

Cover Page



Universiteit Leiden



The handle <http://hdl.handle.net/1887/26290> holds various files of this Leiden University dissertation.

Author: Maaskant, Koen Maarten

Title: Tracing the evolution of protoplanetary disks

Issue Date: 2014-06-23

Bibliography

- Ábrahám, P., Juhász, A., Dullemond, C. P., et al. 2009, *Nature*, 459, 224
- Acke, B., Bouwman, J., Juhász, A., et al. 2010, *ApJ*, 718, 558
- Acke, B., Min, M., van den Ancker, M. E., et al. 2009, *A&A*, 502, L17
- Acke, B., & van den Ancker, M. E. 2004, *A&A*, 426, 151
- Acke, B., & van den Ancker, M. E. 2006, *A&A*, 449, 267
- Acke, B., van den Ancker, M. E., & Dullemond, C. P. 2005, *A&A*, 436, 209
- Adams, F. C., Lada, C. J., & Shu, F. H. 1987, *ApJ*, 312, 788
- Alexander, R. D., Clarke, C. J., & Pringle, J. E. 2006, *MNRAS*, 369, 216
- Allamandola, L. J., Hudgins, D. M., & Sandford, S. A. 1999, *ApJ*, 511, L115
- Allamandola, L. J., Tielens, A. G. G. M., & Barker, J. R. 1985, *ApJ*, 290, L25
- Allamandola, L. J., Tielens, A. G. G. M., & Barker, J. R. 1989, *ApJS*, 71, 733
- Andrews, S. M., & Williams, J. P. 2005, *ApJ*, 631, 1134
- Andrews, S. M., & Williams, J. P. 2007, *ApJ*, 671, 1800
- Andrews, S. M., Wilner, D. J., Espaillat, C., et al. 2011, *ApJ*, 732, 42
- Armitage, P. J. 2007, *ArXiv Astrophysics e-prints*, arXiv:astro-ph/0701485
- Armitage, P. J. 2011, *ARA&A*, 49, 195
- Artymowicz, P., & Lubow, S. H. 1994, *ApJ*, 421, 651
- Augereau, J. C., Lagrange, A. M., Mouillet, D., & Ménard, F. 1999, *A&A*, 350, L51
- Augereau, J. C., & Papaloizou, J. C. B. 2004, *A&A*, 414, 1153
- Bakes, E. L. O., & Tielens, A. G. G. M. 1994, *ApJ*, 427, 822
- Ballester, G. E., Sing, D. K., & Herbert, F. 2007, *Nature*, 445, 511
- Bauschlicher, Jr., C. W., Peeters, E., & Allamandola, L. J. 2009, *ApJ*, 697, 311
- Benisty, M., Tatulli, E., Ménard, F., & Swain, M. R. 2010, *A&A*, 511, A75
- Benisty, M., Renard, S., Natta, A., et al. 2011, *A&A*, 531, A84
- Bergin, E. A., & Tafalla, M. 2007, *ARA&A*, 45, 339
- Berné, O., Joblin, C., Fuente, A., & Ménard, F. 2009, *A&A*, 495, 827

- Berné, O., & Tielens, A. G. G. M. 2012, *Proceedings of the National Academy of Science*, 109, 401
- Bjorkman, J. E., & Wood, K. 2001a, *ApJ*, 554, 615
- Bjorkman, J. E., & Wood, K. 2001b, *ApJ*, 554, 615
- Bockelée-Morvan, D., Gautier, D., Hersant, F., Huré, J.-M., & Robert, F. 2002, *A&A*, 384, 1107
- Boersma, C., Bouwman, J., Lahuis, F., et al. 2008, *A&A*, 484, 241
- Boley, A. C., Payne, M. J., Corder, S., et al. 2012, *ApJ*, 750, L21
- Bontemps, S., André, P., Kaas, A. A., et al. 2001, *A&A*, 372, 173
- Boss, A. P. 1997, *Science*, 276, 1836
- Bouwman, J., de Koter, A., Dominik, C., & Waters, L. B. F. M. 2003, *A&A*, 401, 577
- Bouwman, J., de Koter, A., van den Ancker, M. E., & Waters, L. B. F. M. 2000, *A&A*, 360, 213
- Bouwman, J., Meeus, G., de Koter, A., et al. 2001, *A&A*, 375, 950
- Bouwman, J., Henning, T., Hillenbrand, L. A., et al. 2008, *ApJ*, 683, 479
- Bowey, J. E., Barlow, M. J., Molster, F. J., et al. 2002, *MNRAS*, 331, L1
- Bradley, J. P., Humecki, H. J., & Germani, M. S. 1992, *ApJ*, 394, 643
- Brown, J. M., Blake, G. A., Qi, C., et al. 2009, *ApJ*, 704, 496
- Brown, J. M., Herczeg, G. J., Pontoppidan, K. M., & van Dishoeck, E. F. 2012a, *ApJ*, 744, 116
- Brown, J. M., Rosenfeld, K. A., Andrews, S. M., Wilner, D. J., & van Dishoeck, E. F. 2012b, *ApJ*, 758, L30
- Bruderer, S., van der Marel, N., van Dishoeck, E. F., & van Kempen, T. A. 2014, *A&A*, 562, A26
- Bryden, G., Chen, X., Lin, D. N. C., Nelson, R. P., & Papaloizou, J. C. B. 1999, *ApJ*, 514, 344
- Calvet, N., D'Alessio, P., Watson, D. M., et al. 2005, *ApJ*, 630, L185
- Cardelli, J. A., Meyer, D. M., Jura, M., & Savage, B. D. 1996, *ApJ*, 467, 334
- Carmona, A., van den Ancker, M. E., Thi, W.-F., Goto, M., & Henning, T. 2005, *A&A*, 436, 977
- Carmona, A., van der Plas, G., van den Ancker, M. E., et al. 2011, *A&A*, 533, A39
- Carmona, A., Pinte, C., Thi, W. F., et al. 2014, *ArXiv e-prints*, arXiv:1403.6193
- Casassus, S., van der Plas, G., M, S. P., et al. 2013, *Nature*, 493, 191
- Charbonneau, D., Allen, L. E., Megeath, S. T., et al. 2005, *ApJ*, 626, 523
- Chen, L., Kreplin, A., Wang, Y., et al. 2012, *A&A*, 541, A104
- Chiang, E., & Murray-Clay, R. 2007, *Nature Physics*, 3, 604
- Chiang, E. I., & Goldreich, P. 1997, *ApJ*, 490, 368
- Cieza, L. A., Schreiber, M. R., Romero, G. A., et al. 2012, *ApJ*, 750, 157
- Cieza, L. A., Padgett, D. L., Allen, L. E., et al. 2009, *ApJ*, 696, L84
- Cieza, L. A., Schreiber, M. R., Romero, G. A., et al. 2010, *ApJ*, 712, 925
- Clampin, M., Krist, J. E., Ardila, D. R., et al. 2003, *AJ*, 126, 385
- Collins, K. A., Grady, C. A., Hamaguchi, K., et al. 2009, *ApJ*, 697, 557
- Crovisier, J., Leech, K., Bockelée-Morvan, D., et al. 1997, *Science*, 275, 1904
- Currie, T. 2010, *ArXiv e-prints*, arXiv:1002.1715
- Currie, T., & Sicilia-Aguilar, A. 2011, *ApJ*, 732, 24

- Cutri, R. M., Skrutskie, M. F., van Dyk, S., et al. 2003, 2MASS All Sky Catalog of point sources.
- Davoisne, C., Djouadi, Z., Leroux, H., et al. 2006, A&A, 448, L1
- de Juan Ovelar, M., Min, M., Dominik, C., et al. 2013, A&A, 560, A111
- de Vries, B. L., Acke, B., Blommaert, J. A. D. L., et al. 2012, Nature, 490, 74
- de Winter, D., van den Ancker, M. E., Maira, A., et al. 2001, A&A, 380, 609
- de Zeeuw, P. T., Hoogerwerf, R., de Bruijne, J. H. J., Brown, A. G. A., & Blaauw, A. 1999, AJ, 117, 354
- Deleuil, M., Lecavelier des Etangs, A., Bouret, J.-C., et al. 2004, A&A, 418, 577
- Dent, W. R. F., Greaves, J. S., & Coulson, I. M. 2005, MNRAS, 359, 663
- Desch, S. J., Ciesla, F. J., Hood, L. L., & Nakamoto, T. 2005, in Astronomical Society of the Pacific Conference Series, Vol. 341, Chondrites and the Protoplanetary Disk, ed. A. N. Krot, E. R. D. Scott, & B. Reipurth, 849
- Di Francesco, J., Johnstone, D., Kirk, H., MacKenzie, T., & Ledwosinska, E. 2008, ApJS, 175, 277
- Dodson-Robinson, S. E., & Salyk, C. 2011, ApJ, 738, 131
- Doering, R. L., Meixner, M., Holfeltz, S. T., et al. 2007, AJ, 133, 2122
- Dong, R., Rafikov, R., Zhu, Z., et al. 2012, ApJ, 750, 161
- Dorschner, J., Begemann, B., Henning, T., Jaeger, C., & Mutschke, H. 1995, A&A, 300, 503
- Doucet, C., Habart, E., Pantin, E., et al. 2007, A&A, 470, 625
- Doucet, C., Pantin, E., Lagage, P. O., & Dullemond, C. P. 2006, A&A, 460, 117
- Draine, B. T. 2003, ARA&A, 41, 241
- Draine, B. T., & Li, A. 2001, ApJ, 551, 807
- Draine, B. T., & Li, A. 2007, ApJ, 657, 810
- Dullemond, C. P., Apai, D., & Walch, S. 2006, ApJ, 640, L67
- Dullemond, C. P., & Dominik, C. 2004a, A&A, 417, 159
- Dullemond, C. P., & Dominik, C. 2004b, A&A, 421, 1075
- Dullemond, C. P., & Dominik, C. 2005, A&A, 434, 971
- Dullemond, C. P., & Dominik, C. 2008, A&A, 487, 205
- Dullemond, C. P., Dominik, C., & Natta, A. 2001, ApJ, 560, 957
- Dullemond, C. P., Henning, T., Visser, R., et al. 2007a, A&A, 473, 457
- Dullemond, C. P., Hollenbach, D., Kamp, I., & D'Alessio, P. 2007b, Protostars and Planets V, 555
- Dullemond, C. P., & Monnier, J. D. 2010, ARA&A, 48, 205
- Dunkin, S. K., Barlow, M. J., & Ryan, S. G. 1997, in Astrophysics and Space Science Library, Vol. 215, Infrared Space Interferometry : Astrophysics the Study of Earth-Like Planets, ed. C. Eiroa, 9
- Edgar, R. G., & Quillen, A. C. 2008, MNRAS, 387, 387
- Ekern, S. P., Marshall, A. G., Szczepanski, J., & Vala, M. 1997, ApJ, 488, L39
- Engelke, C. W., Price, S. D., & Kraemer, K. E. 2006, AJ, 132, 1445
- Espaillet, C., Calvet, N., D'Alessio, P., et al. 2007, ApJ, 670, L135
- Fabian, D., Jäger, C., Henning, T., Dorschner, J., & Mutschke, H. 2000, A&A, 364, 282
- Fedele, D., van den Ancker, M. E., Acke, B., et al. 2008, A&A, 491, 809
- Fedele, D., Bruderer, S., van Dishoeck, E. F., et al. 2013, A&A, 559, A77

- Fisher, R. S., Telesco, C. M., Piña, R. K., Knacke, R. F., & Wyatt, M. C. 2000, *ApJ*, 532, L141
- Fitzpatrick, E. L. 1999, *PASP*, 111, 63
- Fujiwara, H., Honda, M., Kataza, H., et al. 2006, *ApJ*, 644, L133
- Fukagawa, M., Tamura, M., Itoh, Y., et al. 2006, *ApJ*, 636, L153
- Fung, J., Shi, J.-M., & Chiang, E. 2013, *ArXiv e-prints* 1310.0156, [arXiv:1310.0156](https://arxiv.org/abs/1310.0156)
- Gail, H.-P. 2004, *A&A*, 413, 571
- Galliano, F., Madden, S. C., Tielens, A. G. G. M., Peeters, E., & Jones, A. P. 2008, *ApJ*, 679, 310
- Garcia Lopez, R., Natta, A., Testi, L., & Habart, E. 2006, *A&A*, 459, 837
- Geers, V. C., Pontoppidan, K. M., van Dishoeck, E. F., et al. 2007a, *A&A*, 469, L35
- Geers, V. C., van Dishoeck, E. F., Visser, R., et al. 2007b, *A&A*, 476, 279
- Gezari, D. Y., Pitts, P. S., & Schmitz, M. 1999, *VizieR Online Data Catalog*, 2225, 0
- Gorti, U., Dullemond, C. P., & Hollenbach, D. 2009, *ApJ*, 705, 1237
- Grady, C. A., Woodgate, B. E., Bowers, C. W., et al. 2005, *ApJ*, 630, 958
- Grady, C. A., Schneider, G., Hamaguchi, K., et al. 2007, *ApJ*, 665, 1391
- Grady, C. A., Muto, T., Hashimoto, J., et al. 2013, *ApJ*, 762, 48
- Greaves, J. S., Mannings, V., & Holland, W. S. 2000, *Icarus*, 143, 155
- Guhathakurta, P., & Draine, B. T. 1989, *ApJ*, 345, 230
- Habart, E., Natta, A., & Krügel, E. 2004, *A&A*, 427, 179
- Habart, E., Natta, A., Testi, L., & Carbillet, M. 2006, *A&A*, 449, 1067
- Habing, H. J. 1968, *Bull. Astron. Inst. Netherlands*, 19, 421
- Hallenbeck, S., & Nuth, J. 1998, *Ap&SS*, 255, 427
- Hallenbeck, S. L., Nuth, III, J. A., & Nelson, R. N. 2000, *ApJ*, 535, 247
- Harker, D. E., & Desch, S. J. 2002, *ApJ*, 565, L109
- Harker, D. E., Wooden, D. H., Woodward, C. E., & Lisse, C. M. 2002, *ApJ*, 580, 579
- Hartmann, L., Calvet, N., Gullbring, E., & D'Alessio, P. 1998, *ApJ*, 495, 385
- Hellyer, B. 1970, *MNRAS*, 148, 383
- Henning, T. 2010, *ARA&A*, 48, 21
- Henning, T., Launhardt, R., Steinacker, J., & Thamm, E. 1994, *A&A*, 291, 546
- Henning, T., & Stognienko, R. 1996, *A&A*, 311, 291
- Honda, M., Inoue, A. K., Okamoto, Y. K., et al. 2010, *ApJ*, 718, L199
- Honda, M., Maaskant, K., Okamoto, Y. K., et al. 2012, *ApJ*, 752, 143
- Hony, S., Van Kerckhoven, C., Peeters, E., et al. 2001, *A&A*, 370, 1030
- Howard, A. W., Marcy, G. W., Johnson, J. A., et al. 2010, *Science*, 330, 653
- Hudgins, D. M., & Allamandola, L. J. 1999, *ApJ*, 516, L41
- Hughes, A. M., Wilner, D. J., Qi, C., & Hogerheijde, M. R. 2008, *ApJ*, 678, 1119
- Huss, G. R., MacPherson, G. J., Wasserburg, G. J., Russell, S. S., & Srinivasan, G. 2001, *Meteoritics and Planetary Science*, 36, 975
- Isella, A., Carpenter, J. M., & Sargent, A. I. 2009, *The Astrophysical Journal*, 701, 260

- Isella, A., Natta, A., Wilner, D., Carpenter, J. M., & Testi, L. 2010, *ApJ*, 725, 1735
- Jacquet, E. 2014, ArXiv e-prints, arXiv:1402.0533
- Joblin, C. 2003, in SF2A-2003: Semaine de l'Astrophysique Francaise, ed. F. Combes, D. Barret, T. Contini, & L. Pagani, 175
- Jochims, H. W., Ruhl, E., Baumgartel, H., Tobita, S., & Leach, S. 1994, *ApJ*, 420, 307
- Juhász, A., Bouwman, J., Henning, T., et al. 2010, *ApJ*, 721, 431
- Juhász, A., Dullemond, C. P., van Boekel, R., et al. 2012, *ApJ*, 744, 118
- Kamp, I. 2011, in EAS Publications Series, Vol. 46, EAS Publications Series, ed. C. Joblin & A. G. G. M. Tielens, 271–283
- Kamp, I., & Dullemond, C. P. 2004, *ApJ*, 615, 991
- Kamp, I., Tilling, I., Woitke, P., Thi, W.-F., & Hogerheijde, M. 2010, *A&A*, 510, A18
- Kasting, J. F., Whitmire, D. P., & Reynolds, R. T. 1993, *Icarus*, 101, 108
- Kataza, H., Okamoto, Y., Takubo, S., et al. 2000, in Society of Photo-Optical Instrumentation Engineers (SPIE) Conference Series, Vol. 4008, Optical and IR Telescope Instrumentation and Detectors, ed. M. Iye & A. F. Moorwood, 1144–1152
- Keller, L. D., Sloan, G. C., Forrest, W. J., et al. 2008, *ApJ*, 684, 411
- Kemper, F., Vriend, W. J., & Tielens, A. G. G. M. 2004, *ApJ*, 609, 826
- Kenyon, S. J., & Hartmann, L. 1987, *ApJ*, 323, 714
- Koike, C., Chihara, H., Tsuchiyama, A., et al. 2003, *A&A*, 399, 1101
- Koike, C., Shibai, H., & Tsuchiyama, A. 1993, *MNRAS*, 264, 654
- Koike, C., Mutschke, H., Suto, H., et al. 2006, *A&A*, 449, 583
- Krijt, S., & Dominik, C. 2011, *A&A*, 531, A80
- Kuhn, J. R., Potter, D., & Parise, B. 2001, *ApJ*, 553, L189
- Kusakabe, N., Grady, C. A., Sitko, M. L., et al. 2012, *ApJ*, 753, 153
- Lagage, P. O., Pel, J. W., Authier, M., et al. 2004, *The Messenger*, 117, 12
- Lagage, P.-O., Doucet, C., Pantin, E., et al. 2006, *Science*, 314, 621
- Lagrange, A.-M., Bonnefoy, M., Chauvin, G., et al. 2010, *Science*, 329, 57
- Le Page, V., Snow, T. P., & Bierbaum, V. M. 2003, *ApJ*, 584, 316
- Leger, A., & Puget, J. L. 1984, *A&A*, 137, L5
- Leinert, C., van Boekel, R., Waters, L. B. F. M., et al. 2004, *A&A*, 423, 537
- Li, A., & Lunine, J. I. 2003, *ApJ*, 594, 987
- Li, H., Colgate, S. A., Wendroff, B., & Liska, R. 2001, *ApJ*, 551, 874
- Lissauer, J. J. 1993, *ARA&A*, 31, 129
- Lisse, C. M., VanCleve, J., Adams, A. C., et al. 2006, *Science*, 313, 635
- Loinard, L., Torres, R. M., Mioduszewski, A. J., & Rodríguez, L. F. 2008, *ApJ*, 675, L29
- Lubow, S. H., Seibert, M., & Artymowicz, P. 1999, *ApJ*, 526, 1001
- Lyo, A.-R., Ohashi, N., Qi, C., Wilner, D. J., & Su, Y.-N. 2011, *AJ*, 142, 151
- Maaskant, K. M., Min, M., Waters, L. B. F. M., & Tielens, A. G. G. M. 2014, *A&A*, 563, A78
- Maaskant, K. M., Honda, M., Waters, L. B. F. M., et al. 2013, *A&A*, 555, A64

- MacKinnon, I. D. R., & Rietmeijer, F. J. M. 1987, *Reviews of Geophysics*, 25, 1527
- Malfait, K., Bogaert, E., & Waelkens, C. 1998, *A&A*, 331, 211
- Mamajek, E. E. 2009, in *American Institute of Physics Conference Series*, Vol. 1158, American Institute of Physics Conference Series, ed. T. Usuda, M. Tamura, & M. Ishii, 3–10
- Mannings, V., & Sargent, A. I. 1997, *ApJ*, 490, 792
- Mannings, V., & Sargent, A. I. 2000, *ApJ*, 529, 391
- Mariñas, N., Telesco, C. M., Fisher, R. S., & Packham, C. 2011, *ApJ*, 737, 57
- Marois, C., Macintosh, B., Barman, T., et al. 2008, *Science*, 322, 1348
- Marois, C., Zuckerman, B., Konopacky, Q. M., Macintosh, B., & Barman, T. 2010, *Nature*, 468, 1080
- Martin-Zaïdi, C., Lagage, P.-O., Pantin, E., & Habart, E. 2007, *ApJ*, 666, L117
- Mathis, J. S., Ruml, W., & Nordsieck, K. H. 1977, *ApJ*, 217, 425
- Matter, A., Labadie, L., Kreplin, A., et al. 2013, in *Protostars and Planets VI*, Heidelberg, July 15–20, 2013. Poster #2B014, 14
- Matter, A., Labadie, L., Kreplin, A., et al. 2014, *A&A*, 561, A26
- McClure, M. K., Furlan, E., Manoj, P., et al. 2010, *ApJS*, 188, 75
- Meeus, G., Bouwman, J., Dominik, C., Waters, L. B. F. M., & de Koter, A. 2002, *A&A*, 392, 1039
- Meeus, G., Bouwman, J., Dominik, C., Waters, L. B. F. M., & de Koter, A. 2003, *A&A*, 402, 767
- Meeus, G., Waters, L. B. F. M., Bouwman, J., et al. 2001, *A&A*, 365, 476
- Meeus, G., Pinte, C., Woitke, P., et al. 2010, *A&A*, 518, L124
- Meeus, G., Montesinos, B., Mendigutía, I., et al. 2012, *A&A*, 544, A78
- Meeus, G., Salyk, C., Bruderer, S., et al. 2013, *A&A*, 559, A84
- Meijer, J. 2007, PhD thesis, University of Amsterdam
- Mendigutía, I., Calvet, N., Montesinos, B., et al. 2011, *A&A*, 535, A99
- Mennella, V., Brucato, J. R., Colangeli, L., & Palumbo, P. 1999, *ApJ*, 524, L71
- Merín, B., Montesinos, B., Eiroa, C., et al. 2004, *A&A*, 419, 301
- Min, M., Dominik, C., & Waters, L. B. F. M. 2004, *A&A*, 413, L35
- Min, M., Dullemond, C. P., Dominik, C., de Koter, A., & Hovenier, J. W. 2009, *A&A*, 497, 155
- Min, M., Hovenier, J. W., & de Koter, A. 2005, *A&A*, 432, 909
- Momose, M., Morita, A., Okamoto, Y., et al. 2013, in *Astronomical Society of the Pacific Conference Series*, Vol. 476, Astronomical Society of the Pacific Conference Series, ed. R. Kawabe, N. Kuno, & S. Yamamoto, 389
- Montillaud, J., Joblin, C., & Toubanc, D. 2013, *A&A*, 552, A15
- Morlok, A., Koike, C., Tomioka, N., Mann, I., & Tomeoka, K. 2010, *Icarus*, 207, 45
- Mulders, G. D., Dominik, C., & Min, M. 2010, *A&A*, 512, A11
- Mulders, G. D., Min, M., Dominik, C., Debes, J. H., & Schneider, G. 2012, *ArXiv e-prints*, arXiv:1210.4132
- Mulders, G. D., Waters, L. B. F. M., Dominik, C., et al. 2011, *A&A*, 531, A93
- Muto, T., Grady, C. A., Hashimoto, J., et al. 2012, *ApJ*, 748, L22
- Mutschke, H., Begemann, B., Dorschner, J., et al. 1998, *A&A*, 333, 188

- Najita, J. R., Strom, S. E., & Muzerolle, J. 2007, *MNRAS*, 378, 369
- Nakamura, T., Noguchi, T., Tanaka, M., et al. 2011, *Science*, 333, 1113
- Natta, A., Testi, L., Calvet, N., et al. 2007, *Protostars and Planets V*, 767
- Natta, A., Testi, L., Neri, R., Shepherd, D. S., & Wilner, D. J. 2004, *A&A*, 416, 179
- Nomura, H., & Millar, T. J. 2005, *A&A*, 438, 923
- Okamoto, Y. K., Kataza, H., Yamashita, T., et al. 2003, in *Society of Photo-Optical Instrumentation Engineers (SPIE) Conference Series*, Vol. 4841, *Instrument Design and Performance for Optical/Infrared Ground-based Telescopes*, ed. M. Iye & A. F. M. Moorwood, 169–180
- Okuzumi, S., Tanaka, H., Kobayashi, H., & Wada, K. 2012, *ApJ*, 752, 106
- Oliveira, I., Merín, B., Pontoppidan, K. M., & van Dishoeck, E. F. 2013, *ApJ*, 762, 128
- Olofsson, J., Augereau, J.-C., van Dishoeck, E. F., et al. 2009, *A&A*, 507, 327
- Olofsson, J., Benisty, M., Le Bouquin, J.-B., et al. 2013, *A&A*, 552, A4
- Paardekooper, S.-J., & Mellema, G. 2004, *A&A*, 425, L9
- Panić, O., Hogerheijde, M. R., Wilner, D., & Qi, C. 2008, *A&A*, 491, 219
- Peeters, E., Hony, S., Van Kerckhoven, C., et al. 2002, *A&A*, 390, 1089
- Piétu, V., Dutrey, A., Guilloteau, S., Chapillon, E., & Pety, J. 2006, *A&A*, 460, L43
- Piétu, V., Guilloteau, S., & Dutrey, A. 2005, *A&A*, 443, 945
- Pilipp, W., Hartquist, T. W., Morfill, G. E., & Levy, E. H. 1998, *A&A*, 331, 121
- Pinilla, P., Benisty, M., & Birnstiel, T. 2012, *A&A*, 545, A81
- Pinte, C., Harries, T. J., Min, M., et al. 2009, *A&A*, 498, 967
- Pollack, J. B., Hubickyj, O., Bodenheimer, P., et al. 1996, *Icarus*, 124, 62
- Pontoppidan, K. M., Blake, G. A., van Dishoeck, E. F., et al. 2008, *ApJ*, 684, 1323
- Preibisch, T., Ossenkopf, V., Yorke, H. W., & Henning, T. 1993, *A&A*, 279, 577
- Puget, J. L., & Leger, A. 1989, *ARA&A*, 27, 161
- Qi, C., D’Alessio, P., Öberg, K. I., et al. 2011, *ApJ*, 740, 84
- Quanz, S. P., Avenhaus, H., Buenzli, E., et al. 2013, *ArXiv e-prints*, arXiv:1302.3029
- Quanz, S. P., Birkmann, S. M., Apai, D., Wolf, S., & Henning, T. 2012, *A&A*, 538, A92
- Raman, A., Lisanti, M., Wilner, D. J., Qi, C., & Hogerheijde, M. 2006, *AJ*, 131, 2290
- Rapacioli, M., Joblin, C., & Boissel, P. 2005, *A&A*, 429, 193
- Reche, R., Beust, H., & Augereau, J.-C. 2009, *A&A*, 493, 661
- Ricca, A., Bauschlicher, Jr., C. W., Boersma, C., Tielens, A. G. G. M., & Allamandola, L. J. 2012, *ApJ*, 754, 75
- Rice, W. K. M., Armitage, P. J., Wood, K., & Lodato, G. 2006, *MNRAS*, 373, 1619
- Sako, S., Okamoto, Y. K., Kataza, H., et al. 2003, *PASP*, 115, 1407
- Salyk, C., Blake, G. A., Boogert, A. C. A., & Brown, J. M. 2007, *ApJ*, 655, L105
- Salyk, C., Blake, G. A., Boogert, A. C. A., & Brown, J. M. 2009, *ApJ*, 699, 330
- Salyk, C., Pontoppidan, K. M., Blake, G. A., Najita, J. R., & Carr, J. S. 2011, *ApJ*, 731, 130
- Sandell, G., Weintraub, D. A., & Hamidouche, M. 2011, *ApJ*, 727, 26
- Sandford, S. A., Aléon, J., Alexander, C. M. O. ., et al. 2006, *Science*, 314, 1720

- Scheegerer, A. A., Ratzka, T., Schuller, P. A., et al. 2013, *A&A*, 555, A103
- Schutte, W. A., Tielens, A. G. G. M., & Allamandola, L. J. 1993, *ApJ*, 415, 397
- Shakura, N. I., & Sunyaev, R. A. 1973, *A&A*, 24, 337
- Shu, F., Najita, J., Ostriker, E., et al. 1994, *ApJ*, 429, 781
- Siebenmorgen, R., & Heymann, F. 2012, *A&A*, 543, A25
- Siebenmorgen, R., & Krügel, E. 2010, *A&A*, 511, A6
- Sirono, S.-i. 2011, *ApJ*, 735, 131
- Sitko, M. L., Day, A. N., Kimes, R. L., et al. 2012, *ApJ*, 745, 29
- Sloan, G. C., Keller, L. D., Forrest, W. J., et al. 2005, *ApJ*, 632, 956
- Smith, J. D. T., Draine, B. T., Dale, D. A., et al. 2007, *ApJ*, 656, 770
- Snow, T. P., & Witt, A. N. 1995, *Science*, 270, 1455
- Strom, K. M., Strom, S. E., Edwards, S., Cabrit, S., & Skrutskie, M. F. 1989, *AJ*, 97, 1451
- Sturm, B., Bouwman, J., Henning, T., et al. 2010, *A&A*, 518, L129
- Sturm, B., Bouwman, J., Henning, T., et al. 2013, *A&A*, 553, A5
- Suto, H., Sogawa, H., Tachibana, S., et al. 2006, *Monthly Notices of the Royal Astronomical Society*, 370, 1599
- Sylvester, R. J., Dunkin, S. K., & Barlow, M. J. 2001, *MNRAS*, 327, 133
- Sylvester, R. J., Skinner, C. J., Barlow, M. J., & Mannings, V. 1996, *MNRAS*, 279, 915
- Tanabe, T., Nakada, Y., Kamijo, F., & Sakata, A. 1983, *PASJ*, 35, 397
- Tanaka, K. K., Yamamoto, T., & Kimura, H. 2010, *ApJ*, 717, 586
- Tatulli, E., Benisty, M., Ménard, F., et al. 2011, *A&A*, 531, A1
- Testi, L., Birnstiel, T., Ricci, L., et al. 2014, *ArXiv e-prints*, arXiv:1402.1354
- Thi, W.-F., Pinte, C., Pantin, E., et al. 2013, *ArXiv e-prints*, arXiv:1309.5098
- Thi, W.-F., Pinte, C., Pantin, E., et al. 2014, *A&A*, 561, A50
- Tielens, A. G. G. M. 2005, *The Physics and Chemistry of the Interstellar Medium*
- Tielens, A. G. G. M. 2008, *ARA&A*, 46, 289
- Tielens, A. G. G. M., Allamandola, L. J., Barker, J. R., & Cohen, M. 1987, in *NATO ASIC Proc. 191: Polycyclic Aromatic Hydrocarbons and Astrophysics*, ed. A. Leger, L. D'Hendecourt, & N. Boccara, 273–285
- Tielens, A. G. G. M., & Hollenbach, D. 1985, *ApJ*, 291, 722
- Urey, H. C. 1967, *Icarus*, 7, 350
- van Boekel, R., Min, M., Waters, L. B. F. M., et al. 2005, *A&A*, 437, 189
- van Boekel, R., Waters, L. B. F. M., Dominik, C., et al. 2004, *A&A*, 418, 177
- van den Ancker, M. E., de Winter, D., & Tjin A Djie, H. R. E. 1998, *A&A*, 330, 145
- van der Marel, N., van Dishoeck, E. F., Bruderer, S., et al. 2013, *Science*, 340, 1199
- van der Plas, G., van den Ancker, M. E., Acke, B., et al. 2009, *A&A*, 500, 1137
- van der Veen, W. E. C. J., Habing, H. J., & Geballe, T. R. 1989, *A&A*, 226, 108
- Varnière, P., Quillen, A. C., & Frank, A. 2004, *ApJ*, 612, 1152
- Verhoeff, A. 2009, PhD thesis, *Sterrenkundig Instituut "Anton Pannekoek"*, University of Amsterdam

- Verhoeff, A. P., Min, M., Acke, B., et al. 2010, *A&A*, 516, A48
- Verhoeff, A. P., Min, M., Pantin, E., et al. 2011, *A&A*, 528, A91
- Verhoeff, A. P., Waters, L. B. F. M., van den Ancker, M. E., et al. 2012, *A&A*, 538, A101
- Visser, R., Geers, V. C., Dullemond, C. P., et al. 2007, *A&A*, 466, 229
- Waelkens, C., Bogaert, E., & Waters, L. B. F. M. 1994, in *Astronomical Society of the Pacific Conference Series*, Vol. 62, *The Nature and Evolutionary Status of Herbig Ae/Be Stars*, ed. P. S. The, M. R. Perez, & E. P. J. van den Heuvel, 405
- Walker, H. J., & Butner, H. M. 1995, *Ap&SS*, 224, 389
- Weidenschilling, S. J. 1980, *Icarus*, 44, 172
- Williams, J. P., & Cieza, L. A. 2011, *ARA&A*, 49, 67
- Wisniewski, J. P., Clampin, M., Grady, C. A., et al. 2008, *ApJ*, 682, 548
- Woitke, P., Kamp, I., & Thi, W.-F. 2009, *A&A*, 501, 383
- Wooden, D. H., Harker, D. E., & Brearley, A. J. 2005, in *Astronomical Society of the Pacific Conference Series*, Vol. 341, *Chondrites and the Protoplanetary Disk*, ed. A. N. Krot, E. R. D. Scott, & B. Reipurth, 774
- Wooden, D. H., Harker, D. E., Woodward, C. E., et al. 1999, *ApJ*, 517, 1034
- Wyatt, M. C. 2005, *A&A*, 440, 937
- Zacharias, N., Monet, D. G., Levine, S. E., et al. 2004, in *Bulletin of the American Astronomical Society*, Vol. 36, *American Astronomical Society Meeting Abstracts*, 1418
- Zhen, J., Paardekooper, D., Candian, A., Linnartz, H., & Tielens, A. 2013, *Chemical Physics Letters*,
- Zhu, Z., Nelson, R. P., Dong, R., Espaillat, C., & Hartmann, L. 2012, *ApJ*, 755, 6
- Zolensky, M., Nakamura-Messenger, K., Rietmeijer, F., et al. 2008, *Meteoritics and Planetary Science*, 43, 261
- Zolensky, M. E., Zega, T. J., Yano, H., et al. 2006, *Science*, 314, 1735
- Zubko, V. G., Mennella, V., Colangeli, L., & Bussolletti, E. 1996, *MNRAS*, 282, 1321

Curriculum vitae

I was born on the fourth of July, 1985, in a small hospital in the picturesque village Naarden. My childhood, where I played football up to my 18th birthday, took place in Muiden, famous for its medieval castle ‘Muiderslot’. In Bussum, I went to the high-school ‘Goois Lyceum’. This was an important period as my future interest drastically changed from architecture to physics. Key for this early career shift was the first moment where I held my physics book, learned the physics behind cathode ray tubes, and thought: this is amazing. Between 2003 and 2010, I studied physics & astronomy at the University of Amsterdam. In these vivid years, I explored student life in optima forma, including rowing at student society Skøll, working in the planetarium of the Amsterdam zoo Artis, and other typical activities.

After an internship at the Amsterdam Medical Center, and some interesting psychology and epistemological philosophy courses, I came to realize that I really wanted to do astrophysics. I was fortunate to carry out my master research with dr. L.B.F.M. Waters, with who I studied stellar evolution in high mass star forming regions using VLT/Sinfoni integral field spectroscopic data. During my PhD, I worked with dr. A.G.G.M. Tielens at Leiden Observatory, and studied the evolution of protoplanetary disks of Herbig stars. I focussed on comparing data from telescopes such as Spitzer, Herschel, VLT and Subaru, with numerical radiative transfer models, in order to understand observational signatures of molecules and silicate dust around young stars and exoplanets. As a next step in my career, I will work as a researcher in the high-tech industry.



Koen Maarten Maaskant (2013)

Publications

- de Vries, B. L., **Maaskant, K.M.** et al. 2014. First evidence for large forsterite grains around evolved stars: using spectral features to probe the grain size of forsterite around the pre-planetary nebula IRAS 17150. To be submitted to *Astronomy & Astrophysics*
- Ellerbroek, L. E., ... **Maaskant, K.M.**, et al. 2014. A resolved, au-scale gas disk around the B[e] star HD 50138. Submitted to *Astronomy & Astrophysics*
- Khalafinejad, S., **Maaskant, K. M.**, et al. 2014. *Large gaps in the transitional disks of HD 100453 and HD 34282: connecting the gap size to the spectral energy distribution.* Submitted to *Astronomy & Astrophysics*
- **Maaskant, K. M.**, et al. 2014. *Location and sizes of forsterite grains in protoplanetary disks: interpretation from the Herschel DIGIT programme.* *Astronomy & Astrophysics*
- **Maaskant, K. M.**, et al. 2014. *Polycyclic aromatic hydrocarbon ionization as a tracer of gas flows through protoplanetary disk gaps.* *Astronomy & Astrophysics*
- Meeus, G., ... **Maaskant, K. M.**, et al 2013. *DIGIT survey of far-infrared lines from protoplanetary discs. II. CO.* *Astronomy & Astrophysics*
- Ellerbroek, L. E., ... **Maaskant, K. M.**, et al. 2013. *RCW36: characterizing the outcome of massive star formation.* *Astronomy & Astrophysics*
- **Maaskant, K. M.**, et al. 2013. *Identifying gaps in flaring Herbig Ae/Be disks using spatially resolved mid-infrared imaging. Are all group I disks transitional?.* *Astronomy & Astrophysics*
- Sturm, B., ... **Maaskant, K.M.**, et al. 2013. *The 69 μm forsterite band in spectra of protoplanetary disks. Results from the Herschel DIGIT programme.* *Astronomy & Astrophysics*
- Honda, M., **Maaskant, K. M.**, et al. 2012. *Mid-infrared Imaging of the Transitional Disk of HD 169142: Measuring the Size of the Gap.* *Astrophysical Journal*
- **Maaskant, K. M.**, et al. 2011. *Sequential star formation in IRAS 06084-0611 (GGD 12-15). From intermediate-mass to high-mass stars.* *Astronomy & Astrophysics*

Conference proceedings

- **Maaskant, K. M.**, et al. 2013
Are all flaring Herbig disks transitional?
- Ellerbroek, L.E., ... **Maaskant, K. M.**, et al. 2012
The Star Formation History of RCW 36
- Mulders, G, ... **Maaskant, K. M.**, et al. 2012
Locating dust crystals in protoplanetary disks with Herschel PACS

Positions and diplomas

- PhD Astronomy & Astrophysics
(2010 - 2014), Leiden University
The Netherlands
- MSc Astronomy and Astrophysics
(2008-2010), University of Amsterdam
The Netherlands
- BSc Physics and Astronomy
(2003-2008), University of Amsterdam
The Netherlands
- Highschool, Voorbereidend Wetenschappelijk Onderwijs
(1997-2003), Bussum
The Netherlands

