

Publications of the Infrared-Astronomy Group

Max Planck Institute for Radio Astronomy

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Refereed and Invited Papers

- Abraham, J. und 460 weitere Autoren einschl. Biermann, P. L., Dutan, I.: Limit on the diffuse flux of ultrahigh energy tau neutrinos with the surface detector of the Pierre Auger Observatory., *Physical Review*, **D 79**, 102001, 1-15 (2009)
- Abramowicz, M. A., Becker, J. K., Biermann, P. L., Garzilli, A., Johansson, F., Qian, L.: No observational constraints from hypothetical collisions of hypothetical dark halo primordial black holes with galactic objects., *Astrophys. J.*, **705**, 659-669 (2009)
- Becker, J. K., Biermann, P. L.: Neutrinos from active black holes, sources of ultra high energy cosmic rays., *Astroparticle Physics*, **31**, 138-148 (2009)
- Biermann, P. L., Becker, J. K., Caramete, L., Curutiu, A., Engel, R., Falcke, H., Gergely, L. Á., Isar, P. G., Maris, I. C., Meli, A., Kampert, K.-H., Stanev, T., Tascou, O., Zier, C.: Active galactic nuclei: sources for ultra high energy cosmic rays?, *Nuclear Physics B Proceedings Supplements*, **190**, 61-78 (2009)
- Biermann, P. L., Becker, J. K., Caramete, L., Gergely, L., Maris, I. C., Meli, A., de Souza, V., Stanev, T.: Active galactic nuclei: sources for ultra high energy cosmic rays., *International Journal of Modern Physics D*, **18**, 1577-1581 (2009)
- Biermann, P. L., Becker, J. K., Meli, A., Rhode, W., Seo, E. S., Stanev, T.: Cosmic ray electrons and positrons from supernova explosions of massive stars., *Physical Review Letters*, **103**, 061101, 1-4 (2009)
- Borges Fernandes, M., Kraus, M., Chesneau, O., Domiciano de Souza, A., de Araújo, F.X., Stee, P., and Meiland, A.: The galactic unclassified B[e] star HD 50138. I. A possible new shell phase, *A&A*, **508**, 309-320 (2009)
- Burtscher, L.; Jaffe, W.; Raban, D.; Meisenheimer, K.; Tristram, K. R. W.; Röttgering, H.: Dust Emission from a Parsec-Scale Structure in the Seyfert 1 Nucleus of NGC 4151, *ApJ Letters*, **705**, Issue 1, L53-L57 (2009)
- Demory, B.-O.; Ségransan, D.; Forveille, T.; Queloz, D.; Beuzit, J.-L.; Delfosse, X.; di Folco, E.; Kervella, P.; Le Bouquin, J.-B.; Perrier, C.; Benisty, M.; Duvert, G.; Hofmann, K.-H.; Lopez, B.; Petrov, R.: Mass-radius relation of low and very low-mass stars revisited with the VLTI, *A&A*, **505**, Issue 1, 205-215 (2009)
- Driebe, T., Groh, J.H., Hofmann, K.-H., Ohnaka, K., Kraus, S., Millour, F., Murakawa, K., Schertl, D., Weigelt, G., Petrov, R., Wittkowski, M., Hummel, C.A., Le Bouquin, J.B., Merand, A., Schoeller, M., Massi, F., Stee, P., Tatulli, E.: Resolving the asymmetric inner wind region of the yellow hypergiant IRC+10420 with VLTI/AMBER in low and high spectral resolution mode, *A&A*, **507**, 301-316 (2009)
- Gandhi, P., Horst, H., Smette, A., Hönig, S., Comastri, A., Gilli, R., Vignali, C., Duschl, W.: Resolving the mid-infrared cores of local Seyferts, *A&A*, **502**, Issue 2, 457-472 (2009)
- Gergely, L. Á., Biermann, P. L.: The spin-flip phenomenon in supermassive black hole binary mergers., *Astrophys. J.*, **697**, 1621-1633 (2009)
- Gergely, L. Á., Biermann, P. L., Mikóczi, B., Keresztes, Z.: Renormalized spin coefficients in the accumulated orbital phase for unequal mass black hole binaries., *Classical and Quantum Gravity*, **26**, 204006, 1-10 (2009)
- Gray, M. D.; Wittkowski, M.; Scholz, M.; Humphreys, E. M. L.; Ohnaka, K.; Boboltz, D.: SiO maser emission in Miras, *MNRAS*, **394**, Issue 1, 51-66 (2009)
- Grellmann, R.: MIDI/VLTI-Infrarot Interferometrie des jungen, massereichen Sterns Allen's Source. Diplomarbeit, Bonn 2009.
- Groh, J. H.; Hillier, D. J.; Daminieli, A.; Whitelock, P. A.; Marang, F.; Rossi, C.: On the nature of the prototype LBV AG Carinae I. Fundamental parameters during visual minimum phases and changes in the bolometric luminosity during the S-Dor cycle, *ApJ*, **698**, 1698-1720 (2009)
- Groh, J.H., Daminieli, A., Hillier, D.J., Barbá, R., Fernández-Lajús, E., Gamen, R.C., Moisés, A., Solivella, G., Teodoro, M.: Bona-fide strong-variable galactic luminous blue variable stars are fast rotators: Detection of a high rotational velocity in HR Carinae. *ApJ Letters*, **705**, Issue 1, L25-L30 (2009)

- Horst, H., Duschl, W., Gandhi, P., Smette, A.: Mid-infrared imaging of 25 local AGN with VLT-VISIR. *A&A*, **495**, Issue 1, 137-146 (2009)
- Kervella, P., Domiciano de Souza, A., Kanaan, S., Meilland, A., Spang A., & Stee, Ph.: The environment of the fast rotating star Achernar - II. Thermal infrared interferometry with VLTI/MIDI, *A&A*, **493**, L53-L56 (2009)
- Kishimoto, M.; Hoenig, S.F.; Antonucci, R.; Kotani, T.; Barvainis, R.; Tristram, K.; Weigelt, G.: Exploring the inner region of Type 1 AGNs with the Keck interferometer, *A&A letters*, **507**, Issue 3, 2009, pp.L57-L60 (2009)
- Kishimoto, M.; Hoenig, S.F.; Tristram, K.R.W.; Weigelt, G.: Possible evidence for a common radial structure in nearby AGN tori, *A&A Letters*, **493**, L57-L60 (2009)
- Kraus, S.; Hofmann, K.-H.; Malbet, F.; Meilland, A.; Natta, A.; Schertl, D.; Stee, P.; Weigelt, G.: Revealing the sub-AU asymmetries of the inner dust rim in the disk around the Herbig Ae star Coronae Austrinae, *A&A*, **508**, Issue 2, 787-803 (2009)
- Kraus, S.; Weigelt, G.; Balega, Y. Y.; Docobo, J. A.; Hofmann, K. -H.; Preibisch, T.; Schertl, D.; Tamazian, V. S.; Driebe, T.; Ohnaka, K.; Petrov, R.; Schoeller, M.; Smith, M.: Tracing the young massive high-eccentricity binary system Theta 1 Orionis C through periastron passage, *A&A*, **497**, 195 (2009)
- Loewenstein, M., Kusenko, A., Biermann, P. L.: New limits on sterile neutrinos from Suzaku observations of the Ursa Minor Dwarf Spheroidal Galaxy., *Astrophys. J.*, **700**, 426-435(2009)
- Lopes Collaboration, Haungs, A. und 76 weitere Autoren einsch. Biermann, P. L., Zensus, J. A.: Air shower measurements with the LOPES radio antenna array., *Nuclear Instruments and Methods in Physics Research Section A*, **604**, S1-S8(2009)
- Lopes Collaboration, Saftoiu, A. und 76 weitere Autoren einsch. Biermann, P. L., Zensus, J. A.: Analysis of inclined showers measured with LOPES., *Nuclear Instruments and Methods in Physics Research Section A*, **604**, S9-S12(2009)
- Lopes Collaboration, Isar, P. G. und 77 weitere Autoren einsch. Biermann, P. L., Zensus, J. A.: Radio emission of energetic cosmic ray air showers: polarization measurements with LOPES., *Nuclear Instruments and Methods in Physics Research Section A*, **604**, S81-S84(2009)
- Meilland, A., Stee, Ph., Chesneau, O., and Jones, C.: VLTI/MIDI observations of 7 classical Be stars, *A&A*, **505**, 687-693 (2009)
- Millour, F.; Driebe, T.; Chesneau, O.; Groh, J.; Hofmann, K.-H.; Murakawa, K.; Ohnaka, K.; Schertl, D.; Weigelt, G.: VLTI/AMBER unveils a possible dusty pinwheel nebula in WR118, *A&A*, **506**, Issue 3, L49-L52 (2009)
- Millour, F.; Chesneau, O.; Borges Fernandes, M.; Meilland, A.; Mars, G.; Benoist, C.; Thiébaud, E.; Stee, P.; Hofmann, K.-H.; Baron, F.; Young, J.R.; Bendjoya, P.; Carciofi, A. C.; Domiciano De Souza, A.; Driebe, T.; Jankov, S.; Kervella, P.; Petrov, R. G.; Robbe-Dubois, S.; Vakili, F.; Waters, L. B. F. M.; Weigelt, G.: A binary engine fuelling HD 87643's complex circumstellar environment, *A&A*, **507**, 317-326 (2009)
- Miroshnichenko, A.S.; Hofmann, K.-H.; Schertl, D.; Weigelt, G.; Kraus, S.; Manset, N.; Albert, L.; Balega, Y. Y.; Klochkova, V. G.; Rudy, R. J.; Lynch, D. K.; Mazuk, S.; Venturini, C. C.; Russell, R. W.; Grankin, K. N.; Puetter, R. C.; Perry, R. B.: A new spectroscopic and interferometric study of the young stellar object V645 Cygni, *A&A*, **498**, Issue 1, 115-126 (2009)
- Nardetto, N., Kervella, P., Barnes, T., Bersier, D., Folkin, A. Fouqué, P., Gieren, W., Gillet, D., Groh, J. H., Kraus, S., Mathias, P., Mérand, A., Millour, F., Mourard, D., Pietrzynski, G., Queloz, D., Stoekl, A., Storm, J.: From the Dynamics of Cepheids to the Milky Way Rotation, and the Distance Scale Calibration STELLAR PULSATION: CHALLENGES FOR THEORY AND OBSERVATION: Proceedings of the International Conference. AIP Conference Proceedings, Volume 1170, pp. 13-17 (2009).
- Ohnaka, K., Hofmann, K.-H., Benisty, M., Chelli, A., Driebe, T., Millour, F., Petrov, R., Schertl, D., Stee, Ph., Vakili, F., & Weigelt, G.: Spatially resolving the inhomogeneous structure of the dynamical atmosphere of Betelgeuse with VLTI/AMBER, *A&A*, **503**, 183-195 (2009)
- Pierre AUGER Collaboration, Abraham, J. und 473 weitere Autoren einsch. Biermann, P. L., Dutan, I.: Atmospheric effects on extensive air showers observed with the surface detector of the Pierre Auger Observatory., *Astroparticle Physics*, **32**, 89-99 (2009)

Pierre AUGER Collaboration, Abraham, J. und 460 weitere Autoren einschl. Biermann, P. L., Dutan, I.: Upper limit on the cosmic-ray photon fraction at EeV energies from the Pierre Auger Observatory., *Astroparticle Physics*, **31**, 399-406 (2009)

Raban, D.; Jaffe, W.; Röttgering, H.; Meisenheimer, K.; Tristram, K. R. W.: Resolving the obscuring torus in NGC 1068 with the power of infrared interferometry: Revealing the inner funnel of dust, *MNRAS*, **394**, Issue 3, 1325-1337 (2009)

Takahashi, Y., the JEM-EUSO Collaboration, incl. Biermann, P. L.: The JEM-EUSO mission., *New Journal of Physics*, **11**, 065009(2009)

Tristram, K. R. W.; Raban, D.; Meisenheimer, K.; Jaffe, W.; Röttgering, H.; Burtscher, L.; Cotton, W. D.; Graser, U.; Henning, Th.; Leinert, Ch.; Lopez, B.; Morel, S.; Perrin, G.; Wittkowski, M.: Parsec-scale dust distributions in Seyfert galaxies. Results of the MIDI AGN snapshot survey, *A&A*, **502**, Issue 1, 67-84 (2009)

Proceedings

Becker, J. K., Abramowicz, M. A., Biermann, P. L.: On the detectability of primordial black holes in the Galaxy. Proceedings of the 31st International Cosmic Ray Conference, 7-15 July 2009, Łódź, Poland.

Becker, J. K., Meli, A., Biermann, P. L.: Neutrinos from photo-hadronic interactions in Pks2155-304. Proceedings of the 31st International Cosmic Ray Conference, 7-15 July 2009, Łódź, Poland.

Bendjoya, P., Domiciano de Souza, A., Vakili, F., Millour, F., Petrov, R.: Canopus angular diameter revisited by the AMBER Instrument of the VLT Interferometer, The Eighth Pacific Rim Conference on Stellar Astrophysics: A Tribute to Kam-Ching Leung. Proceedings of the conference held 5-9 May, 2008, at Merlin Beach Hotel, Phuket, Thailand. Edited by B. Soonthornthum, S. Komonjinda, K.S. Cheng, and K.C. Leung. San Francisco: Astronomical Society of the Pacific, ASP Conference Series, Vol. 404, p.330 (2009)

Cenacchi, E., Kraus, A., Beckert, T., Mack, K.-H.: Circular Polarimetry of Extragalactic Radio Sources. *Astronomical Polarimetry 2008: Science from Small to Large Telescopes*. ASP Conference Series, Vol. 4. Bastien and Maset, eds. (2009).

Driebe, T., Ohnaka, K., Murakawa, K., Hofmann, K.-H., Schertl, D., Weigelt, G., Verhoelst, T., Chesneau, O., Domiciano de Souza, A., Riechers, D., Schöller M., and Wittkowski, M.: A Mid-infrared Interferometric Study of the Circumstellar Environment of Dusty OH/IR Stars with VLTI/MIDI, ESO Workshop: "Science with the VLT in the ELT Era", held in Garching (Germany) from October 8-12, 2007, *Astrophysics and Space Science Proceedings*, pp.125-126 (2009)

Haungs, A. und 77 weitere Autoren einschl. Biermann, P. L., Zensus, J. A.: LOPES Collaboration: Recent results of the LOPES experiment. *Nuclear Physics B Proceedings Supplements*, **196**, 297-300 (2009)

Hines, D.C.; Packham, C.C.; Adamson, A.; Andersson, B.-G.; Antonucci, R.; Axon, D.; De Buizer, J.; Cellino, A.; Clemens, D.; Hoffman, J.L.; Kishimoto, M.; Jones, T.J.; Lazarian, A.; Magalhaes, A.M.; Masiero, J.; Perlman, E.S.; Perrin, M.; Vilega Rodrigues, C.; Shinnaga, H.; Sparks, W.; Whittet, D.: O/IR Polarimetry for the 2010 Decade (CGT): Science at the Edge, Sharp Tools for All, White paper to the Galaxies Across Cosmic Time (GACT) Science Frontiers Panel of the Astro2010 Decadal Survey (2009)

Hönig, S.: Constraining the Dust Distribution in AGN Dust Tori. In: Online Proceedings of "Physics of Galactic Nuclei". Ringberg Castle, Kreuth, Germany 15-19 June, 2009. pp.1-15.

Jaffe, W.; Raban, D.; Meisenheimer, K.; Tristram, K.; Leinert, Ch.; Röttgering, H.: MIDI Sees Active Galactic Nuclei, in "Science with the VLT in the ELT Era", held in Garching (Germany) from October 8-12, 2007, *Astrophysics and Space Science Proceedings*, p.89

Kascade-Grande, Lopes Collaboration, 84 Autoren einschl. Biermann, P. L., Zensus, J. A.: Recent results from KASCADE-Grande and LOPES., *Nuclear Physics B Proceedings Supplements*, **190**, 213-222(2009)

Kraus, S., Preibisch, T., Ohnaka, K.: Resolving the inner active accretion disk around the Herbig Be star MWC 147 with VLTI/MIDI+AMBER spectro-interferometry, ESO Workshop: "Science with the VLT in the ELT Era", held in Garching (Germany) from October 8-12, 2007, *Astrophysics and Space Science Proceedings*, pp.113-118 (2009)

Kraus, S., Weigelt, G., Balega, Y., Docobo, J., Hofmann, K.-H., Preibisch, T., Schertl, D., Tamazian, V., Driebe, T., Ohnaka, K., Petrov, R., Schöller, M., Smith, M.: Tracing the Dynamic Orbit of the Young, Massive High-eccentricity Binary System θ 1 Orionis C: first results from VLTI aperture-synthesis imaging and ESO 3.6-metre visual speckle interferometry., *The Messenger*, 136, 44-48 (2009)

Le Bouquin, J.-B.; Millour, F.; Merand, A.; VLTI Science Operations Team: First Images from the VLT Interferometer, *The Messenger*, 137, 25-29 (2009)

Lopez, B., Lagarde, S., Wolf, S., Jaffe, W., Weigelt, G., Antonelli, P., Abraham, P., Augereau, J.-Ch., Beckman, U., Behrend, J., Berruyer, N., Bresson, Y., Chesneau, O., Clausse, J.M., Connot, C., Danchi, W.C., Delbo, M., Demyk, K., Domiciano, A., Dugué, M., Glazenberg, A., Graser, U., Hanenburg, H., Henning, Th., Heininger, M., Hofmann, K.-H., Hugues, Y., Jankov, S., Kraus, S., Laun, W., Leinert, Ch., Linz, H., Matter, A., Mathias, Ph., Meisenheimer, K., Menut, J.-L., Millour, F., Mosoni, L., Neumann, U., Niedzielski, A., Nussbaum, E., Petrov, R., Ratzka, Th., Robbe-Dubois, S., Roussel, A., Schertl, D., Schmider, F.-X., Stecklum, B., Thiebaut, E., Vakili, F., Wagner, K., Waters, L.B.F.M., Absil, O., Hron, J., Nardetto, N., Olofsson, J., Valat, B., Vannier, M., Goldman, B., Hönig, S., and Cotton, W.D.: MATISSE, ESO Workshop: "Science with the VLT in the ELT Era", held in Garching (Germany) from October 8-12, 2007, *Astrophysics and Space Science Proceedings*, pp.353-357 (2009)

Malbet, F.; Buscher, D.; Weigelt, G.; Garcia, P.; Gai, M.; Lorenzetti, D.; Surdej, J.; Hron, J.; Neuhäuser, R.; Kern, P.; Jocou, L.; Berger, J. -P.; Absil, O.; Beckmann, U.; Corcione, L.; Duvert, G.; Filho, M.; Labeye, P.; Le Coarer, E.; Causi, G. Li; Lima, J.; Perraut, K.; Tatulli, E.; Thiébaud, E.; Young, J.; Zins, G.; Amorim, A.; Aringer, B.; Beckert, T.; Benisty, M.; Bonfils, X.; Chelli, A.; Chesneau, O.; Chiavassa, A.; Corradi, R.; De Becker, M.; Delboulbé, A.; Duchêne, G.; Forveille, T.; Haniff, C.; Herwats, E.; Le Bouquin, J. -B.; Ligorì, S.; Loreggia, D.; Marconi, A.; Moitinho, A.; Nisini, B.; Petrucci, P. -O.; Rebordao, J.; Speziali, R.; Testi, L.; Vitali, F.: Milli-arcsecond astrophysics with VSI, the VLTI spectro-imager in the ELT era, ESO Workshop: "Science with the VLT in the ELT Era", held in Garching (Germany) from October 8-12, 2007, *Astrophysics and Space Science Proceedings*, pp.343-348 (2009)

Millour, F.; Chesneau, O.; Driebe, T.; Matter, A.; Schmutz, W.; Lopez, B.; Petrov, R.G.; Groh, J.H.; Bonneau, D.; Dessart, L.; Hofmann, K.-H.; Weigelt, G.: Wolf-Rayet Stars at the Highest Angular Resolution, *The Messenger*, Vol. 135, p. 26-31 (2009)

Millour, F.; Chesneau, O.; Borges Fernandes, M.; Meilland, A.: B[e] stars at the highest angular resolution: the case of HD87643, *Proceedings of the 2009 SF2A conference; Semaine de l'astrophysique française*, Besancon, France. Eds.: M. Heydari-Malayeri, C. Reylé and R. Samadi, p.283 (2009)

Nardetto, N.: Recent Insights in the Dynamical Structure of Cepheids' Atmosphere and Prospect Concerning Hydrodynamical Modelling, *EAS Publications Series*, Volume 38, 2009, pp.133-141 (2009)

Ohnaka, K.; Driebe, T.; Hofmann, K.-H.; Weigelt, G.; Wittkowski, M.: Resolving the dusty torus and the mystery surrounding LMC red supergiant WOH G64, *The Magellanic System: Stars, Gas, and Galaxies*, *Proceedings of the International Astronomical Union, IAU Symposium*, Vol. 256, pp.454-458 (2009)

Ohnaka, K., Driebe, T., Weigelt, G., Wittkowski, M.: Multi-epoch VLTI/MIDI Observations of the Carbon-rich Mira Star V Oph, ESO Workshop: "Science with the VLT in the ELT Era", held in Garching (Germany) from October 8-12, 2007, *Astrophysics and Space Science Proceedings*, pp.119-123 (2009)

Tristram, K. R. W.: Resolving the dusty cores of nearby AGN with MIR interferometry. In: *Online Proceedings of "Physics of Galactic Nuclei"*. Ringberg Castle, Kreuth, Germany 15-19 June, 2009. pp.1-19.

Weigelt, G., Kraus, S., Driebe, T., Hofmann, K.-H., Millour, F., Petrov, R., Schertl, D., Chesneau, O., Davidson, K., Domiciano de Souza, A., Gull, T., Hillier, J.D., Malbet, F., Rantakyro, F., Richichi, A., Schöller, M., and Wittkowski, M.: VLTI-AMBER Observations of η Carinae with high spatial resolution and spectral resolutions of $\lambda/\delta\lambda = 1500$ and 12000 ., In: "Science with the VLT in the ELT Era", (Ed.) Moorwood, A. Springer, Dordrecht. *Astrophysics and Space Science Proceedings*, pp.107-111 (2009)

Wolf, S., Lopez, B., Jaffe, W., Weigelt, G., Augereau, J.-Ch., Berruyer, N., Chesneau, O., Danchi, W.C., Delbo, M., Demyk, K., Domiciano, A., Henning, Th., Hofmann, K.-H., Kraus, S., Leinert, Ch., Linz, H., Mathias, Ph., Meisenheimer, K., Menut, J.-L., Millour, F., Mosoni, L., Niedzielski, A., Petrov, R., Ratzka, Th., Stecklum, B., Thiebaut, E., Vakili, F., Waters, L.B.F.M., Absil, O., Hron, J., Lagarde, S., Matter, A., Nardetto, N., Olofsson, J., Valat, B., Vannier, M., and MATISSE Science team: MATISSE Science Cases, In: "Science with the VLT in the ELT Era", (Ed.) Moorwood, A. Springer, Dordrecht. *Astrophysics and Space Science Proceedings*, pp.359-360 (2009)