Italy
[37] Dipartimento di Fisica, Università di Ferrara, via Saragat 1, 44122 Ferrara, Italy
[38] Dipartimento di Fisica, Università di Roma Tor Vergata, via della Ricerca Scientifica 1, 00133 Roma, Italy
[39] Dipartimento di Matematica, Università di Roma Tor Vergata, via della Ricerca Scientifica 1, 00133 Roma, Italy
[40] Discovery Center, Niels Bohr Institute, Blegdamsvej 17, Copenhagen, Denmark
[41] Dpto. Astrofísica, Universidad de La Laguna (ULL), 38206 La Laguna, Tenerife, Spain
[42] European Southern Observatory, ESO Vitacura, Alonso de Cordova 3107, Vitacura, 19001 Casilla, Santiago, Chile
[43] European Space Agency, ESAC, Planck Science Office, Camino bajo del Castillo, s/n, Urbanización Villafranca del Castillo, Villanueva de la Cañada, Madrid, Spain
[44] European Space Agency, ESTEC, Keplerlaan 1, 2201 AZ Noordwijk, The Netherlands
[45] GEPI, Observatoire de Paris, Section de Meudon, 5 Place J. Janssen, 92195 Meudon Cedex, France
[46] Helsinki Institute of Physics, Gustaf Hällströmin katu 2, University of Helsinki, 00014 Helsinki, Finland
[47] INAF – Osservatorio Astronomico di Padova, Vicolo dell'Osservatorio 5, Padova, Italy
[48] INAF – Osservatorio Astronomico di Roma, via di Frascati 33, 00040 Monte Porzio Catone, Italy
[49] INAF – Osservatorio Astronomico di Trieste, via G.B. Tiepolo 11, 34143 Trieste, Italy
[50] INAF Istituto di Radioastronomia, via P. Gobetti 101, 40129 Bologna, Italy
[51] INAF/IASF Bologna, via Gobetti 101, 40129 Bologna, Italy
[52] INAF/IASF Milano, via E. Bassini 15, 20133 Milano, Italy
[53] INFN, Sezione di Roma 1, Universit'a di Roma Sapienza, Piazzale Aldo Moro 2, 00185 Roma, Italy
[54] IPAG: Institut de Planétologie et d'Astrophysique de Grenoble, Université Joseph Fourier, Grenoble 1/CNRS-INSU, UMR 5274, 38041 Grenoble, France
[55] IUCAA, Post Bag 4, Ganeshkhind, Pune University Campus, 411 007 Pune, India
[56] Imperial College London, Astrophysics group, Blackett Laboratory, Prince Consort Road, London, SW7 2AZ, UK
[57] Infrared Processing and Analysis Center, California Institute of Technology, Pasadena, CA 91125, USA
[58] Institut Néel, CNRS, Université Joseph Fourier Grenoble I, 25 rue des Martyrs, 38042 Grenoble, France
[59] Institut Universitaire de France, 103 bd Saint-Michel, 75005 Paris, France
[60] Institut d'Astrophysique Spatiale, CNRS (UMR8617) Université Paris-Sud 11, Bâtiment 121, 91405 Orsay, France
[61] Institut d'Astrophysique de Paris, CNRS (UMR7095), 98 bis Boulevard Arago, 75014 Paris, France
[62] Institut de Ciències de l'Espai, CSIC/IEEC, Facultat de Ciències, Campus UAB, Torre C5 par-2, 08193 Bellaterra, Spain
[63] Institute for Space Sciences, 077125 Bucharest-Magurale, Romania
[64] Institute of Astro and Particle Physics, Technikerstrasse 25/8, University of Innsbruck, 6020 Innsbruck, Austria
[65] Institute of Astronomy and Astrophysics, Academia Sinica, Taipei, Taiwan
[66] Institute of Astronomy, University of Cambridge, Madingley Road, Cambridge CB3 0HA, UK
[67] Institute of Theoretical Astrophysics, University of Oslo, Blindern, 0315 Oslo, Norway
[68] Instituto de Astrofísica de Canarias, C/Vía Láctea s/n, 38200 La Laguna, Tenerife, Spain
[69] Instituto de Física de Cantabria (CSIC-Universidad de Cantabria), Avda. de los Castros s/n, 39005 Santander, Spain
[70] Jet Propulsion Laboratory, California Institute of Technology, 4800 Oak Grove Drive, Pasadena, California, USA
[71] Jodrell Bank Centre for Astrophysics, Alan Turing Building, School of Physics and Astronomy, The University of Manchester, Oxford Road, Manchester, M13 9PL, UK
[72] Kavli Institute for Cosmology Cambridge, Madingley Road, Cambridge, CB3 0HA, UK
[73] LAL, Université Paris-Sud, CNRS/IN2P3, 91898 Orsay, France
[74] LERMA, CNRS, Observatoire de Paris, 61 avenue de l'Observatoire, 75014 Paris, France
[75] Laboratoire AIM, IRFU/Service d'Astrophysique – CEA/DSM – CNRS – Université Paris Diderot, Bât. 709, CEA-Saclay, 91191 Gif-sur-Yvette Cedex, France
[76] Laboratoire Traitement et Communication de l'Information, CNRS (UMR 5141) and Télécom ParisTech, 46 rue Barrault, 75634 Paris Cedex 13, France
[77] Laboratoire de Physique Subatomique et de Cosmologie, Université Joseph Fourier Grenoble I, CNRS/IN2P3, Institut National Polytechnique de Grenoble, 53 rue des Martyrs, 38026 Grenoble Cedex, France
[78] Laboratoire de Physique Théorique, Université Paris-Sud 11 & CNRS, Bâtiment 210, 91405 Orsay, France
[79] Lawrence Berkeley National Laboratory, Berkeley, California, USA
[80] Max-Planck-Institut für Astrophysik, Karl-Schwarzschild-Str. 1, 85741 Garching, Germany
[81] Max-Planck-Institut für Extraterrestrische Physik, Giessenbachstraße, 85748 Garching, Germany
[82] MilliLab, VTT Technical Research Centre of Finland, Tietotie 3, 02044 Espoo, Finland
[83] National University of Ireland, Department of Experimental Physics, Maynooth, Co. Kildare, Ireland
[84] Niels Bohr Institute, Blegdamsvej 17, Copenhagen, Denmark
[85] Observational Cosmology, Mail Stop 367-17, California Institute of Technology, Pasadena, CA 91125, USA
[86] Optical Science Laboratory, University College London, Gower Street, London, UK
[87] SISSA, Astrophysics Sector, via Bonomea 265, 34136 Trieste, Italy
[88] School of Physics and Astronomy, Cardiff University, Queens Buildings, The Parade, Cardiff, CF24 3AA, UK
[89] Space Research Institute (IKI), Profsoyuznaya 84/32, 117997 Moscow, Russia
[90] Space Research Institute (IKI), Russian Academy of Sciences, Profsoyuznaya Str 84/32, 117997 Moscow, Russia
[91] Space Sciences Laboratory, University of California, Berkeley, California, USA
[92] Stanford University, Dept of Physics, Varian Physics Bldg, 382 via Pueblo Mall, Stanford, California, USA
[93] TÜBİTAK National Observatory, Akdeniz University Campus, 07058 Antalya, Turkey
[94] UPMC Univ Paris 06, UMR 7095, 98bis Boulevard Arago, 75014 Paris, France
[95] Université Denis Diderot (Paris 7), 75205 Paris Cedex 13, France
[96] Université de Toulouse, UPS-OMP, IRAP, 31028 Toulouse Cedex 4, France
[97] Universities Space Research Association, Stratospheric Observatory for Infrared Astronomy, MS 211-3, Moffett Field, CA 94035, USA
[98] University Observatory, Ludwig Maximilian University of Munich, Scheinerstrasse 1, 81679 Munich, Germany
[99] University of Granada, Departamento de Física Teórica y del Cosmos, Facultad de Ciencias, Granada, Spain
[100] Warsaw University Observatory, Aleje Ujazdowskie 4, 00-478 Warszawa, Poland