

Liste des publications

Marcel Carbillet

[Au 1^{er} septembre 2020]

227 références bibliographiques, dont 58 articles dans des journaux scientifiques, 9 communications « invitée », 107 autres articles de conférence (dont 58 SPIE et 9 AO4ELT), 22 autres communications publiées, 7 autres communications non publiées, 14 rapports, 2 thèses, 2 circulaires IAU/UAI, 3 catalogues stellaires et 3 codes référencés (VizieR et ASCL).

(Les dernières versions délivrées des 3 composantes principales actuelles de la suite logiciel CAOS de modélisation de systèmes d'optique adaptative (OA) et de reconstruction d'images post-OA sont également indiquées en annexe.)

— Revues à comité de lecture

(48 articles standards (dont 1 en préparation), 5 lettres, 1 research note & son erratum)

1. “Probability imaging of a few double stars from near-infrared one-dimensional speckle data”, M. Carbillet, G. Ricort, C. Aime, Ch. Perrier, *Astron. Astrophys.* **310**, 508 (1996).
2. “Discovery of a new bright close double star” (*Research Note*), M. Carbillet, B. Lopez, É. Aristidi, Y. Bresson, C. Aime, G. Ricort, J.-L. Prieur, L. Koechlin, G. Helmer, J. Lefèvre, P. Cruzalèbes, *Astron. Astrophys.* **314**, 122 (1996).
3. “Imaging binary stars by the cross-correlation technique”, É. Aristidi, M. Carbillet, J.-F. Lyon, C. Aime, *Astron. Astrophys. Suppl. Ser.* **125**, 139 <https://doi.org/10.1051/aas:1997215> (1997).
4. “ICCD speckle observations of binary stars : measurements during 1994–1995”, É. Aristidi, M. Carbillet, J.-L. Prieur, B. Lopez, Y. Bresson, L. Koechlin, *Astron. Astrophys. Suppl. Ser.* **126**, 555 <https://doi.org/10.1051/aas:1997282> (1997).
5. “Discovery of a new bright close double star” (*Erratum*), M. Carbillet, B. Lopez, É. Aristidi, Y. Bresson, C. Aime, G. Ricort, J.-L. Prieur, L. Koechlin, G. Helmer, J. Lefèvre, P. Cruzalèbes, *Astron. Astrophys.* **329**, 1172 (1998).
6. “Speckle imaging of binary stars : use of ratios of twofold probability density functions”, M. Carbillet, C. Aime, É. Aristidi, G. Ricort, *Astron. Astrophys. Suppl. Ser.* **127**, 569 <https://doi.org/10.1051/aas:1998120> (1998).
7. “Speckle observations of double and multiple stars at Pic du Midi : measurements during 1995 and 1997 and new orbits”, É. Aristidi, J.-L. Prieur, M. Scardia, L. Koechlin, R. Avila, M. Carbillet, B. Lopez, Y. Rabbia, P. Nisenson, D. Gezari, *Astron. Astrophys. Suppl. Ser.* **134**, 545 <https://doi.org/10.1051/aas:1999155> (1999).
8. “High angular resolution observations of late-type stars”, J.-L. Prieur, É. Aristidi, B. Lopez, M. Scardia, F. Mignard, M. Carbillet, *Ap. J. Suppl.* **139**, 249–258 (2002).
9. “Restoration of interferometric images : I. The software package AIRY”, S. Correia, M. Carbillet, P. Boccacci, M. Bertero, L. Fini, *Astron. Astrophys.* **387** (2), 733 <https://doi.org/10.1051/0004-6361:20020370> (2002).
10. “Restoration of interferometric images : II. The case-study of the Large Binocular Telescope”, M. Carbillet, S. Correia, P. Boccacci, M. Bertero, *Astron. Astrophys.* **387** (2), 743 <https://doi.org/10.1051/0004-6361:20020389> (2002).

11. “Diamonds in HD 97048 : a closer look” (*Letter*), É. Habart, L. Testi, A. Natta, M. Carbillot, *Ap. J.* **614** (2), L129 (2004).
12. “Restoration of interferometric images : III. Efficient Richardson-Lucy methods for LINC-NIRVANA data reduction”, B. Anconelli, M. Bertero, P. Boccacci, M. Carbillot, H. Lantéri, *Astron. Astrophys.* **430**, 731 <https://doi.org/10.1051/0004-6361:20041493> (2005).
13. “Restoration of interferometric images : IV. An algorithm for super-resolution of binary systems”, B. Anconelli, M. Bertero, P. Boccacci, M. Carbillot, *Astron. Astrophys.* **431**, 747 <https://doi.org/10.1051/0004-6361:20040366> (2005).
14. “Modelling astronomical adaptive optics : I. The software package CAOS”, M. Carbillot, C. Véraud, B. Femenía, A. Riccardi, L. Fini, *Mon. Not. R. Astron. Soc.* **356** (4), 1263 (2005).
15. “Adaptive optics for high-contrast imaging : pyramid sensor versus Shack-Hartmann sensor” (*Letter*), C. Véraud, M. Le Louarn, V. Korkiakoski, M. Carbillot, *Mon. Not. R. Astron. Soc.* **357** (1), L26 (2005).
16. “Reduction of boundary effects in multiple image deconvolution with an application to LBT LINC-NIRVANA”, B. Anconelli, M. Bertero, P. Boccacci, M. Carbillot, H. Lantéri, *Astron. Astrophys.* **448** (3), 1217 <https://doi.org/10.1051/0004-6361:20053848> (2006).
17. “Spatially resolved PAH emission in the inner disks of Herbig Ae/Be stars”, É. Habart, A. Natta, L. Testi, M. Carbillot, *Astron. Astrophys.* **449** (3), 1067 <https://doi.org/10.1051/0004-6361:20052994> (2006).
18. “Application of iterative blind deconvolution to the reconstruction of LBT LINC-NIRVANA images”, G. Desiderà, B. Anconelli, M. Bertero, P. Boccacci, M. Carbillot, *Astron. Astrophys.* **452**, 727 <https://doi.org/10.1051/0004-6361:20054481> (2006).
19. “Deconvolution of multiple images with high dynamic range and an application to LBT LINC-NIRVANA”, B. Anconelli, M. Bertero, P. Boccacci, G. Desiderà, M. Carbillot, H. Lantéri, *Astron. Astrophys.* **460**, 349 <https://doi.org/10.1051/0004-6361:20065836> (2006).
20. “Iterative methods for the reconstruction of astronomical images with high-dynamic range”, B. Anconelli, M. Bertero, P. Boccacci, M. Carbillot, H. Lantéri, *J. Comp. Appl. Math.* **198**, 321 (2007).
21. “Detection of a moving source in speckle noise : application to exoplanet detection”, I. Smith, A. Ferrari, M. Carbillot, *IEEE Trans. on Signal Processing* **57** (3), 904 (2009).
22. “Study of the atmospheric refraction in a single mode instrument - Application to AMBER/VLTI”, S. Robbe-Dubois, S. Lagarde, Y. Bresson, R. G. Petrov, M. Carbillot, E. Lecoarer, F. Rantakyro, I. Tallon-Bosc, M. Vannier, P. Antonelli, G. Martinot-Lagarde, A. Roussel, D. Tasso, *Mon. Not. R. Astron. Soc.* **395** (2), 991 (2009).
23. “Strehl-constrained iterative blind deconvolution for post-adaptive-optics data”, G. Desiderà & M. Carbillot, *Astron. Astrophys.* **507** (3), 1759 <https://doi.org/10.1051/0004-6361/200912913> (2009).
24. “Imaging with LINC-NIRVANA (An introduction to deconvolution methods and their capability)”, M. Bertero, P. Boccacci, G. Desiderà, A. La Camera, M. Carbillot, H. Lantéri, *IEEE Signal Processing Magazine* **27** (1) (*Special Section on Astronomy and Cosmology*), 110 (2010).
25. “Photometric exoplanet characterization using angular and spectral differential imaging”, A. Vigan, C. Moutou, M. Langlois, F. Allard, A. Boccaletti, M. Carbillot, D. Mouillet, I. Smith, *Mon. Not. R. Astron. Soc.* **407** (1), 71–82 (2010).
26. “Numerical modeling of atmospherically perturbed phase screens : new solutions for classical fast Fourier transform and Zernike methods”, M. Carbillot & A. Riccardi, *App. Opt.* **49** (31) (*JOSA A/App. Opt. Joint Feature Issue on Adaptive Optics*), G47–G52 (2010).
27. “Low-light-level CCDs for wave-front sensing : what actual gain?”, M. Carbillot & A. Riccardi, *App. Opt.* **49** (31) (*JOSA A/App. Opt. Joint Feature Issue on Adaptive Optics*), G167–G173 (2010).
28. “Apodized Lyot coronagraph for SPHERE/VLT : I. Detailed numerical study”, M. Carbillot, Ph. Bendjoya, L. Abe, G. Guerri, A. Boccaletti, J.-B. Daban, K. Dohlen, A. Ferrari, S. Robbe-Dubois, R. Douet, F. Vakili, *Exp. Astronomy* **30** (1), 39–58 (2011).

29. “Apodized Lyot coronagraph for SPHERE/VLT : II. Laboratory tests and performances”, G. Guerri, J.-B. Daban, S. Robbe-Dubois, R. Douet, L. Abe, J. Baudrand, P. Riaud, M. Carbillot, A. Boccaletti, Ph. Bendjoya, C. Gouvret, F. Vakili, *Exp. Astronomy* **30** (1), 59–81 (2011).
30. “Imaging with LINC-NIRVANA, the Fizeau interferometer of the Large Binocular Telescope : state of the art and open problems”, M. Bertero, P. Boccacci, G. Desiderà, A. La Camera, C. Olivieri, M. Carbillot, *Inverse Problems* **27**, 113001 (2011).
31. “Deconvolution of post-adaptive optics images of faint circumstellar environments by means of the inexact Bregman procedure”, A. Benfenati, A. La Camera, M. Carbillot, *Astron. Astrophys.* **586**, A16, <http://dx.doi.org/10.1051/0004-6361/201526960> (2016).
32. “First light of the VLT planet finder SPHERE : IV. Physical and chemical properties of the planets around HR 8799”, M. Bonnefoy, A. Zurlo, J.L. Baudino, P. Lucas, D. Mesa, A.-L. Maire, A. Vigan, R. Galicher, D. Homeier, F. Marocco, R. Gratton, G. Chauvin, F. Allard, S. Desidera, M. Kasper, C. Moutou, A.-M. Lagrange, A. Baruffolo, J. Baudrand, J.-L. Beuzit, A. Boccaletti, F. Cantalloube, M. Carbillot, J. Charton, R.U. Claudi, A. Costille, K. Dohlen, C. Dominik, D. Fantinel, P. Feautrier, M. Feldt, T. Fusco, P. Gigan, J. H. V. Girard, L. Gluck, C. Gry, T. Henning, M. Janson, M. Langlois, F. Madec, Y. Magnard, D. Maurel, D. Mawet, M.R. Meyer, J. Milli, O. Moeller-Nilsson, D. Mouillet, A. Pavlov, D. Perret, P. Pujet, S.P. Quanz, S. Rochat, G. Rousset, A. Roux, B. Salasnich, G. Salter, J.-F. Sauvage, H.M. Schmid, A. Sevin, C. Soenke, E. Stadler, M. Turatto, S. Udry, F. Vakili, Z. Wahhaj, F. Wildi, *Astron. Astrophys.* **587**, A58, <http://dx.doi.org/10.1051/0004-6361/201526906> (2016).
33. “VLT/SPHERE deep insight of NGC 3603’s core : Segregation or Confusion?” (*Letter*), Z. Khorrami, T. Lanz, F. Vakili, É. Lagadec, M. Langlois, W. Brandner, O. Chesneau, M. R. Meyer, M. Carbillot, L. Abe, D. Mouillet, J.-L. Beuzit, A. Boccaletti, C. Perrot, C. Thalmann, H.-M. Schmid, A. Pavlov, A. Costille, K. Dohlen, D. Le Mignant, C. Petit, J.-F. Sauvage, *Astron. Astrophys.* **588**, L7, <http://dx.doi.org/10.1051/0004-6361/201628107> (2016).
34. “Self-coherent camera as a focal plane phasing sensor”, P. Janin-Potiron, P. Martinez, P. Baudoz, M. Carbillot, *Astron. Astrophys.* **592**, A110, <http://dx.doi.org/10.1051/0004-6361/201628287> (2016).
35. “Shadow cast on the transition disk of HD 135344B - Multi-wavelength VLT/SPHERE polarimetric differential imaging”, T. Stolker, C. Dominik, H. Avenhaus, M. Min, J. de Boer, C. Ginski, H. M. Schmid, A. Juhasz, A. Bazzon, L. B. F. M. Waters, A. Garufi, J.-C. Augereau, M. Benisty, A. Boccaletti, Th. Henning, A.-L. Maire, F. Ménard, M. R. Meyer, M. Langlois, C. Pinte, S. P. Quanz, C. Thalmann, J.-L. Beuzit, M. Carbillot, A. Costille, K. Dohlen, M. Feldt, D. Gisler, D. Mouillet, A. Pavlov, D. Perret, C. Petit, J. Pragt, S. Rochat, R. Roelfsema, B. Salasnich, C. Soenke, F. Wildi, *Astron. Astrophys.* **595**, A113, <http://dx.doi.org/10.1051/0004-6361/201528039> (2016).
36. “Fine cophasing of segmented aperture telescopes with ZELDA, a Zernike wavefront sensor in the diffraction-limited regime”, P. Janin-Potiron, M. N’Diaye, P. Martinez, A. Vigan, K. Dohlen, M. Carbillot, *Astron. Astrophys.* **603**, A23, <https://doi.org/10.1051/0004-6361/201730686> (2017).
37. “Discovery of a warm, dusty giant planet around HIP 65426” (*Letter*), G. Chauvin, S. Desiderà, A.-M. Lagrange, A. Vigan, R. Gratton, M. Langlois, M. Bonnefoy, M. Feldt, M. Meyer, A. Cheetham, B. Biller, A. Boccaletti, V. D’Orazi, R. Galicher, J. Hagelberg, A.-L. Maire, D. Mesa, J. Olofsson, M. Samland, T. Schmidt, E. Sissa, M. Bonavita, B. Charnay, M. Cudel, S. Daemgen, P. Delorme, P. Janin-Potiron, M. Janson, M. Keppler, H. Le Coroller, R. Ligi, G. Marleau, S. Messina, P. Mollière, C. Mordasini, A. Müller, S. Peretti, C. Perrot, L. Rodet, D. Rouan, A. Zurlo, J.-L. Beuzit, D. Mouillet, C. Dominik, T. Henning, F. Menard, H.-M. Schmid, M. Turatto, S. Udry, F. Vakili, L. Abe, J. Antichi, A. Baruffolo, P. Baudoz, J. Baudrand, P. Blanchard, A. Bazzon, M. Carbillot, M. Carle, J. Charton, E. Cascone, R. Claudi, A. Costille, A. Deboulbe, V. De Caprio, K. Dohlen, D. Fantinel, P. Feautrier, T. Fusco, P. Gigan, E. Giro, D. Gisler, L. Gluck, N. Hubin, E. Hugot, M. Jaquet, M. Kasper, F. Madec, Y. Magnard, P. Martinez, D. Maurel, D. Le Mignant, O. Möller-Nilsson, M. L’Lored, T. Moulin, A. Origné, A. Pavlov, D. Perret, C. Petit, J. Pragt, P. Pujet, P. Rabou, J. Ramos, R. Rigal, S. Rochat, R. Roelfsema, G. Rousset, A. Roux, B. Salasnich, J.-F. Sauvage, A. Sevin, C. Soenke, E. Stadler, M. Suarez, L. Weber, F. Wildi, J.-C. Augereau, W. Brandner, N. Engler, J. Girard, C. Gry, Q. Kral, T. Kopytova, E. Lagadec, J. Milli, C. Moutou, J. Schlieder, J. Szulágyi, C. Thalmann, Z. Wahhaj, *Astron. Astrophys.* **605**, L9, <https://doi.org/10.1051/0004-6361/201731152> (2017)

38. “Anisoplanatic error evaluation and wide-field adaptive optics performance at Dome C, Antarctica”, M. Carbillot, É. Aristidi, C. Giordano, J. Vernin, *Mon. Not. R. Astron. Soc.* **471** (3), 3043–3050, <https://doi.org/10.1093/mnras/stx1752> (2017).
39. “Orbiting a binary : SPHERE characterisation of the HD 284149 system”, M. Bonavita, V. D’Orazi, D. Mesa, C. Fontanive, S. Desidera, S. Messina, S. Daemgen, R. Gratton, A. Vigan, M. Bonnefoy, A. Zurlo, J. Antichi, H. Avenhaus, A. Baruffolo, J.-L. Baudino, J.-L. Beuzit, A. Boccaletti, P. Bruno, T. Buey, M. Carbillot, E. Cascone, G. Chauvin, R. U. Claudi, V. De Caprio, D. Fantinel, G. Farisato, M. Feldt, R. Galicher, E. Giro, C. Gry, J. Hagelberg, S. Incorvaia, M. Janson, M. Jaquet, A.-M. Lagrange, M. Langlois, J. Lannier, H. Le Coroller, L. Lessio, R. Ligi, A.-L. Maire, F. Menard, C. Perrot, S. Peretti, C. Petit, J. Ramos, A. Roux, B. Salasnich, G. Salter, M. Samland, S. Scuderi, J. Schlieder, M. Surez, M. Turatto, L. Weber, *Astron. Astrophys.* **608**, A106, <https://doi.org/10.1051/0004-6361/201731003> (2017)
40. “Discovery of a brown dwarf companion to the star HIP 64892”, A. Cheetham, M. Bonnefoy, S. Desidera, M. Langlois, A. Vigan, T. Schmidt, J. Olofsson, G. Chauvin, H. Klahr, R. Gratton, V. D’Orazi, T. Henning, M. Janson, B. Biller, S. Peretti, J. Hagelberg, D. Ségransan, S. Udry, D. Mesa, E. Sissa, Q. Kral, J. Schlieder, A.-L. Maire, C. Mordasini, F. Menard, A. Zurlo, J.-L. Beuzit, M. Feldt, D. Mouillet, M. Meyer, A.-M. Lagrange, A. Boccaletti, M. Keppler, T. Kopytova, R. Ligi, D. Rouan, H. Le Coroller, C. Dominik, E. Lagadec, M. Turatto, L. Abe, J. Antichi, A. Baruffolo, P. Baudoz, P. Blanchard, T. Buey, M. Carbillot, M. Carle, E. Cascone, R. Claudi, A. Costille, A. Delboulbé, V. De Caprio, K. Dohlen, D. Fantinel, P. Feautrier, T. Fusco, E. Giro, L. Gluck, N. Hubin, E. Hugot, M. Jaquet, M. Kasper, M. Llored, F. Madec, Y. Magnard, P. Martinez, D. Maurel, D. Le Mignant, O. Möller-Nilsson, T. Moulin, A. Origné, A. Pavlov, D. Perret, C. Petit, J. Pragt, P. Puget, P. Rabou, J. Ramos, F. Rigal, S. Rochat, R. Roelfsema, G. Rousset, A. Roux, B. Salasnich, J.-F. Sauvage, A. Sevin, C. Soenke, E. Stadler, M. Suarez, L. Weber, F. Wildi, F., *Astron. Astrophys.* **615**, A160, <https://doi.org/10.1051/0004-6361/201832650> (2018).
41. “Temperature gradient in the solar photosphere. Test of a new spectroscopic method and study of its feasibility for ground-based telescopes”, M. Faurobert, M. Carbillot, L. Marquis, A. Chiavassa, G. Ricort, *Astron. Astrophys.* **616**, A133, <https://doi.org/10.1051/0004-6361/201833195> (2018).
42. “Discovery of a planetary-mass companion candidate within the gap of the transition disk around PDS 70”, M. Keppler, M. Benisty, A. Müller, T. Henning, R. v. Boekel, F. Cantalloube, C. Ginski, R. v. Holstein, A.-L. Maire, A. Pohl, M. Samland, H. Avenhaus, J.-L. Baudino, A. Boccaletti, J. de Boer, M. Bonnefoy, S. Desidera, M. Langlois, C. Lazzoni, N. Pawellek, T. Stolker, A. Vigan, T. Birnstiel, W. Brandner, G. Chauvin, M. Feldt, M. Flock, J. Girard, R. Gratton, A. Isella, M. Janson, A. Juhasz, J. Kemmer, Q. Kral, R. Launhardt, A. Matter, F. Ménard, J. Milli, Ch. Mordasini, J. Olofsson, P. Pinilla, C. Pinte, L. Perez, J. Williams, Z. Wahhaj, E. Buenzli, M. Cudel, R. Galicher, M. Kasper, J. Lannier, D. Mesa, D. Mouillet, S. Peretti, C. Perrot, G. Salter, E. Sissa, F. Wildi, L. Abe, J. Antichi, P. Baudoz, J.-L. Beuzit, P. Blanchard, S. Brems, M. Carle, A. Cheetham, A. Costille, A. Deboulbé, C. Dominik, P. Feautrier, L. Gluck, D. Gisler, A.-M. Lagrange, Y. Magnard, D. Maurel, M. Meyer, T. Moulin, T. Buey, A. Baruffolo, A. Bazzon, V. De Caprio, M. Carbillot, E. Cascone, R. Claudi, K. Dohlen, D. Fantinel, T. Fusco, E. Giro, N. Hubin, E. Hugot, M. Jaquet, D. Le Mignant, M. Llored, O. Möller-Nilsson, F. Madec, P. Martinez, A. Origné, P. Puget, D. Perret, J. Pragt, R. Rigal, R. Roelfsema, A. Pavlov, C. Petit, G. Rousset, J. Ramos, P. Rabou, S. Rochat, A. Roux, B. Salasnich, C. Soenke, E. Stadler, J.-F. Sauvage, H.-M. Schmid, M. Suarez, A. Sevin, L. Weber, *Astron. Astrophys.* **617**, A44, <https://doi.org/10.1051/0004-6361/201832957> (2018)
43. “Analytical decomposition of Zernike and hexagonal modes over an hexagonal segmented optical aperture”, P. Janin-Potiron, P. Martinez, M. Carbillot, *OSA Continuum* **1**(2), 715, <https://doi.org/10.1364/OSAC.1.000715> (2018).
44. “SPHERE view of Wolf-Rayet 104. Direct detection of the Pinwheel and the link with the nearby star”, A. Soulain, F. Millour, B. Lopez, A. Matter, É. Lagadec, M. Carbillot, A. La Camera, A. Lamberts, M. Langlois, J. Milli, H. Avenhaus, Y. Magnard, A. Roux, T. Moulin, M. Carle, A. Sevin, P. Martinez, L. Abe, J. Ramos, *Astron. Astrophys.* **618**, A108, <https://doi.org/10.1051/0004-6361/201832817> (2018).

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(6 résumés, 9 posters, 6 talks)

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