Curriculum Vitae

Dr. Oliver Kevin Pfuhl

PERSONAL INFORMATION

Date of birth: 01.07.1982

Nationality: German

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- **EDUCATION**

2012 PhD (grade: top score "summa cum laude"), Astronomy department, Ludwig Maximilian University, Munich, Germany
"Development of the light injection and beam stabilization subsystems of the GRAVITY interferometer & Star formation history of the Milky Way's Nuclear Star Cluster"
Supervisor: Reinhard Genzel

2008 Diplom Physik (grade: top score "passed with distinction")
Physics department, Technical University Munich, Germany
"Optimization of PRIMA for the Observation of the Galactic Center"

- **CURRENT POSITION**

2019 – now Optical Engineer and Researcher
European Southern Observatory, Garching, Germany

- **PREVIOUS POSITIONS**

2012 – 2019 Senior Postdoctoral fellow & Core team member of the Galactic Center and GRAVITY Teams (**Nobel prize** in physics 2020 awarded to P.I. Reinhard Genzel)
Max Planck Institute for Extraterrestrial Physics, Infrared group, Garching, Germany

2015 – 2016 Associate researcher, responsible for the assembly, integration and commissioning of the GRAVITY instrument in Chile and the training and consulting of ESO staff at the Paranal observatory.
European Southern Observatory, Santiago de Chile, Chile

2008 – 2012 Graduate researcher, responsible for the development of the GRAVITY injection optics, metrology systems and laser guiding systems
Ludwig Maximilian University & Max Planck Institute for Extraterrestrial Physics, Germany

- **FELLOWSHIPS AND AWARDS**

2020 **MERAC postdoctoral grant;** Research funding for the project "Photonic spectrograph for astronomy" (€100,000).

2019 **Prize "La Recherche"** (France) awarded to the GRAVITY Team for the research on

the central supermassive black hole and the tests of general relativity in its vicinity.

2016 **MERAC Prize** in New Technologies awarded by the *European Astronomical Society*, for the "innovative design of two subsystems for the VLTI instrument GRAVITY: the fibre coupler and the guiding system" (€20,000).

2012 **Universe PhD award** for the best dissertation awarded by the *Excellence Cluster Universe*, Garching, Germany (€2,000)

2007 – 2007 ERASMUS scholarship, Physics department, Gothenburg University, Sweden

- **SUPERVISION OF GRADUATE STUDENTS AND POSTDOCTORAL FELLOWS**

2012 – 2019 Supervision of PhD students (Annemieke Janssen, Magdalena Lippa, Felix Widmann, Sebastiano von Fellenberg)
Astronomy department, Ludwig-Maximilian University, Germany

2017 – 2018 Supervision of master and bachelor students (Martina Karl, Daniela Penka)
Physics department, Technical University Munich, Germany

- **TEACHING ACTIVITIES**

2014 – 2019 Assistant lecturer – "Introduction to astrophysics", Technical University Munich, Germany

2014 – 2019 Assistant lecturer – "High Angular Resolution Astronomy: Telescopes, Adaptive Optics, Interferometry", Technical University Munich, Germany

- **REVIEWING ACTIVITIES**

2018 External reviewer for NAOMI Adaptive optics upgrade for the Auxiliary Telescopes, Preliminary acceptance review board, ESO, Germany

2015 External reviewer for GRAV4MAT instrument upgrade, Phase A review board, ESO, Germany

- **MAJOR COLLABORATIONS**

2008 – now Galactic Center team (**Nobel prize** in physics 2020 to P.I. Reinhard Genzel): worked on the detection of general relativistic effects in the orbit of S2; star-formation and stellar multiplicity in the Galactic Center; Regular observer for the team; Responsible for GRAVITY data analysis

2008 – now GRAVITY consortium: Deputy to the Principal Investigator in all instrument related matters including the coordination of the instrument consortium and the coordination of missions. Furthermore, I have led a significant part of the assembly and integration efforts in Europe and at the observatory in Chile. The GRAVITY consortium consists of the following institutes: MPE/LESIA/IPAG/University Cologne/MPIA/ESO, in Germany, France and Portugal

2015 – 2019 BlackHoleCam project: European collaboration with the goal to image the shadow of the supermassive black hole SgrA*. Work-package responsible for GR tests with stellar orbits, ERC synergy grant No. 610058, Netherlands, Germany, USA

- **PROFESSIONAL ACTIVITIES**

2011 – now Expert referee for Astronomy & Astrophysics, Astronomical Journal

2015 – 2016 Co-lead of the assembly and integration of the GRAVITY instrument at the observatory in Chile and of the instrument commissioning activities. I was responsible for the training of the local observatory staff and to prepare the early science operation. Overall, I spent 180+ nights at the observatory as part of the technical activities.

- **INVITED GUEST LECTURES**

2014 Invited guest lecturer on dual-field interferometry, fringe-tracking and astrometry at Santander PhD summer school, Santiago, Chile

2018 Invited guest lecturer on science with the GRAVITY instrument, VLTI PhD summer school, Lisbon, Portugal

2018 Special plenary lecture at the IAU General Assembly in Vienna on the detection of the gravitational redshift in the orbit of S2.

- **CONFERENCES AND WORKSHOPS**

2011 – present I have given 30+ talks on international conferences incl. 15 invited talks and two plenary talks at major conferences. This includes a plenary talk at the at EWASS conference 2016 in Athens and the Opening Talk of the IAU General Assembly in Vienna 2018

- **PRESS COVERAGE**

My work was featured in numerous press releases and popular news articles. Here is a sample:

"*Land of the giants*", New Scientist, 01/2019
"*The Milky Way's Monster, Unveiled*", Scientific American, 10/2018
"*Trolling the Monster in the Heart of the Milky Way*", New York Times, 10/2018
"*Ritt über dem Ereignishorizont*", Spektrum der Wissenschaft, 10/2018
"*First Successful Test of Einstein's General Relativity Near Supermassive Black Hole*", ESO press release, 7/2018.
"*Albert Einstein's Supermassive Black Hole Theory Confirmed By Scientists*", Huffington post, 7/2018
"*Milky Way's black hole provides long-sought test of Einstein's general relativity*", Nature, 7/2018
"*Milky Way's Black Hole Provides Long-Sought Test of Einstein's General Relativity*" Scientific American, 7/2018
"*Successful First Observations of Galactic Centre with GRAVITY*", ESO press release, 6/2016.
"*First Light for Future Black Hole Probe*", ESO press release, 1/2016.
"*Gas cloud in the galactic centre is part of a larger gas streamer*", MPE press release, 11/2014
"*A Black Hole's Dinner is Fast Approaching*", ESO press release, 12/2011

Bibliography

Publication history

I have first- authored and co-led 13 astronomical papers incl. **one in Nature** and two headline-making articles - on the **detection of the general relativistic redshift** close to a supermassive black hole and on **orbital motion close to the innermost stable orbit** around a black hole. I have co-authored 32 more papers (incl. two Nature articles) and I have led/co-led five instrument papers and co-authored 16 more.
My current h-index is 29 with 4081 total citations.

Four most important publications

[1.] GRAVITY collaboration et al.; (corresponding authors: **Pfuhl, O**., Dexter J, Paumard T., Genzel R.), 2018, A&A, 618, L10 - *Detection of Orbital Motions Near the Last Stable Circular Orbit of the Massive Black Hole SgrA** (118 citations, referenced in "Scientific Background on the Nobel Prize in Physics 2020")

[2.] GRAVITY collaboration: Abuter, R., +96 alphabetical authors (incl. **Pfuhl, O.** as one of four lead authors), 2018, A&A, 615, L15- *Detection of the Gravitational Redshift in the Orbit of the Star S2 near the Galactic Centre Massive Black Hole* (312 citations, referenced in "Scientific Background on the Nobel Prize in Physics 2020")

[3.] **Pfuhl, O.**; Gillessen, S.; Eisenhauer, F.; Genzel, R.; Plewa, P. M.; Ott, T.; Ballone, A.; Schartmann, M.; Burkert, A.; Fritz, T. K., 2015, ApJ, 798, 111 - *The Galactic Center Cloud G2 and its Gas Streamer* (72 citations)

[4.] **Pfuhl, O.**; Fritz, T. K.; Zilka, M.; Maness, H.; Eisenhauer, F.; Genzel, R.; Gillessen, S.; Ott, T.; Dodds-Eden, K.; Sternberg, A. 2011, ApJ, 741, 108 - *The Star Formation History of the Milky Way's Nuclear Star Cluster* (104 citations)

Publication list / Astronomy

[1.] GRAVITY Collaboration, R. Garcia-Lopez et al. (incl. O. Pfuhl), 2020, Nature, 584, 547G - *A measure of the size of the magnetospheric accretion region in TW Hydrae*

[2.] GRAVITY Collaboration: **Pfuhl O.** et al., 2020, A&A, 634, 1G - *An image of the dust sublimation region in the nucleus of NGC 1068*

[3.] GRAVITY Collaboration: et al., 2020, A&A, 636, 5G - *Detection of the Schwarzschild precession in the orbit [...]*

[4.] Shultz, M.; Le Bouquin, J.-B.; Rivinius, Th; Wade, G. A.; Kochukhov, O.; Alecian, E.; Petit, V.; **Pfuhl, O.**; Karl, M.; Gao, F.; Grellmann, R.; Lin, C.-C.; Garcia, P.; Lacour, S. 2019, MNRAS, 482, 3950 - *NU Ori: a hierarchical triple system with a strongly magnetic B-type star*

[5.] GRAVITY collaboration: Abuter, R., +58 alphabetical authors (corresponding authors: **Pfuhl, O.**, Dexter J, Paumard T.), 2018, A&A, 618, L10 - *Detection of Orbital Motions Near the Last Stable Circular Orbit of the Massive Black Hole SgrA**

[6.] GRAVITY collaboration: Sturm, E.; Dexter, J.; **Pfuhl, O.,** et al. 2018, **Nature**, 563, 657-670: - *Spatially resolved ordered rotation of a quasar broad line region at sub-parsec scale*

[7.] GRAVITY collaboration: Abuter, R., +96 alphabetical authors (incl. **Pfuhl, O.** as one of four lead authors; ~20% of the work), 2018, A&A, 615, L15- *Detection of the Gravitational Redshift in the Orbit of the Star S2 near the Galactic Centre Massive Black Hole*

[8.] GRAVITY collaboration: Karl, M.; **Pfuhl, O.**, et al. 2018, A&A, 620, 116 - *Multiple Star Systems in the Orion Nebula*

[9.] GRAVITY collaboration; Sanchez-Bermudez, J., +125 authors (incl. **Pfuhl, O.**) 2018, A&A, 618, 125 - *GRAVITY chromatic imaging of η Car's core. Milliarcsecond resolution imaging of the wind-wind collision zone*

[10.] von Fellenberg, Sebastiano D.; Gillessen, Stefan; Graciá-Carpio, Javier; Fritz, Tobias K.; Dexter, Jason; Bauböck, Michi; Ponti, Gabriele; Gao, Feng; Habibi, Maryam; Plewa, Philipp M.; **Pfuhl, Oliver**; Jimenez-Rosales, Alejandra; Waisberg, Idel; Widmann, Felix; Ott, Thomas; Eisenhauer, Frank; Genzel, Reinhard 2018, APJ, 862, 129 - *A Detection of Sgr A* in the Far Infrared*

[11.] Ballone, A.; Schartmann, M.; Burkert, A.; Gillessen, S.; Plewa, P. M.; Genzel, R.; **Pfuhl, O.**; Eisenhauer, F.; Habibi, M.; Ott, T.; George, E. M., 2018, MNRAS, in press - *3D AMR hydrosimulations of a compact source scenario for the Galactic Centre cloud G2*

[12.] Pribulla, T.; Mérand, A.; Kervella, P.; Cameron, C.; Deen, C.; Garcia, P. J. V.; Horrobin, M.; Matthews, J. M.; Moffat, A. F. J.; **Pfuhl, O.**; Rucinski, S. M.; Straub, O.; Weiss, W.W. 2018, A&A, 616, 49 - *Physical parameters and ±0.2% parallax of the detached eclipsing binary V923 Scorpi*

[13.] Waisberg, I.; Dexter, J.; Gillessen, S.; **Pfuhl, O.** et al, 2018, MNRAS, 476 - *What stellar orbit is needed to measure the spin of the Galactic centre black hole from astrometric data?*

[14.] Steinberg, E.; Sari, R.; Gnat, Orly; Gillessen, S.; Plewa, P.; Genzel, R.; Eisenhauer, F.; Ott, T.; **Pfuhl, O.**; et al., 2018, MNRAS, 473 - *Probing the gas density in our Galactic Centre: moving mesh simulations of G2*

[15.] Anugu, N.; Amorim, A.; Gordo, P.; Eisenhauer, F.; **Pfuhl, O.**; et al., 2018, MNRAS, 476, 459 - *Methods for multiple-telescope beam imaging and guiding in the near-infrared*

[16.] GRAVITY collaboration et al. incl. **Pfuhl, O.**, 2017, A&A, 608, 78 - *The wind and the magnetospheric accretion onto the T Tauri star S Coronae Australis at sub-au resolution*

[17.] Habibi, M.; Gillessen, S.; Martins, F.; Eisenhauer, F.; Plewa, P. M.; **Pfuhl, O.**; George, E.; Dexter, J.; Waisberg, I, et al., 2017, ApJ 847, 120 - *Twelve Years of Spectroscopic Monitoring in the Galactic Center*

[18.] Waisberg, I.; Dexter, J.; **Pfuhl, O.**; et al., 2017, ApJ, 844, 72 - *Submilliarcsecond Optical Interferometry of the High-mass X-Ray Binary BP Cru with VLTI/GRAVITY*

[19.] Ponti, G.; George, E.; Scaringi, S.; Zhang, S.; Jin, C.; Dexter, J.; Terrier, R.; Clavel, M.; Degenaar, N.; Eisenhauer, F.; Genzel, R.; Gillessen, S.; Goldwurm, A.; Habibi, M.; Haggard, D.; Hailey, C.; Harrison, F.; Merloni, A.; Mori, K.; Nandra, K.; Ott, T.; **Pfuhl, O.**; Plewa, P. M.; Waisberg, I. 2017, MNRAS, 468, 2447 - *A powerful flare from Sgr A* confirms the synchrotron nature of the X-ray emission*

[20.] GRAVITY collaboration et al. incl **Pfuhl, O.**, 2017, A&A, 602, 11 - *Accretion-ejection morphology of the microquasar SS 433 resolved at sub-au scale*

[21.] GRAVITY collaboration et al. incl. **Pfuhl, O.**, 2017, A&A, 602, 94 - *First light for GRAVITY: Phase referencing optical interferometry for the Very Large Telescope Interferometer*

[22.] Plewa, P. M.; Gillessen, S.; **Pfuhl, O.**; Eisenhauer, F.; Genzel, R.; Burkert, A.; Dexter, J.; Habibi, M.; George, E.; Ott, T.; Waisberg, I.; von Fellenberg, S., 2017, ApJ, 840, 50 - *The Post-pericenter Evolution of the Galactic Center Source G2*

[23.] Gillessen, S.; Plewa, P. M.; Eisenhauer, F.; Sari, R.; Waisberg, I.; Habibi, M.; **Pfuhl, O.**; George, E.; Dexter, J.; von Fellenberg, S.; Ott, T.; Genzel, R., 2017, ApJ, 837, 30 - *An Update on Monitoring Stellar Orbits in the Galactic Center*

[24.] Goddi, C.; Falcke, H.; Kramer, M.; Rezzolla, L.; Brinkerink, C.; Bronzwaer, T.; Davelaar, J. R. J.; Deane, R.; de Laurentis, M.; Desvignes, G.; Eatough, R. P.; Eisenhauer, F.; Fraga-Encinas, R.; Fromm, C. M.; Gillessen, S.; Grenzebach, A.; Issaoun, S.; Janßen, M.; Konoplya, R.; Krichbaum, T. P.; Laing, R.; Liu, K.; Lu, R.-S.; Mizuno, Y.; Moscibrodzka, M.; Müller, C.; Olivares, H.; **Pfuhl, O.**; Porth, O.; Roelofs, F.; Ros, E.; Schuster, K.; Tilanus, R.; Torne, P.; van Bemmel, I.; van Langevelde, H. J.; Wex, N.; Younsi, Z.; Zhidenko, A. 2017, International Journal of Modern Physics, 26 ,2 - *BlackHoleCam: Fundamental physics of the galactic center*

[25.] Ballone, A.; Schartmann, M.; Burkert, A.; Gillessen, S.; Plewa, P. M.; Genzel, R.; **Pfuhl, O.**; Eisenhauer, F.; Ott, T.; George, E. M.; Habibi, M., 2016, ApJL, 819 - *The G2+G2t Complex as a Fast and Massive Outflow?*

[26.] Fritz, T. K.; Chatzopoulos, S.; Gerhard, O.; Gillessen, S.; Genzel, R.; **Pfuhl, O**.; Tacchella, S.; Eisenhauer, F.; Ott, T. 2016, A&A, 821, 44 - *The Nuclear Cluster of the Milky Way: Total Mass and Luminosity*

[27.] Plewa, P. M.; Gillessen, S.; Eisenhauer, F.; Ott, T.; **Pfuhl, O.**; George, E.; Dexter, J.; Habibi, M.; Genzel, R.; Reid, M. J.; Menten, K. M., 2015, MNRAS, 453, 3234 - *Pinpointing the near-infrared location of Sgr A* by correcting optical distortion in the NACO imager*

[28.] Chatzopoulos, S.; Gerhard, O.; Fritz, T. K.; Wegg, C.; Gillessen, S.; **Pfuhl, O.**; Eisenhauer, F. 2015, MNRAS, 453, 939 - *Dust within the nuclear star cluster in the Milky Way*

[29.] Chatzopoulos, S.; Fritz, T. K.; Gerhard, O.; Gillessen, S.; Wegg, C.; Genzel, R.; **Pfuhl, O.** 2015, MNRAS, 447, 948 - *The old nuclear star cluster in the Milky Way: dynamics, mass, statistical parallax, and black hole mass*

[30.] Schartmann, M.; Ballone, A.; Burkert, A.; Gillessen, S.; Genzel, R.; **Pfuhl, O.**; Eisenhauer, F.; Plewa, P. M.; Ott, T.; George, E. M.; Habibi, M., 2015, ApJ, 811, 13 - *3D Adaptive Mesh Refinement Simulations of the Gas Cloud G2 Born within the Disks of Young Stars in the Galactic Center*

[31.] **Pfuhl, O.**; Gillessen, S.; Eisenhauer, F.; Genzel, R.; Plewa, P. M.; Ott, T.; Ballone, A.; Schartmann, M.; Burkert, A.; Fritz, T. K., 2015, ApJ, 798, 111 - *The Galactic Center Cloud G2 and its Gas Streamer*

[32.] Paumard, T.; **Pfuhl, O.**; Martins, F.; Kervella, P.; Ott, T.; Pott, J.-U.; Le Bouquin, J. B.; Breitfelder, J.; Gillessen, S.; Perrin, G.; Burtscher, L.; Haubois, X.; Brandner, W. 2014, A&A, 568, 85 - *GCIRS 7, a pulsating M1 supergiant at the Galactic centre . Physical properties and age*

[33.] **Pfuhl, O.**; Alexander, T.; Gillessen, S.; Martins, F.; Genzel, R.; Eisenhauer, F.; Fritz, T. K.; Ott, T. 2014, ApJ, 782, 101 - *Massive binaries in the vicinity of Sgr A**

[34.] Alexander, T. & **Pfuhl, O.**, 2014, ApJ, 780, 148 - *Constraining the dark cusp in the Galactic Center by long-period binaries*

[35.] Lacour, S.; Eisenhauer, F.; Gillessen, S.; **Pfuhl, O.**; Woillez, J.; Bonnet, H.; Perrin, G.; Lazareff, B.; Rabien, S.; Lapeyrère, V.; Clénet, Y.; Kervella, P.; Kok, Y. 2014, A&A, 567, 75 - *Reaching micro-arcsecond astrometry with long baseline optical interferometry. Application to the GRAVITY instrument*

[36.] Madigan, A.-M.; **Pfuhl, O.**; Levin, Y.; Gillessen, S.; Genzel, R.; Perets, Hagai B. 2014, ApJ, 784, 23 - *On the Origin of the B-stars in the Galactic Center*

[37.] Ballone, A.; Schartmann, M.; Burkert, A.; Gillessen, S.; Genzel, R.; Fritz, T. K.; Eisenhauer, F.; **Pfuhl, O.**; Ott, T. 2013, ApJ, 776, 13 - *Hydrodynamic simulations of a compact source scenario for the Galactic Center cloud G2*

[38.] Gillessen, S.; Genzel, R.; Fritz, T. K.; Eisenhauer, F.; **Pfuhl, O.**; Ott, T.; Cuadra, J.; Schartmann, M.; Burkert, A. 2013, ApJ, 763, 78 - *New Observations of the Gas Cloud G2 in the Galactic Center*

[39.] Gillessen, S.; Genzel, R.; Fritz, T. K.; Eisenhauer, F.; **Pfuhl, O.**; Ott, T.; Schartmann, M.; Ballone, A.; Burkert, A. 2013, ApJ, 774, 44 - *Pericenter Passage of the Gas Cloud G2 in the Galactic Center*

[40.] Gillessen, S.; Genzel, R.; Fritz, T. K.; Quataert, E.; Alig, C.; Burkert, A.; Cuadra, J.; Eisenhauer, F.; **Pfuhl, O.**; Dodds-Eden, K.; Gammie, C. F.; Ott, T. 2012, **Nature**, 481, 51 - *A gas cloud on its way towards the supermassive black hole at the Galactic Centre*

[41.] **Pfuhl, O.**; Fritz, T. K.; Zilka, M.; Maness, H.; Eisenhauer, F.; Genzel, R.; Gillessen, S.; Ott, T.; Dodds-Eden, K.; Sternberg, A. 2011, ApJ, 741, 108 - *The Star Formation History of the Milky Way's Nuclear Star Cluster*

[42.] Dodds-Eden, K.; Gillessen, S.; Fritz, T. K.; Eisenhauer, F.; Trippe, S.; Genzel, R.; Ott, T.; Bartko, H.; **Pfuhl, O.**; Bower, G.; Goldwurm, A.; Porquet, D.; Trap, G.; Yusef-Zadeh, F. 2011, ApJ, 728, 37 - *The Two States of Sgr A* in the Near-infrared: Bright Episodic Flares on Top of Low-level Continuous Variability*

[43.] Fritz, T. K.; Gillessen, S.; Dodds-Eden, K.; Lutz, D.; Genzel, R.; Raab, W.; Ott, T.; **Pfuhl, O.**; Eisenhauer, F.; Yusef-Zadeh, F. 2011, ApJ, 737, 73 - *Line Derived Infrared Extinction toward the Galactic Center*

[44.] Fritz, T. K.; Gillessen, S.; Dodds-Eden, K.; Martins, F.; Bartko, H.; Genzel, R.; Paumard, T.; Ott, T.; **Pfuhl, O.**; Trippe, S.; Eisenhauer, F.; Gratadour, D. 2010, ApJ, 721, 395 - *GC-IRS13E—A Puzzling Association of Three Early-type Stars*

[45.] Fritz, T.; Gillessen, S.; Trippe, S.; Ott, T.; Bartko, H.; **Pfuhl, O.**; Dodds-Eden, K.; Davies, R.; Eisenhauer, F.; Genzel, R. 2010, MNRAS, 401, 1177 - *What is limiting near-infrared astrometry in the Galactic Centre?*

[46.] Bartko, H.; Martins, F.; Trippe, S.; Fritz, T. K.; Genzel, R.; Ott, T.; Eisenhauer, F.; Gillessen, S.; Paumard, T.; Alexander, T.; Dodds-Eden, K.; Gerhard, O.; Levin, Y.; Mascetti, L.; Nayakshin, S.; Perets, H. B.; Perrin, G.; **Pfuhl, O**.; Reid, M. J.; Rouan, D.; Zilka, M.; Sternberg, A. 2010, ApJ, 708, 834 - *An Extremely Top-Heavy Initial Mass Function in the Galactic Center Stellar Disks*

[47.] Gillessen, S.; Eisenhauer, F.; Fritz, T. K.; Bartko, H.; Dodds-Eden, K.; **Pfuhl, O.**; Ott, T.; Genzel, R. 2009, ApJ, 707, L114 - *The Orbit of the Star S2 Around SGR A* from Very Large Telescope and Keck Data*

[48.] Bartko, H.; Martins, F.; Fritz, T. K.; Genzel, R.; Levin, Y.; Perets, H. B.; Paumard, T.; Nayakshin, S.; Gerhard, O.; Alexander, T.; Dodds-Eden, K.; Eisenhauer, F.; Gillessen, S.; Mascetti, L.; Ott, T.; Perrin, G.; **Pfuhl, O.**; Reid, M. J.; Rouan, D.; Sternberg, A.; Trippe, S. 2009, ApJ, 697, 1741 - *Evidence for Warped Disks of Young Stars in the Galactic Center*

Publication list / Instrumentation

[1.] Perraut, K.; Jocou, L.; Berger, J. P.; Chabli, A.; Cardin, V.; Chamiot-Maitral, G.; Delboulbé, A.; Eisenhauer, F.; Gambérini, Y.; Gillessen, S.; Guieu, S.; Guerrero, J.; Haug, M.; Hausmann, F.; Joulain, F.; Kervella, P.; Labeye, P.; Lacour, S.; Lanthermann, C.; Lapras, V.; Le Bouquin, J. B.; Lippa, M.; Magnard, Y.; Moulin, T.; Noël, P.; Nolot, A.; Patru, F.; Perrin, G.; **Pfuhl, O.**; et al., 2018, A&A, 614, *Single-mode waveguides for GRAVITY. I. The cryogenic 4-telescope integrated optics beam combiner*

[2.] Anugu, Narsireddy; Garcia, Paulo; Amorim, Antonio; Wiezorrek, Erich; Wieprecht, Ekkehard; Eisenhauer, Frank; Ott, Thomas; **Pfuhl, Oliver**; Gordo, Paulo; Perrin, Guy; Brandner, Wolfgang; Straubmeier, Christian; Perraut, Karine, 2016, SPIE, 9907, 9 - *GRAVITY acquisition camera: characterization results*

[3.] Lippa, M.; Gillessen, S.; Blind, N.; Kok, Y.; Yazıcı, Ş.; Weber, J.; **Pfuhl, O.**; Haug, M.; Kellner, S.; Wieprecht, E.; Eisenhauer, F.; Genzel, R.; Hans, O.; Haußmann, et al., 2016, SPIE, 9907, 22 - *The metrology system of the VLTI instrument GRAVITY*

[4.] **Pfuhl, O.**; Haug, M.; Eisenhauer, F.; Kellner, S.; Haussmann, F.; Perrin, G.; Gillessen, S.; Straubmeier, C.; Ott, T.; Rousselet-Perraut, K.; Amorim, A.; Lippa, Magdalena; Janssen, A.; Brandner, W.; Kok, Yitping; Blind, N.; Burtscher, L.; Sturm, E.; Wieprecht, E.; Schoeller, M.; Weber, J.; Hans, O.; Huber, S. 2014, SPIE, 9146, 23 - *The fiber coupler and beam stabilization system of the GRAVITY interferometer*

[5.] Lacour, S.; Eisenhauer, F.; Gillessen, S.; **Pfuhl, O.**; Kok, Y.; Perrin, G.; Rousselet-Perraut, K.; Straubmeier, C.; Brandner, W.; Amorin, A.; Woillez, J.; Bonnet, H. 2014, SPIE, 9146 - *The interferometric baselines and GRAVITY astrometric error budget*

[6.] Burtscher, L.; Wieprecht, E.; Ott, T.; Kok, Y.; Yazici, S.; Anugu, N.; Dembet, R.; Fedou, P.; Lacour, S.; Ott, J.; Paumard, T.; Lapeyrere, V.; Kervella, P.; Abuter, R.; Pozna, E.; Eisenhauer, F.; Blind, N.; Genzel, R.; Gillessen, S.; Hans, O.; Haug, M.; Haussmann, F.; Kellner, S.; Lippa, M.; **Pfuhl, O.**; Sturm, E.; Weber, J.; Amorim, A.; Brandner, W.; Rousselet-Perraut, K.; Perrin, G. S.; Straubmeier, C.; Schöller, M. 2014, SPIE, 9146 - *The GRAVITY instrument software/high-level software*

[7.] Ott, T.; Wieprecht, E.; Burtscher, L.; Kok, Y.; Yazici, S.; Anugu, N.; Dembet, R.; Fedou, P.; Lacour, S.; Ott, J.; Eisenhauer, F.; Blind, N.; Genzel, R.; Gillessen, S.; Hans, O.; Haug, M.; Haussmann, F.; Huber, S.; Janssen, A.; Kellner, S.; Lippa, M.; **Pfuhl, O.**; Sturm, E.; Weber, J.; Amorim, A.; Brandner, W.; Rousselet-Perraut, K.; Perrin, G. S.; Straubmeier, C.; Schöller, M.; Abuter, R. 2014, SPIE, 9146 - *The GRAVITY instrument software/hardware related aspects*

[8.] Blind, N.; Huber, H.; Eisenhauer, F.; Weber, J.; Gillessen, S.; Lippa, M.; Burtscher, L.; Hans, O.; Haug, M.; Haussmann, F.; Huber, S.; Janssen, A.; Kellner, S.; Kok, Y.; Ott, T.; **Pfuhl, O.**; Sturm, E.; Wieprecht, E.; Amorim, A.; Brandner, W.; Perrin, G.; Perraut, K.; Straubmeier, C. 2014, SPIE, 9146 - *The GRAVITY metrology system: modeling a metrology in optical fibers*

[9.] Lippa, M.; Blind, N.; Gillessen, S.; Kok, Y.; Weber, J.; Eisenhauer, F.; **Pfuhl, O.**; Janssen, A.; et al. 2014, SPIE, 9146 - *The GRAVITY metrology system: narrow-angle astrometry via phase-shifting interferometry*

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