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| <b>Publication Year</b> | 2017                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
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| <b>Title</b>            | VizieR Online Data Catalog: Second Planck Catalogue of Compact Sources (PCCS2) (Planck+, 2016)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <b>Authors</b>          | Planck Collaboration, Ade, P. A. R., Aghanim, N., Argueso, F., Arnaud, M., Ashdown, M., Aumont, J., Baccigalupi, C., Banday, A. J., Barreiro, R. B., Bartolo, N., Battaner, E., Beichman, C., Benabed, K., Benoit, A., Benoit-Levy, A., Bernard, J. -P., Bersanelli, M., Bielewicz, P., Bock, J. J., Bohringer, H., Bonaldi, A., Bonavera, L., Bond, J. R., Borrill, J., Bouchet, F. R., Boulanger, F., Bucher, M., BURIGANA, CARLO, Butler, R. C., Calabrese, E., Cardoso, J. -F., Carvalho, P., Catalano, A., Challinor, A., Chamballu, A., Chary, R. -R., Chiang, H. C., Christensen, P. R., Clemens, M., Clements, D. L., Colombi, S., Colombo, L. P. L., Combet, C., Couchot, F., Coulais, A., Crill, B. P., Curto, A., CUTTAIA, FRANCESCO, Danese, L., Davies, R. D., Davis, R. J., de Bernardis, P., De Rosa, A., de Zotti, G., Delabrouille, J., Desert, F. -X., Dickinson, C., Diego, J. M., Dole, H., Donzelli, S., Dore, O., Douspis, M., Ducout, A., Dupac, X., Efstathiou, G., Elsner, F., Ensslin, T. A., Eriksen, H. K., Falgarone, E., Fergusson, J., FINELLI, FABIO, Forni, O., FRAILIS, Marco, Fraisse, A. A., FRANCESCHI, ENRICO, Frejse, L. A., GALEOTTA, Samuele, Galli, S., Ganga, K., Giard, M., Giraud-Heraud, Y., Gjerlow, E., Gonzalez-Nuevo, J., Gorski, K. M., Gratton, S., Gregorio, A., GRUPPUSO, ALESSANDRO, Gudmundsson, J. E., Hansen, F. K., Hanson, D., Harrison, D. L., Helou, G., Henrot-Versille, S., Hernandez-Monteagudo, C., Herranz, D., Hildebrandt, S. R., Hivon, E., Hobson, M., Holmes, W. A., Hornstrup, A., Hovest, W., Huppenberger, K. M., Hurier, G., Jaffe, A. H., Jaffe, T. R., Jones, W. C., Juvela, M., Keihanen, E., Keskitalo, R., Kisner, T. S., Kneissl, R., Knoche, J., Kunz, M., Kurki-Suonio, H., Lagache, G., Lahtenmaki, A., Lamarre, J. -M., Lasenby, A., Lattanzi, M., Lawrence, C. R., Leahy, J. P., Leonardi, R., Leon-Tavares, J., Lesgourgues, J., Levrier, F., Liguori, M., Lilje, P. B., Linden-Vornle, M., Lopez-Caniego, M., Lubin, P. M., Macias-Perez, J. F., Maggio, G., Maino, D., Mandolesi, N., Mangilli, A., MARIS, Michele, Marshall, D. J., Martin, P. G., Martinez-Gonzalez, E., Masi, S., Matarrese, S., McGehee, P., Meinhold, P. R., Melchiorri, A., Mendes, L., Mennella, A., Migliaccio, M., Mitra, S., Miville-Deschenes, M. -A., Moneti, A., Montier, L., MORGANTE, GIANLUCA, Mortlock, D., Moss, A., Munshi, D., Murphy, J. A., Naselsky, P., Nati, F., Natoli, P., Negrello, M., Netterfield, C. B., Norgaard-Nielsen, H. U., Noviello, F., Novikov, D., Novikov, I., Oxborrow, C. A., Paci, F., Pagano, L., Pajot, F., Paladini, R., PAOLETTI, DANIELA, Partridge, B., Pasian, F., Patanchon, G., Pearson, T. J., Perdereau, O., Perotto, L., Perrotta, F., Pettorino, V., Piacentini, F., Piat, M., Pierpaoli, E., Pietrobon, D., Plaszczynski, S., Pointecouteau, E., Polenta, G., Pratt, G. W., Prezeau, G., Prunet, S., Puget, J. -L., Rachen, J. P., Reach, W. T., Rebolo, R., Reinecke, M., Remazeilles, M., Renault, C., Renzi, A., Ristorcelli, I., Rocha, G., Rosset, C., ROSSETTI, MARIACHIARA, Roudier, |


**J/A+A/594/A26** Second Planck Catalogue of Compact Sources (PCCS2) (Planck+, 2016)

Planck 2015 results. XXVI. The Second Planck Catalogue of Compact Sources.

Planck collaboration

Ade P.A.R., Aghanim N., Argüeso F., Arnaud M., Ashdown M., Aumont J., Baccigalupi C., Banday A.J., Barreiro R.B., Bartolo N., Battaner E., Beichman C., Benabed K., Benoit A., Benoit-Levy A., Bernard J.-P., Bersanelli M., Bielewicz P., Bock J.J., Borringer H., Bonaldi A., Bonavera L., Bond J.R., Borrill J., Bouchet F.R., Boulanger F., Bucher M., Burigana C., Butler R.C., Calabrese E., Cardoso J.-F., Carvalho P., Catalano A., Challinor A., Chamballu A., Chary R.-R., Chiang H.C., Christensen P.R., Clemens M., Clements D.L., Colombi S., Colombo L.P.L., Combet C., Couchot F., Coulais A., Crill B.P., Curto A., Cuttaia F., Danese L., Davies R.D., Davis R.J., De Bernardis P., De Rosa A., De Zotti G., Delabrouille J., Desert F.-X., Dickinson C., Diego J.M., Dole H., Donzelli S., Dore O., Douspis M., Ducout A., Dupac X., Efstathiou G., Elsner F., Ensslin T.A., Eriksen H.K., Falgarone E., Fergusson J., Finelli F., Fornì O., Frailis M., Fraisse A.A., Franceschi E., Frejsel A., Galeotta S., Galli S., Ganga K., Giard M., Giraud-Heraud Y., Gjerlow E., Gonzalez-Nuevo J., Gorski K.M., Gratton S., Gregorio A., Gruppiso A., Gudmundsson J.E., Hansen F.K., Hanson D., Harrison D.L., Helou G., Henrot-Versille S., Hernandez-Monteagudo C., Herranz D., Hildebrandt S.R., Hivon E., Hobson M., Holmes W.A., Hornstrup A., Hovest W., Huppenberger K.M., Hurier G., Jaffe A.H., Jaffe T.R., Jones W.C., Juvela M., Keihänen E., Keskitalo R., Kisner T.S., Kneissl R., Knoche J., Kunz M., Kurki-Suonio H., Lagache G., Lahteenmaki A., Lamarre J.-M., Lasenby A., Lattanzi M., Lawrence C.R., Leahy J.P., Leonardi R., Leon-Tavares J., Lesgourgues J., Levrier F., Liguori M., Lilje P.B., Linden-Vornle M., Lopez-Caniego M., Lubin P.M., Macias-Perez J.F., Maggio G., Maino D., Mandolesi N., Mangilli A., Maris M., Marshall D.J., Martin P.G., Martinez-Gonzalez E., Masi S., Matarrese S., McGehee P., Meinhold P.R., Melchiorri A., Mendes L., Mennella A., Migliaccio M., Mitra S., Miville-Deschenes M.-A., Moneti A., Montier L., Morgante G., Mortlock D., Moss A., Munshi D., Murphy J.A., Naselsky P., Nati F., Natoli P., Negrello M., Netterfield C.B., Norgaard-Nielsen H.U., Noviello F., Novikov D., Novikov I., Oxborrow C.A., Paci F., Pagano L., Pajot F., Paladini R., Paoletti D., Partridge B., Pasian F., Patanchon G., Pearson T.J., Perdereau O., Perotto L., Perrotta F., Pettorino V., Piacentini F., Piat M., Pierpaoli E., Pietrobon D., Plaszczynski S., Pointecouteau E., Polenta G., Pratt G.W., Prezeau G., Prunet S., Puget J.-L., Rachen J.P., Reach W.T., Rebolo R., Reinecke M., Remazeilles M., Renault C., Renzi A., Ristorcelli I., Rocha G., Rosset C., Rossetti M., Roudier G., Rowan-Robinson M., Rubino-Martin J.A., Rusholme B., Sandri M., Sanghera H.S., Santos D., Savelainen M., Savini G., Scott D., Seiffert M.D., Shellard E.P.S., Spencer L.D., Stolyarov V., Sudiwala R., Sunyaev R., Sutton D., Suur-Uski A.-S., Sygnet J.-F., Tauber J.A., Terenzi L., Toffolatti L., Tomasi M., Tornikoski M., Tristram M., Tucci M., Tuovinen J., Turler M., Umana G., Valenziano L., Valiviita J., Van Tent B., Vielva P., Villa F., Wade L.A., Walter B., Wandelt B.D., Wehus I.K., Yvon D., Zacchei A., Zonca A.

<Astron. Astrophys., 594, A26 (2016)>

=[2016A&A...594A..26P](#) (SIMBAD/NED BibCode)

**ADC\_Keywords:** Surveys ; Interstellar medium

**Keywords:** catalogs - cosmology: observations - radio continuum: general - submillimeter: general

**Abstract:**

The Second Planck Catalogue of Compact Sources is a list of discrete objects detected in single-frequency maps from the full duration of the Planck mission and supersedes previous versions. It consists of compact sources, both Galactic and extragalactic, detected over the entire sky. Compact sources detected in the lower frequency channels are assigned to the PCCS2, while at higher frequencies they are assigned to one of two subcatalogues, the PCCS2 or PCCS2E, depending on their location on the sky. The first of these (PCCS2) covers most of the sky and allows the user to produce subsamples at higher reliabilities than the target 80% integral reliability of the catalogue. The second (PCCS2E) contains sources detected in sky regions where the diffuse emission makes it difficult to quantify the reliability of the detections. Both the PCCS2 and PCCS2E include polarization measurements, in the form of polarized flux densities, or upper limits, and orientation angles for all seven polarization-sensitive Planck channels. The improved data-processing of the full-mission maps and their reduced noise levels allow us to increase the number of objects in the catalogue, improving its completeness for the target 80% reliability as compared with the previous versions, the PCCS and the Early Release Compact Source Catalogue (ERCSC).

**Description:**

The Low Frequency Instrument (LFI) DPC produced the 30, 44, and 70GHz maps after the completion of eight full surveys (spanning the period 12 August 2009 to 3 August 2013). In addition, special LFI maps covering the period 1 April 2013 to 30 June 2013 were produced in order to compare the Planck flux-density scales with those of the Very Large Array and the Australia Telescope Compact Array, by performing simultaneous observations of a sample of sources over that period. The High Frequency Instrument (HFI) DPC produced the 100, 143, 217, 353, 545, and 857GHz maps after five full surveys (2009 August 12 to 2012 January 11).

**File Summary:**

| FileName                     | Lrecl | Records | Explanations                                                        |
|------------------------------|-------|---------|---------------------------------------------------------------------|
| ReadMe                       | 80    | .       | This file                                                           |
| <a href="#">pccs030.dat</a>  | 573   | 1560    | Second Catalogue of Compact Sources, 30GHz                          |
| <a href="#">pccs044.dat</a>  | 573   | 934     | Second Catalogue of Compact Sources, 44GHz                          |
| <a href="#">pccs070.dat</a>  | 573   | 1296    | Second Catalogue of Compact Sources, 70GHz                          |
| <a href="#">pccs100.dat</a>  | 573   | 1742    | Second Catalogue of Compact Sources, 100GHz                         |
| <a href="#">pccs143.dat</a>  | 573   | 2160    | Second Catalogue of Compact Sources, 143GHz                         |
| <a href="#">pccs217.dat</a>  | 573   | 2135    | Second Catalogue of Compact Sources, 217GHz                         |
| <a href="#">pccs353.dat</a>  | 573   | 1344    | Second Catalogue of Compact Sources, 353GHz                         |
| <a href="#">pccs545.dat</a>  | 573   | 1694    | Second Catalogue of Compact Sources, 545GHz                         |
| <a href="#">pccs857.dat</a>  | 573   | 4891    | Second Catalogue of Compact Sources, 857GHz                         |
| <a href="#">pccs100e.dat</a> | 582   | 2487    | Second Catalogue of Compact Sources, 100GHz,<br>unknown reliability |
| <a href="#">pccs143e.dat</a> | 582   | 4139    | Second Catalogue of Compact Sources, 143GHz,<br>unknown reliability |
| <a href="#">pccs217e.dat</a> | 582   | 16842   | Second Catalogue of Compact Sources, 217GHz,<br>unknown reliability |
| <a href="#">pccs353e.dat</a> | 582   | 22665   | Second Catalogue of Compact Sources, 353GHz,<br>unknown reliability |
| <a href="#">pccs545e.dat</a> | 582   | 31068   | Second Catalogue of Compact Sources, 545GHz,<br>unknown reliability |
| <a href="#">pccs857e.dat</a> | 582   | 4891    | Second Catalogue of Compact Sources, 857GHz,<br>unknown reliability |
| fits/*                       | 0     | 15      | Original fits catalogs                                              |

**See also:**

|                                |                                                                  |
|--------------------------------|------------------------------------------------------------------|
| <a href="#">VIII/88</a>        | : Planck Early Release Compact Source Catalogue (Planck, 2011)   |
| <a href="#">VIII/91</a>        | : Planck Catalog of Compact Sources Release 1 (Planck, 2013)     |
| <a href="#">J/A+A/536/A8</a>   | : Planck early results. VIII. ESZ sample. (Planck+, 2011)        |
| <a href="#">J/A+A/581/A14</a>  | : Updated Planck catalogue PSZ1 (Planck+, 2015)                  |
| <a href="#">J/A+A/594/A27</a>  | : Planck Sunyaev-Zeldovich sources (PSZ2) (Planck+, 2016)        |
| <a href="#">J/A+A/594/A28</a>  | : Planck Catalogue of Galactic cold clumps (PGCC) (Planck+ 2016) |
| <a href="#">J/A+A/596/A100</a> | : Planck high-z source candidates catalog (PHZ) (Planck+, 2016)  |

**Byte-by-byte Description of file: [pccs???.dat](#)**

| Bytes   | Format | Units                  | Label      | Explanations                                                                                      |
|---------|--------|------------------------|------------|---------------------------------------------------------------------------------------------------|
| 1- 23   | A23    | ---                    | Name       | Source name, PCCS2 FFF GLLL.ll+BB.bbb<br>(NAME) <a href="#">(G1)</a>                              |
| 25- 35  | F11.7  | <a href="#">deg</a>    | GLON       | Galactic longitude based on extraction<br>algorithm (GLON)                                        |
| 37- 47  | F11.7  | <a href="#">deg</a>    | GLAT       | Galactic latitude based on extraction<br>algorithm (GLAT)                                         |
| 49- 59  | F11.7  | <a href="#">deg</a>    | RAdeg      | Right ascension (J2000) transformed<br>from (GLON,GLAT) (RA)                                      |
| 61- 71  | F11.7  | <a href="#">deg</a>    | DEdeg      | Declination (J2000) transformed<br>from (GLON,GLAT) (DEC)                                         |
| 73- 84  | E12.6  | <a href="#">mJy</a>    | DetFlux    | Flux density of source as determined by<br>detection method (DETFLUX)                             |
| 86- 97  | E12.6  | <a href="#">mJy</a>    | e_DetFlux  | Uncertainty (1 sigma) in DetFlux<br>(DETFLUX_ERR)                                                 |
| 99-110  | E12.6  | <a href="#">mJy</a>    | AperFlux   | Flux density of source as determined from<br>the aperture photometry (APERFLUX)                   |
| 112-123 | E12.6  | <a href="#">mJy</a>    | e_AperFlux | Uncertainty (1 sigma) in AperFlux<br>(APERFLUX_ERR)                                               |
| 125-136 | E12.6  | <a href="#">mJy</a>    | PSFFlux    | Flux density of source as determined from<br>PSF fitting (PSFFLUX)                                |
| 138-149 | E12.6  | <a href="#">mJy</a>    | e_PSFFlux  | Uncertainty (1 sigma) in PSFFlux<br>(PSFFLUX_ERR)                                                 |
| 151-162 | E12.6  | <a href="#">mJy</a>    | GauFlux    | Flux density of source as determined from<br>2-D Gaussian fitting (GAUFLUX)                       |
| 164-175 | E12.6  | <a href="#">mJy</a>    | e_GauFlux  | ? Uncertainty (1 sigma) in GauFlux<br>(GAUFLUX_ERR)                                               |
| 177-186 | F10.6  | <a href="#">arcmin</a> | GauSemil   | Gaussian fit along axis 1 (FWHM)<br>(GAU_SEM1) <a href="#">(G2)</a>                               |
| 188-198 | F11.6  | <a href="#">arcmin</a> | e_GauSemil | ? Uncertainty (1 sigma) in GauSemil<br>(GAU_SEM1ERR)                                              |
| 200-210 | F11.6  | <a href="#">arcmin</a> | GauSemi2   | Gaussian fit along axis 2 (FWHM)<br>(GAU_SEM2) <a href="#">(G2)</a>                               |
| 212-222 | F11.6  | <a href="#">arcmin</a> | e_GauSemi2 | ? Uncertainty (1 sigma) in GauSemi2<br>(GAU_SEM2ERR)                                              |
| 224-228 | F5.1   | <a href="#">deg</a>    | GauTheta   | Gaussian fit orientation angle<br>(GAU_THETA) <a href="#">(G2)</a>                                |
| 230-233 | F4.1   | <a href="#">deg</a>    | e_GauTheta | ? Uncertainty (1 sigma) in GauTheta<br>(GAU_THETAERR)                                             |
| 235-244 | F10.6  | <a href="#">arcmin</a> | GauFWHMEff | Gaussian fit effective FWHM (GAU_FWHM EFF)                                                        |
| 246     | I1     | ---                    | Extended   | ?=-1 Extended source flag (EXTENDED) <a href="#">(G5)</a>                                         |
| 248     | I1     | ---                    | ExtVal     | ?=-1 External validation flag (EXT_VAL) <a href="#">(G6)</a>                                      |
| 250-273 | A24    | ---                    | ERCSC      | Name of the ERCSC counterpart, if any<br>(ERCSC)                                                  |
| 275-297 | A23    | ---                    | PCCS1      | Name of the PCCS counterpart, if any (PCCS1)                                                      |
| 299-300 | I2     | ---                    | HRel       | ?=-1 Highest reliability catalogue to which<br>the source belong<br>(HIGHEST_RELIABILITYCAT) (G7) |

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----- only for 100, 143, 217 and 353GHz -----
302-303 I2 --- CirrusN ? Number of sources (S/N>5) detected at
                        857GHz within a 1-degree radius (CIRRUS_N)
305-314 F10.6 mJy/sr SkyBri ? The mean 857GHz brightness within a
                        2° radius. This may be used as another
                        indicator of cirrus contamination
                        (SKY_BRIGHTNESS)

----- Polarization measurements (30-353GHz only) -----
316-327 F12.6 mJy P ? Polarization flux density of the sources
                        as determined by a matched filter (P) (G3).
329-339 F11.6 mJy e_P ? Uncertainty (1 sigma) in P (P_ERR)
341-350 F10.6 deg AnP ? Orientation of polarization with respect
                        to NGP (ANGLE_P) (G2) (G3).
352-361 F10.6 deg e_AnP ? Uncertainty (1 sigma) in AnP
                        (ANGLE_P_ERR) (G3).
363-374 F12.6 mJy ApP ? Orientation of polarization with respect
                        to NGP (APER_P) (G2) (G3).
376-387 F12.6 mJy e_ApP ? Uncertainty (1 sigma) in AperP
                        (APER_P_ERR) (G3).
389-400 F12.6 deg ApAnP ? Orientation of polarization with
                        respect to NGP (APER_ANGLE_P) (G2) (G3).
402-411 F10.6 deg e_ApAnP ? Uncertainty (1 sigma) in ApAnP
                        (APER_ANGLE_P_ERR) (G3).
413-423 F11.6 mJy PUL ? Polarization flux density 99.99% upper
                        limit (PUpperLIMIT) (G9).
425-434 F10.6 mJy ApPUL ? Polarization flux density 99.99% upper
                        limit (APER_PUpper_LIMIT) (G9)

----- Marginal polarization measurements (100-353GHz only) -----
436 I1 --- PStat ? Polarization detection status
                        (P_STAT) (G4).
438-447 F10.6 mJy PX ? Polarization flux density of the sources
                        as determined by a matched filter using
                        Bayesian polarization estimator (PX)
449-458 F10.6 mJy e_PX ? PX uncertainty; lower 95% error bar
                        (PX_ERR_LOWER)
460-469 F10.6 mJy E_PX ? PX uncertainty; upper 95% error bar
                        (PX_ERR_UPPER)
471-480 F10.6 deg AnPX ? Orientation of polarization with respect
                        to NGP using Bayesian polarization
                        estimator (ANGLE_PX) (G2).
482-490 F9.6 deg e_AnPX ? AnglePX uncertainty; lower 95% error bar
                        (ANGLE_PX_ERR_LOWER)
492-500 F9.6 deg E_AnPX ? AnglePX uncertainty; upper 95% error bar
                        (ANGLE_PX_ERR_UPPER)

-----Fluxes at 217, 353 and 545 GHz (857GHz only)-----
501-512 F12.6 mJy ApFlux217 ? Flux density at 217GHz of source as
                        determined from the aperture photometry
                        (APERFLUX_227)
514-523 F10.6 mJy e_ApFlux217 ? Uncertainty (1 sigma) in ApFlux217
                        (APERFLUX_ERR227)
525-536 F12.6 mJy ApFlux353 ? Flux density at 353GHz of source as
                        determined from the aperture photometry
                        (APERFLUX_353)
538-548 F11.6 mJy e_ApFlux353 ? Uncertainty (1 sigma) in ApFlux353
                        (APERFLUX_ERR353)
550-561 F12.6 mJy ApFlux545 ? Flux density at 545GHz of source as
                        determined from the aperture photometry
                        (APERFLUX_545)
563-573 F11.6 mJy e_ApFlux545 ? Uncertainty (1 sigma) in ApFlux545
                        (APERFLUX_ERR545)

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**Byte-by-byte Description of file: [pccs\\*e.dat](#)**


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| Bytes   | Format | Units               | Label      | Explanations                                                                    |
|---------|--------|---------------------|------------|---------------------------------------------------------------------------------|
| 1- 24   | A24    | ---                 | Name       | Source name, PCCS2E FFF GLLL.ll+BB.bbb<br>(NAME) ( <a href="#">G1</a> )         |
| 26- 36  | F11.7  | <a href="#">deg</a> | GLON       | Galactic longitude based on extraction<br>algorithm (GLON)                      |
| 38- 48  | F11.7  | <a href="#">deg</a> | GLAT       | Galactic latitude based on extraction<br>algorithm (GLAT)                       |
| 50- 60  | F11.7  | <a href="#">deg</a> | RAdeg      | Right ascension (J2000) transformed<br>from (GLON, GLAT) (RA)                   |
| 62- 72  | F11.7  | <a href="#">deg</a> | DEdeg      | Declination (J2000) transformed<br>from (GLON, GLAT) (DEC)                      |
| 74- 85  | E12.6  | <a href="#">mJy</a> | DetFlux    | Flux density of source as determined by<br>detection method (DETFLUX)           |
| 87- 98  | E12.6  | <a href="#">mJy</a> | e_DetFlux  | Uncertainty (1 sigma) in DetFlux<br>(DETFLUX_ERR)                               |
| 100-111 | E12.6  | <a href="#">mJy</a> | AperFlux   | Flux density of source as determined from<br>the aperture photometry (APERFLUX) |
| 113-124 | E12.6  | <a href="#">mJy</a> | e_AperFlux | Uncertainty (1 sigma) in AperFlux<br>(APERFLUX_ERR)                             |
| 126-137 | E12.6  | <a href="#">mJy</a> | PSFFlux    | Flux density of source as determined from<br>PSF fitting (PSFFLUX)              |
| 139-150 | E12.6  | <a href="#">mJy</a> | e_PSFFlux  | Uncertainty (1 sigma) in PSFFlux<br>(PSFFLUX_ERR)                               |
| 152-163 | E12.6  | <a href="#">mJy</a> | GauFlux    | Flux density of source as determined from<br>2-D Gaussian fitting (GAUFLUX)     |
| 165-176 | E12.6  | <a href="#">mJy</a> | e_GauFlux  | Uncertainty (1 sigma) in GauFlux                                                |

|                                                                         |       |                        |             |                                                                                                                                          |
|-------------------------------------------------------------------------|-------|------------------------|-------------|------------------------------------------------------------------------------------------------------------------------------------------|
| 178-187                                                                 | F10.6 | <a href="#">arcmin</a> | GauSemi1    | (GAUFLUX_ERR)<br>Gaussian fit along axis 1 (FWHM)<br>(GAU_SEMI1) <a href="#">(G2)</a>                                                    |
| 189-200                                                                 | F12.6 | <a href="#">arcmin</a> | e_GauSemi1  | ? Uncertainty (1 sigma) in GauSemi1<br>(GAU_SEMI1ERR)                                                                                    |
| 202-212                                                                 | F11.6 | <a href="#">arcmin</a> | GauSemi2    | Gaussian fit along axis 2 (FWHM)<br>(GAU_SEMI2) <a href="#">(G2)</a>                                                                     |
| 214-224                                                                 | F11.6 | <a href="#">arcmin</a> | e_GauSemi2  | ? Uncertainty (1 sigma) in GauSemi2<br>(GAU_SEMI2ERR)                                                                                    |
| 226-230                                                                 | F5.1  | <a href="#">deg</a>    | GauTheta    | Gaussian fit orientation angle<br>(GAU_THETA) <a href="#">(G2)</a>                                                                       |
| 232-235                                                                 | F4.1  | <a href="#">deg</a>    | e_GauTheta  | Uncertainty (1 sigma) in GauTheta<br>(GAU_THETAERR)                                                                                      |
| 237-246                                                                 | F10.6 | <a href="#">arcmin</a> | GauFWHMEff  | Gaussian fit effective FWHM (GAU_FWHMEFF)                                                                                                |
| ----- Polarization measurements (30-353GHz only) -----                  |       |                        |             |                                                                                                                                          |
| 248-259                                                                 | F12.6 | <a href="#">mJy</a>    | P           | ? Polarization flux density of the sources<br>as determined by a matched filter (P) <a href="#">(G3)</a>                                 |
| 261-271                                                                 | F11.6 | <a href="#">mJy</a>    | e_P         | ? Uncertainty (1 sigma) in P (P_ERR)                                                                                                     |
| 273-282                                                                 | F10.6 | <a href="#">deg</a>    | AnP         | ? Orientation of polarization with respect<br>to NGP (ANGLE_P) (G2) <a href="#">(G3)</a>                                                 |
| 284-293                                                                 | F10.6 | <a href="#">deg</a>    | e_AnP       | ? Uncertainty (1 sigma) in AnP<br>(ANGLE_PERR) <a href="#">(G3)</a>                                                                      |
| 295-306                                                                 | F12.6 | <a href="#">mJy</a>    | ApP         | ? Orientation of polarization with respect<br>to NGP (APER_P) (G2) <a href="#">(G3)</a>                                                  |
| 308-319                                                                 | F12.6 | <a href="#">mJy</a>    | e_ApP       | ? Uncertainty (1 sigma) in AperP<br>(APER_PERR) <a href="#">(G3)</a>                                                                     |
| 321-332                                                                 | F12.6 | <a href="#">deg</a>    | ApAnP       | ? Orientation of polarization with<br>respect to NGP (APER_ANGLE_P) (G2) <a href="#">(G3)</a>                                            |
| 334-343                                                                 | F10.6 | <a href="#">deg</a>    | e_ApAnP     | ? Uncertainty (1 sigma) in ApAneP<br>(APER_ANGLE_P_ERR) <a href="#">(G3)</a>                                                             |
| 345-355                                                                 | F11.6 | <a href="#">mJy</a>    | PUL         | ? Polarization flux density 99.99% upper<br>limit (PUPPERLIMIT) <a href="#">(G9)</a>                                                     |
| 357-366                                                                 | F10.6 | <a href="#">mJy</a>    | ApPUL       | ? Polarization flux density 99.99% upper<br>limit (APER_PUPPER_LIMIT) (G9)                                                               |
| ----- Marginal polarization measurements (100-353GHz only) -----        |       |                        |             |                                                                                                                                          |
| 368                                                                     | I1    | ---                    | PStat       | ? Polarization detection status<br>(P_STAT) <a href="#">(G4)</a>                                                                         |
| 370-380                                                                 | F11.6 | <a href="#">mJy</a>    | PX          | ? Polarization flux density of the sources<br>as determined by a matched filter using<br>Bayesian polarization estimator (PX)            |
| 382-392                                                                 | F11.6 | <a href="#">mJy</a>    | e_PX        | ? PX uncertainty; lower 95% error bar<br>(PX_ERR_LOWER)                                                                                  |
| 394-404                                                                 | F11.6 | <a href="#">mJy</a>    | E_PX        | ? PX uncertainty; upper 95% error bar<br>(PX_ERR_UPPER)                                                                                  |
| 406-415                                                                 | F10.6 | <a href="#">deg</a>    | AnPX        | ? Orientation of polarization with respect<br>to NGP using Bayesian polarization<br>estimator (ANGLE_PX) <a href="#">(G2)</a>            |
| 417-425                                                                 | F9.6  | <a href="#">deg</a>    | e_AnPX      | ? AnglePX uncertainty; lower 95% error bar<br>(ANGLE_PX_ERR_LOWER)                                                                       |
| 427-435                                                                 | F9.6  | <a href="#">deg</a>    | E_AnPX      | ? AnglePX uncertainty; upper 95% error bar<br>(ANGLE_PX_ERR_UPPER)                                                                       |
| -----                                                                   |       |                        |             |                                                                                                                                          |
| 437                                                                     | I1    | ---                    | Extended    | ?=1 Extended source flag (EXTENDED) <a href="#">(G5)</a>                                                                                 |
| 439                                                                     | I1    | ---                    | ExtVal      | ?=1 External validation flag (EXT_VAL) <a href="#">(G6)</a>                                                                              |
| 441-464                                                                 | A24   | ---                    | ERCSC       | Name of the ERCSC counterpart, if any<br>(ERCSC)                                                                                         |
| 466-488                                                                 | A23   | ---                    | PCCS1       | Name of the PCCS counterpart, if any (PCCS1)                                                                                             |
| 490-491                                                                 | I2    | ---                    | HRel        | ? Highest reliability catalogue to which<br>the source belong<br>(HIGHEST_RELIABILITYCAT) <a href="#">(G7)</a>                           |
| 493-495                                                                 | I3    | ---                    | CirrusN     | ? Number of sources (S/N>5) detected at<br>857GHz within a 1-degree radius (CIRRUS_N)                                                    |
| 497-506                                                                 | F10.6 | <a href="#">mJy/sr</a> | SkyBri      | ? The mean 857GHz brightness within a<br>2° radius. This may be used as another<br>indicator of cirrus contamination<br>(SKY_BRIGHTNESS) |
| 508                                                                     | A1    | ---                    | Zone        | [2]? Which zone ? (pccs100e.dat only)<br>(WHICH_ZONE) (G8)                                                                               |
| -----Fluxes at 217, 353 and 545 GHz (857GHz <a href="#">only</a> )----- |       |                        |             |                                                                                                                                          |
| 510-521                                                                 | F12.6 | <a href="#">mJy</a>    | ApFlux217   | ? Flux density at 217GHz of source as<br>determined from the aperture photometry<br>(APERFLUX_227)                                       |
| 523-532                                                                 | F10.6 | <a href="#">mJy</a>    | e_ApFlux217 | ? Uncertainty (1 sigma) in ApFlux217<br>(APERFLUX_ERR227)                                                                                |
| 534-545                                                                 | F12.6 | <a href="#">mJy</a>    | ApFlux353   | ? Flux density at 353GHz of source as<br>determined from the aperture photometry<br>(APERFLUX_353)                                       |
| 547-557                                                                 | F11.6 | <a href="#">mJy</a>    | e_ApFlux353 | ? Uncertainty (1 sigma) in ApFlux353<br>(APERFLUX_ERR353)                                                                                |
| 559-570                                                                 | F12.6 | <a href="#">mJy</a>    | ApFlux545   | ? Flux density at 545GHz of source as<br>determined from the aperture photometry<br>(APERFLUX_545)                                       |
| 572-582                                                                 | F11.6 | <a href="#">mJy</a>    | e_ApFlux545 | ? Uncertainty (1 sigma) in ApFlux545<br>(APERFLUX_ERR545)                                                                                |

**Global notes:**

**Note (G1):** Format is PCCS2 fff G111.11+bb.bb for sources in the PCCS2 and PCCS2E fff G111.11+bb.bb for sources in the PCCS2E, where fff is the frequency channel and (l, b) is the position of the source in Galactic coordinates truncated to two decimal places.

**Note (G2):** We follow the IAU/IEEE convention (Hamaker & Bregman 1996) for defining the angle of polarization of a source, and this convention is

also used for the other angles in the catalogue. The angle is measured from the North Galactic Pole in a clockwise direction from -90 to 90 degrees.

**Note (G3):** Provided when the significance of the polarization measurement is > 99.99% and set to NULL otherwise.

**Note (G4):** The P\_STAT flag gives the status of the marginal polarization detection, possible values are as follows:

- 3 = Bright: P field filled in; all PX fields set to NULL.
- 2 = Significant: P field is set to NULL; 0 is outside the PX 95% HPD; all PX fields are filled.
- 1 = Marginal: P field is set to NULL; 0 is inside the PX 95% HPD, but mode of PX posterior distribution is not 0; all PX fields are filled.
- 0 = No detection: P field is set to NULL; mode of PX posterior distribution is 0; PX\_ERRL, ANGLE\_PX, ANGLE\_PXERR\_LOWER, and ANGLE\_PXERR\_UPPER are set to NULL.

**Note (G5):** The EXTENDED flag has the value of 0 if the source is compact and the value of 1 is it extended. The source size is determined by the geometric mean of the Gaussian fit FWHMs, with the criterion for extension being  $\sqrt{\text{GAU\_FWHMAJ} * \text{GAU\_FWHMIN}} > 1.5$  times the beam FWHM.

**Note (G6):** The EXT\_VAL flag gives the status of the external validation, possible values are as follows:

- 3 = The source has a clear counterpart in one of the catalogues used as ancillary data.
- 2 = The source does not have a clear counterpart in one of the catalogues used as ancillary data but it has been detected by the internal multi-frequency method.
- 1 = The source does not have a clear counterpart in one of the catalogues used as ancillary data and it has not been detected by the internal multi-frequency method, but it has been detected in a previous Planck source catalogue.
- 0 = The source does not have a clear counterpart in one of the catalogues used as ancillary data and it has not been detected by the internal multi-frequency method.

**Note (G7):** The HIGHESTRELIABILITYCAT column contains the highest reliability catalogue to which the source belongs. As the full catalogue reliability is  $\geq 80\%$ , this is the lowest possible value in this column. Where possible this is provided in steps of 1% otherwise it is in steps of 5%.

**Note (G8):** The WHICH\_ZONE column encodes the zone in which the source lies as follows:

- 1 = source lies inside filament mask.
- 2 = source lies inside Galactic zone.
- 3 = sources lies in both filament mask and Galactic zone.

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**Note (G9) :** This is provided only when P column is set to NULL; otherwise this column itself contains a NULL.

#### History:

Copied at <https://wiki.cosmos.esa.int/planckpla2015/index.php/Catalogues>

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(End)

Patricia Vannier [CDS]

04-Jan-2017

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The document above follows the rules of the [Standard Description for Astronomical Catalogues](#); from this documentation it is possible to generate *f77* program to load files [into arrays](#) or [line by line](#)

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