

Norbert Wermes

Education	1978	Diploma in Physics, Universität Bonn
	1978 – 1982	PhD Research at DESY, Hamburg
	1982	PhD Universität Bonn
Employment	1982 – 1985	Stanford University (SLAC)
	1985 – 1989	Staff scientist at CERN
	1989 – 1992	Associate Professor Universität Heidelberg
	since 1992	Full Professor Universität Bonn
	1999	(declined) Professorship Universität Wuppertal
	since 2020	Senior-Professor (em.) at Universität Bonn
Prizes and Awards	1981	Minerva Fellow
	1982 – 1985	Feodor-Lynen Fellow, Humboldt-Foundation
	1995	EPS High Energy and Particle Physics Prize for „Experiments leading to the Discovery of the Gluon“ awarded to the PETRA Collaborations
	2001	Member elect. Academy of Sciences (NRW)
	2003	(to members of research group) 2 nd Prize for best novel technology invention (NRW)
	2013	High Energy and Particle Physics Prize of the European Physical Society, awarded to the ATLAS and CMS Collaborations for the Higgs discovery
	2015	Teaching Award 2015 for excellent university teaching, Bonn University
	2019	High Energy and Particle Physics Prize of the European Physical Society, awarded to the CDF and D0 Collaborations for the discovery of the Top Quark
Functions	since 1995	Project Leader Bonn Univ. in ATLAS Collab.
	1994 – 2000	Member DESY - Physics Research Committee
	1994 – 2012	Head Physikalisches Institut, U Bonn, in turns
	1995 – 2000	Founder and Spokesperson of the Network ‘Mikrosensorik NRW’
	2000 – 2003	Vice Chair ‘German Committee for Part. Physics’
	2001 – 2006	Member Prize Committees Alexander von Humboldt Stiftung: Wolfgang-Paul Prize and Sofia Kovalevskaja Prize
	2008 -- 2014	Member DPG Committee ‘Stern-Gerlach-Medal’
	2003 – 2009	Member/Vice Chair Advisory Committee BMBF ‘Structure & interactions of fundamental particles’
	2004 – 2012	Member High Energy Particle Physics Board of the European Physical Society (EPS)
	2004 – 2006	Chairman Dept. of Phys. and Astronomy, UBonn
	2006 – 2009	Spokesperson: BMBF Main Res. Program FSP 101 ‘Physics at the TeV Scale at the LHC with ATLAS’
	2007 – 2012	Spokesperson Bonn-Cologne Graduate School of Physics and Astronomy (Winner Excellence Initiative, Germany)
	2016 – 2022	Member elect. DESY Scientific Council
	Since 2017	Member and chair in several EU Scientific Panels
	Since 2021	Member Particle Data Group

Research Area Experimental High Energy Particle Physics, Hadron Collider Physics (Higgs-Boson, Heavy Quarks), Radiation Detectors and Micro Electronics

Publications

Monographs and Books

- [1] N. Wermes, PDG Review on *Semiconductor Detectors*, Particle Data Group (2022).
- [2] N. Wermes, PDG Review on *Low-noise detector readout*, Particle Data Group (2022).
- [3] H. Kolanoski, N. Wermes: 2nd Edition, *Particle Detectors – Fundamentals and Applications*, Oxford Univ. Press (2020), 927 pp.
1st Edition (in German): *Teilchendetektoren – Grundlagen und Anwendungen*, Springer, Heidelberg-New York (2016), 935 pp.
- [4] M. Garcia-Sciveres and N. Wermes, *A review of advances in pixel detectors for experiments with high rate and radiation*, Reports on Progress in Physics 81 (2018) 6, 066101, e-Print: arXiv 1705.10150, 85 pp.
- [5] L. Rossi, P. Fischer, T. Rohe, N. Wermes, *Pixel Detectors: From Fundamentals to Applications*, Springer, Heidelberg-New York, 2006, ISBN: 3-540-28332-3, 304 pp.
- [6] K. Desch and N. Wermes, *The Higgs boson: How close to it is LEP?*, Phys. Bl. 56 (2000) No. 4, 35-39
- [7] L. Koepke and N. Wermes, *J/psi decays*, Physics Reports 174:67, (1989), 226 pp.

Selection of the three most influential publications in particle physics

1. ATLAS Coll., G. Aad, ..., N. Wermes et al., *Observation of a new particle in the search for the Standard Model Higgs boson the ATLAS*, Phys.Lett. B716 (2012) 1-29 (Higgs discovery)
2. K. Ackerstaff, ... N. Wermes et al., *Measurement of the strong coupling constant α_s and the vector and axial vector spectral functions in tau-decays*, Eur. Phys. J. C7 (1999) 571-593
3. R. Brandelik, ... N. Wermes, et. al.; *Evidence for Planar Events in $e^+ e^-$ Annihilation at High-Energies.*, Phys.Lett. B86 (1979) 243 (Gluon discovery)

Selection of 7 publications related to pixel detector development

- [1] M. Barbero, ... N. Wermes et al., *Radiation hard DMAPS pixel sensors in 150nm CMOS technology for operation at LHC*, JINST 15 (2020) 05, eprint arXiv:1911.01119, DOI: 10.1088/1748-0221/15/05/P05013
- [2] F. Hügging, N. Owtsharenko, D.-L. Pohl, N. Wermes, O. Ehrmann, T. Fritsch, P. Mackowiak, H. Oppermann, M. Rothermund, K. Zoschke, *Advanced through silicon vias for hybrid pixel detector modules*, Nucl.Instrum.Meth. A936 (2019) 642-643

- [3] N. Wermes, Pixel detectors ... where do we stand?
Nucl.Instrum.Meth. A924 (2019) 44, DOI: 10.1016/j.nima.2018.07.003
- [4] N. Wermes,
Depleted CMOS Pixels for LHC Proton-Proton Experiments
Nucl.Instrum.Meth. A824 (2016) 483-486
- [5] N. Wermes,
From Hybrid to CMOS Pixels ... a possibility for LHC's pixel future?
iWoRiD Honorary Talk, JINST (2015) 10 C12023
- [6] M. Havránek, T. Hemperek, H. Krüger, Y. Fu, L. Germic, T. Kishishita, T. Obermann, N. Wermes, *DMAPS: A fully depleted monolithic active pixel sensor— analog performance characterization*, JINST 10 (2015) 02, P02013
- [7] T. Hemperek, T. Kishishita, H. Krüger, N. Wermes,
A Monolithic active pixel sensor for ionizing radiation using a 180nm HV-SOI process
Nucl.Instrum.Meth. A796 (2015) 8-12

Number of refereed publications:	1945, in large part in international collaborations, last 3 years: 301
Single author publications:	23
Publications with less than 10 authors:	100 (INSPIRES HEP DB, Oct. 2021)

Editorial Duties

2007-2012 Member Editorial Board *Advances in High Energy Physics* (AHEP)
2009-2014 Member Editorial Board *Progress in Particle and Nuclear Physics* (PPNP)
Member in many Editorial Boards for Publications of the OPAL and ATLAS Coll.

Refereeing Duties

for journals with peer review

Physical Review D (since 1990)
Physical Review Letters (since 1989)
Physics Letters B
Zeitschrift f. Physik C
European Physical Journal A
European Physical Journal C
IOP European Journal of Physics (2020)
Nuclear Instruments and Methods A (since 1999)
IEEE Transactions in Nuclear Science (since 2005)
IEEE Journal of Solid State Circuits (since 2014)
Journal of Instrumentation, JINST (since 2007)
Australasian Physical & Engineering Sciences in Medicine
Frontiers in Physics – Radiation Detection and Imaging

for Conference Proceedings

Vertex99 – Conference (Amsterdam, NL)
Pixel2000 – Conference (Genova, Italy)

Pixel2005 – Conference (Bonn, Germany)
Pixel2010 – Conference (Grindelwald, Switzerland)
Pixel2012 – Conference (Japan)
Pixel2014 – Conference (Toronto)
Pixel2016 – Conference (Sestri Levante)
Pixel2018 – Conference (Taipeh)
IEEE2003 Nuclear Science Symposium (Portland, USA)
IEEE2004 Nuclear Science Symposium (Rome, I)
IEEE2005 Nuclear Science Symposium (Puerto Rico)
TIPP2011 – Conference (Fermilab)
Symposium on Applications of Linear and Area Detectors for X-ray and
Neutron Diffraction and Spectroscopy (Warsaw 2004)
INFIERI2014 – Paris (France)
Hiroshima 2015 – Conference (HTSD10) – China
Hiroshima 2017 – Conference (HTSD11) – Okinawa
Hiroshima 2019 – Conference (HTSD12) – Hiroshima

for Research Proposals to

Deutsche Forschungsgemeinschaft (DFG)
German Federal Ministry of Science and Research (BMBF)
NRW State Ministry for Science and Research (MIWF)
European Research Council (ERC), EU
Helmholtz-Gemeinschaft, Germany
MINERVA Foundation
Science and Technology Facilities Council (STFC), UK
Swiss National Fonds, Switzerland
National Natural Science Foundation of China (NSFC)
Research Funding of the Netherlands (FOM)
Agence Nationale de la Recherche (ANR), France