

# Publications of the Infrared-Astronomy Group

## Max Planck Institute for Radio Astronomy

### 2005

#### Refereed and Invited Papers

*Balega, I.I., Balega, Y.Y., Hofmann, K.-H., Pluzhnik, E.A., Schertl, D., Shkhagosheva, Z.U., Weigelt, G.:* Orbits of new Hipparcos binaries. I\*, *A&A*, **433** (Issue 2), pp.591-596 (2005)

*Balega, Y.Y., Leushin, V.V., Weigelt, G.:* Atmospheric Elemental Abundances for the Components of the Multiple System ADS 11061. 41 Draconis, *Astronomy Reports*, Vol. **49**, Issue 3, pp.217-225 (2005)

*Britzen, S., Witzel, A., Krichbaum, T.P., Beckert, T., Campbell, R.M., Schalinski, C., Campbell, J.:* The radio structure of S5 1803+784, *Monthly Notices of the Royal Astronomical Society*, Vol. **362**, Issue 3, pp.966-974 (2005)

*Chesneau, O., Meilland, A., Rivinius, T., Stee, Ph., Jankov, S., Domiciano de Souza, A., Graser, U., Herbst, T., Janot-Pacheco, E., Koehler, R., Leinert, C., Morel, S., Paresce, F., Richichi, A., Robbe-Dubois, S.:* First VLTI/MIDI observations of a Be star: Alpha Arae, *A&A*, **435**, 275-287 (2005)

*Domiciano de Souza, A., Kervella, P., Jankov, S., Vakili, F., Ohishi, N., Nordgren, T.E., Abe, L.:* Gravitational-darkening of Altair from interferometry, *A&A*, **442**, Issue 2, pp.567-578 (2005)

*Feigelson, E.D., Getman, K., Townsley, L., Garmire, G., Preibisch, Th., Grosso, N., Montmerle, T., Muench, A., McCaughrean, M.:* Global X-ray properties of the Orion Nebula region, *Astrophysical Journal Supplement (COUP Special Issue)*, **160**, Issue 2, pp.379-389 (2005)

*Gaessler, W.; Arcidiacono, C.; Egner, S.; Herbst, T. M.; Andersen, D.; Baumeister, H.; Bizenberger, P.; Boehnhardt, H.; Briegel, F.; Kuerster, M.; Laun, W.; Mohr, L.; Grimm, B.; Rix, H. W.; Rohloff, R. R.; Soci, R.; Storz, C.; Xu, W.; Ragazzoni, R.; Salinari, P.; Diolaiti, E.; Farinato, J.; Carillet, M.; Schreiber, L.; Eckart, A.; Bertram, T.; Straubmeier, C.; Wang, Y.; Zealouk, L.; Weigelt, G.; Beckmann, U.; Behrend, J.; Driebe, T.; Heininger, M.; Hofmann, K. H.; Nussbaum, E.; Schertel, D.; Masciadri, E.:* LINC-NIRVANA: MCAO toward extremely large telescopes. *Comptes Rendus Physique*, **6**, pp.1129-1138 (2005)

*Getman, K.V., Flaccomio, E., Broos, P.S., Grosso, N., Tsujimoto, M., Townsley, L., Garmire, G.P., Kastner, J., Li, J., Harnden, F.R., Jr.; Wolk, S., Murray, S.S., Lada, C.J., Muench, A.A., McCaughrean, M.J., Meeus, G., Damiani, F., Micela, G., Sciortino, S., Bally, J., Hillenbrand, L.A., Herbst, W., Preibisch, Th., and Feigelson, E.D.:* Chandra Orion Ultradeep Project: Observations and Source Lists, *Astrophysical Journal Supplement (COUP Special Issue)*, **160**, Issue 2, pp.319-352 (2005)

*Hofmann, K.-H., Driebe, T., Heininger, M., Schertl, D., and Weigelt, G.:* Reconstruction of aperture-synthesis images from LBT LINC-NIRVANA data using the Richardson-Lucy and space-variant Building Block method. *A&A*, **444**, pp.983-993 (Section 'Instruments, observational techniques, and data processing') (2005)

*Hönig, S. und Tscharnuter, W.:* Preliminary orbital elements of four interferometric binary stars. *Astronomical Journal*, **129**, Issue 3, pp.1663-1668 (2005)

*Kraus, S., Schloerb, F.P., Traub, W.A., Carleton, N.P., Lacasse, M., Pearlman, M., Monnier, J.D., Millan-Gabet, R., Berger, J.P., Haguenaer, P., Perraut, K., Kern, P., Malbet, F., and Labeyrie, P.:* Infrared Imaging of Capella with the IOTA Closure Phase Interferometer, *The Astronomical Journal*, **130**, pp.246-255 (2005)

*Malbet, F.; Lachaume, R.; Berger, J.-P.; Colavita M.; Di Folco E.; Eisner J., Millan-Gabet R.; Ségransan D.; Traub W.:* New insights on the AU-scale circumstellar structure of FU Orionis, *A&A*, **437**, pp.627-636 (2005)

*Men'shchikov, A.B., Miroshnichenko, A.S.:* Properties of galactic B[e] supergiants. V. Two-dimensional radiative transfer model of RY Sct and its dusty disc, *A&A*, **443**, Issue 1, pp.211-222 (2005)

*Nakajima, T.; Morino, J. I.; Tsuji, T.; Suto, H.; Ishii, M.; Tamura, M.; Fukugawa, M.; Murakawa, K.; Miyama, S.; Takami, H.; Takato, N.; Oya, S.; Hayashi, S.; Kudo, T.; Itoh, Y.; Oasa, Y.; Oppenheimer, B. R.:* A coronagraphic search for brown dwarfs and planets around nearby stars. *AN*, **326**, 952-957 (2005)

*Ohnaka, K.; Bergeat, J.; Driebe, T.; Graser, U.; Hofmann, K.-H.; Koehler, R.; Leinert, C.; Lopez, B.; Malbet, F.; Morel, S.; Paresce, F.; Perrin, G.; Preibisch, T.; Richichi, A.; Schertl, D.; Schoeller, M.; Sol, H.; Weigelt, G.; Wittkowski, M.:* Mid-infrared interferometry of the Mira variable RR Sco with the VLTI MIDI instrument, *A&A*, **429**, pp.1057-1067 (2005)

*Preibisch, Th., McCaughrean, M.J., Grosso, N., Feigelson, E.D., Flaccomio, E., Getman, K., Hillenbrand, L.A., Meeus, G., Micela, G., Sciortino, S., Stelzer, B.:* X-ray emission from young brown dwarfs in the Orion Nebula Cluster, *Astrophysical Journal Supplement (COUP Special Issue)*, **160**, Issue 2, pp.582-593 (2005)

*Preibisch, Th. & Feigelson, Eric D.:* The evolution of X-ray emission in young stars, *Astrophysical Journal Supplement (COUP Special Issue)*, **160**, Issue 2, pp.390-400 (2005)

*Preibisch, Th., Kim, Y.-C., Favata, F., Feigelson, E., Flaccomio, E., Getman, K., Micela, G., Sciortino, S., Stassun, K., Stelzer, B., Zinnecker, H.:* The Origin of T Tauri X-ray Emission: New Insights from the Chandra Orion Ultradeep Project, *Astrophysical Journal Supplement (COUP Special Issue)*, **160**, Issue 2, pp.401-422 (2005)

*Riechers, D.; Balega, Y.; Driebe, T.; Hofmann, K.-H.; Men'shchikov, A.B.; Shenavrin, V.I.; Weigelt, G.:* A quasi-time-dependent radiative transfer model of OH 104.9+2.4\*, *A&A*, **436**, 925-931 (2005)

*Smith, K.W.; Balega, Y.Y.; Duschl, W.J.; Hofmann, K.-H.; Lachaume, R.; Preibisch, Th.; Schertl, D.; Weigelt, G.:* Close binary companions of the H Ae Be stars LkHa 198, Elias 1, HK Ori and V380 Ori, *A&A*, **431**, 307-319 (2005)

*Stelzer, B., Flaccomio, E., Montmerle, T., Micela, G., Sciortino, S., Favata, F., Preibisch, Th., Feigelson, E.D.:* X-ray emission from early-type stars in the Orion Nebula Cluster, *Astrophysical Journal Supplement (COUP Special Issue)*, **160**, Issue 2, pp.557-581 (2005)

*Wittkowski, M., Boboltz, D.A., Driebe, T., Ohnaka, K.:* VLTI observations of AGB stars, *Memorie della Societa Astronomica Italiana*, **76**, p.457 (2005)

## Proceedings

*Beckert, T.:* Infrared emission from the dusty veil around AGN (see poster), Workshop Multiband Approach to AGN, Sept. 30 - Oct. 2, 2004, Bonn, Germany; *Memorie della Societa Astronomica Italiana*, **76**, 150 (2005)

*Beckert, T., Duschl, W.J., Vollmer, B.:* Torus models for obscuration in Type 2 AGN, In: Growing black holes: accretion in a cosmological context. Proceedings of the MPA/ESO/MPE/USM Joint Astronomy Conference held at Garching, Germany, June 21-25, 2004. ESO astrophysics symposia, p.242-247 (2005)

*Beckert, T.:* Dusty tori around AGN and the obscured growth of super-massive black holes. Japanese-German Symposium 2005 (JGS05): "The Formation and Co-Evolution of Black Holes and Galaxies" from July 18-22, 2005 in Regensburg, Germany. (2005)

*Beckert, T., Hönl, S., Duschl, W., Weigelt, G.:* Infrared emission from a clumpy and dusty torus around AGN, *Astron. Nachr./AN*, **326**, Issue 7 - Short Contributions AG 2005 Köln, p.536 (2005)

*de Wit, W.J., Benisty, M., Berger, J.P., Cheasneau, O., Isella, A., Kraus, S., Malbet, F., Meilland, A., Petrov, R., Stee, P., Tatulli, E., Testi, L., Weigelt, G. + AMBER consortium, + ESO AMBER astronomers:* VLTI/AMBER resolves disk-outflow interaction region of the B1.5V star MWC297, IAU Symposium 227 - "Massive Star Birth: A Crossroads of Astrophysics", May 16-20, 2005 in Acireale, Italy. (2005)

*Domiciano de Souza, A.; Zorec, J.; Vakili, F.; Jankov, S.:* Stellar differential rotation and inclination angle of hot fast rotators from spectro-interferometry, *Semaine de l'Astrophysique Francaise, Conference Series*, meeting held in Paris, France, June 14-18, 2004, Combes, F.; Barret, D.; Contini, T.; Meynadier, F.; Pagani, L. (eds.); published by EdP-Sciences, Conference Series, p. 285 (2005)

*Driebe, T., Ohnaka, K., Weigelt, G.:* Mid-infrared interferometry of the Mira variable RR Sco with the VLTI MIDI instrument, Annual Scientific Meeting of the Astronomische Gesellschaft, Cool Stars, Stellar Systems and the Sun, July 5-9, 2004, Hamburg, Germany, F. Favata et al. (eds.); ESA Special Publications Series - SP-560, pp.351-357 (2005)

*Driebe, T., Riechers, D., Balega, Y.Y., Hofmann, K.-H., Men'shchikov, A.B., and Weigelt, G.:* High-Resolution Near-Infrared Speckle Interferometry and Radiative Transfer Modeling of the OH/IR star OH-26.5+0.6 (for poster), *Astron. Nachr./AN*, **326**, Issue 7 - Short Contributions AG 2005 Köln, p.648 (2005)

*Driebe, T., Hofmann, K.-H., Ohnaka, K., Preibisch, Th., Weigelt, G., and Wittkowski, M.:* Mid-infrared long-baseline interferometry of the symbiotic Mira star RX Pup with the VLTI/MIDI instrument (for poster), *Astron. Nachr./AN*, **326**, Issue 7 - Short Contributions AG 2005 Köln, p.649 (2005)

Hönig, S., Beckert, T., Ohnaka, K., Weigelt, G.: Monte Carlo radiative transfer modelling of clumpy tori around AGN. Japanese-German Symposium 2005 (JGS05): "The Formation and Co-Evolution of Black Holes and Galaxies" from July 18-22, 2005 in Regensburg, Germany. (2005)

Hofmann, K.-H., Woodruff, H.C., Schertl, D.: 2004 Interferometric observations of the Mira star  $\alpha$  Ceti with the VLTI/VINCI instrument in the near-infrared, Annual Scientific Meeting of the Astronomische Gesellschaft, Cool Stars, Stellar Systems and the Sun, July 5-9, 2004, Hamburg, Germany, F. Favata et al. (eds.); ESA Special Publications Series - SP-560, pp.651-655, 2005 (2005)

Kostiuk, T., Livengood, T.A., Sonnabend, G., Hewagama, T., Fast, K., Annen, J., Tokunaga, A., Murakawa, K., Schmülling, F.: Update on Titan's Stratospheric Winds Before and During Huygens Entry Epoch, American Astronomical Society, DPS meeting #37, #51.09; Bulletin of the American Astronomical Society, Vol. 37, p.735 (2005)

Kraus, S., Balega, Y.Y., Hofmann, K.-H., Preibisch, Th., Weigelt, G.: Bispectrum speckle imaging of the ultracompact HII region K3-50A, Astron. Nachr./AN, **326**, Issue 7 - Short Contributions AG 2005 Köln, p.563 (2005)

Kraus, S.; Balega, Y.Y.; Hofmann, K.-H.; Preibisch, T.; Weigelt, G.: High-resolution near-infrared interferometric imaging of the ultracompact H II region K3-50a. IAU Symposium 227 - "Massive Star Birth: A Crossroads of Astrophysics", May 16-20, 2005 in Acireale, Italy. (2005)

Livengood, T. A.; Kostiuk, Th.; Sonnabend, G.; Annen, J. N.; Fast, K. E.; Tokunaga, A.; Murakawa, K.; Hewagama, T.; Schmülling, F.; Schieder, R.: Remote Measurement of infrared emission by ethane in Titan's stratosphere at the Huygens entry epoch, American Astronomical Society, DPS meeting #37, #45.19; Bulletin of the American Astronomical Society, Vol. 37, p.720 (2005)

Lachaume, R.: Self-gravity vs. irradiation in proto-planetary discs / The structure of circumstellar accretion discs: does self-gravity prevent stellar irradiation from heating up the disc?, Semaine de l'Astrophysique Française, Conference Series, meeting held in Paris, France, June 14-18, 2004, Combes, F., Barret, D., Contini, T., Meynadier F., Pagani, L. (eds.); published by EdP-Sciences, Conference Series, p. 229 (2004)

Middelberg, E.; Roy, A. L.; Bach, U.; Gabuzda, D. C.; Beckert, T.: Where Has All the Polarization Gone?, "Future Directions in High Resolution Astronomy: The 10th Anniversary of the VLBA", ASP Conference Proceedings, Vol. **340**. Astronomical Society of the Pacific, p. 189 (2005)

Ohnaka, K.: Warm water vapor envelope in the supergiants  $\alpha$  Ori and  $\alpha$  Her and its effects on the apparent size from the near-infrared to the mid-infrared, Annual Scientific Meeting of the Astronomische Gesellschaft, Cool Stars, Stellar Systems and the Sun, July 5-9, 2004, Hamburg, Germany, F. Favata et al. (eds.); ESA Special Publications Series - SP-560, p.849-852 (2005)

Ohnaka, K., Driebe, T., Hofmann, K.-H., Schertl, D., Weigelt, G.: VLTI/MIDI observation of the silicate carbon star Hen 38 (IRAS08002-3803): Silicate dust reservoir spatially resolved for the first time, Astron. Nachr./AN, **326**, Issue 7 - Short Contributions AG 2005 Köln, p.567 (2005)

Ohnaka, K., Driebe, T., Hofmann, K.-H., Schertl, D., Weigelt, G.: Mid-infrared spectro-interferometric observation of the Mira variable RR Sco with the VLTI/MIDI instrument, Astron. Nachr./AN, **326**, Issue 7 - Short Contributions AG 2005 Köln, p.567 (2005)

Preibisch, Th., Beuther, H., Hofmann, K.-H., Meyer, M., Schertl, D., Smith, M.D., Weigelt, G., Young, E.T.: Bispectrum speckle interferometry of the massive protostellar outflow source IRAS-23151+5912, Astron. Nachr./AN, **326**, Issue 7 - Short Contributions AG 2005 Köln, p.570 (2005)

Riechers, D., Driebe, T., Balega, Y.Y., Hofmann, K.-H., Men'shchikov, A.B., and Weigelt, G.: High-Resolution Near-Infrared Speckle Interferometry and Radiative Transfer Modeling of the OH/IR star OH-104.9+2.4 (for poster), Astron. Nachr./AN, **326**, Issue 7 - Short Contributions AG 2005 Köln, p.666 (2005)

Weigelt, G., Beckert, T., Hofmann, K.-H., Schertl, D., Wittkowski, M.: Near-infrared interferometry of AGN (see poster)(see powerpoint), Workshop Multiband Approach to AGN, Sept. 30 - Oct. 2, 2004, Bonn, Germany; Memorie della Societa Astronomica Italiana, **76**, 39 (2005)

Weigelt, G., Beckert, T., Hofmann, K.-H., Schertl, D., Wittkowski, M.: NIR interferometry of the Seyfert galaxy NGC 1068: present interferometric results and future goals, 37th Liège International Astrophysical Colloquium Science Case for Next Generation Optical/Infrared Interferometric Facilities (the post VLTI era)(2005), pgs. 97-104, Surdej, J.; Caro, D.; Detal, A. (eds.). Conference held August 23-26, 2004 in Liège, Belgium. (2005)

Weigelt, G., Beckert, T., Duschl, W., Hönig, S., Wittkowski, M.: Infrared Interferometry of AGN. Japanese-German Symposium 2005 (JGS05): "The Formation and Co-Evolution of Black Holes and Galaxies" from July 18-22, 2005 in Regensburg, Germany (2005)

*Weigelt, G., Balega, Y.Y., Beuther H., Hofmann, K.-H., Preibisch, T., Smith, M.D.:* Bispectrum speckle interferometry of the massive protostellar outflow source IRAS 23151+5912, The many scales in the Universe; Star formation, JENAM Conference, Sep 13-17, 2004, Granada, Spain (2005)

*Weigelt, G., Beckert, T., Beckmann, U., Driebe, T., Foy, R., Fraix-Burnet, D., Hofmann, K.-H., Kraus, S., Malbet, F., Mathias, P., Marconi, A., Monin, J.-L., Petrov, R., Schertl, D., Stee, P., Testi, L.:* "Near-infrared Interferometry with the AMBER Instrument of the VLTI, *Astron. Nachr./AN*, **326**, Issue 7 - Short Contributions AG 2005 Köln, p.572 (2005)

*Weigelt, G., Balega, Y.Y., Beckert, T., Duschl, W.J., Hofmann, K.-H., Men'shchikov, A.B., Schertl, D., Wittkowski, M.:* Infrared Interferometry of the Seyfert Galaxy NGC 1068, *Astron. Nachr./AN*, **326**, Suppl. Issue 7 - Short Contributions AG 2005 Köln, p.558 (2005)

*Wittkowski, M., Paresce, F., Chesneau, O., Kervella, P., Meilland, A., Meisenheimer, K., Ohnaka, K.:* Recent astrophysical results from the VLTI, *The Messenger*, **119**, pp.36-42 (2005)