

Curriculum Vitae:

Dr. Gerhard Ulbricht
Dublin Institute of Advanced Studies - School of Cosmic Physics
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Research-ID: P-7487-2016

Personal: citizenship: German

Education: **Max Planck Institute for Solid State Physics**, Stuttgart, Germany
Ph.D. in physics (Dr. rer. nat.), January 2009
Thesis: *Two-dimensional charge carrier transport in graphene and single crystal organic semiconductors.*
Advisors: Prof. Klaus von Klitzing and Dr. Jurgen Smet
University of Stuttgart, Germany
Diplom in physics, December 1999
Thesis: *Molecular beam epitaxy of organic donator-acceptor multilayers.*
Advisor: Prof. Norbert Karl

Research experience: **Dublin Institute of Advanced Studies** - School of Cosmic Physics
2017-present: *Postdoctoral Researcher*
Collaborators: Prof. Tom Ray, Dr. Kieran O'Brien (Durham University), Dr. Plamen Stamenov (Trinity College)
Projects: Further development and optimization of MKIDs optimized for ground-based astronomical observations in the UV, optical and infrared.

University of California, Santa Barbara, Department of Physics
2012- 2017: *Postdoctoral Researcher*
Collaborators: Prof. Benjamin A. Mazin, Dr. Kieran O'Brien (Oxford), Bruce Bumble (JPL), Dr. Julian van Eyken (NExScI)
Projects: Development of Thermal Kinetic Inductance Detectors as energy resolving X-ray detectors.
Optimization of Microwave Kinetic Inductance Detectors for UV, optical and infrared astronomy.

Max Planck Institute for Solid State Physics, Stuttgart, Germany
2001 – 2009: *Graduate Student Researcher*
Supervisors: Prof. Klaus von Klitzing and Dr. Jurgen Smet
Projects: Two-dimensional charge carrier transport in ultra-pure single crystals of organic semiconductors.
Quantum Hall Effect in mono- and double-layer graphene films.

University of Stuttgart, 3. Institute for Physics, Germany
1999 – 2000: *Undergraduate Research Assistant*
Supervisor: Prof. Norbert Karl
Project: Fabrication and characterization of epitaxial thin film multilayers of organic semiconductors.

List of publications:

Refereed:

- S. Meeker, B. A. Mazin, A. Walter, P. Strader, N. Fruitwala, C. Bockstiegel, P. Szypryt, **G. Ulbricht**, G. Coiffard, B. Bumble, G. Collura, R. Dodkins, I. Lipartito, M. Bottom, J. Shelton, D. Mawet, J. Van Eyken, G. Vasisht, E. Serabyn: *DARKNESS: A Microwave Kinetic Inductance Detector integral field spectrograph for high-contrast astronomy*, Publications of the Astronomical Society of the Pacific, 130:065001 (2018).
- P. Szypryt, S. R. Meeker, G. Coiffard, N. Fruitwala, B. Bumble, **G. Ulbricht**, A. B. Walter, M. Daal, C. Bockstiegel, G. Collura, N. Zobrist, I. Lipartito and B. A. Mazin: *Large-format platinum silicide microwave kinetic inductance detectors for optical to near-IR astronomy*, Optics Express 25, no. 21, 25894-25909 (2017).
- P. Szypryt, B. A. Mazin, **G. Ulbricht**, B. Bumble, S. R. Meeker, C. Bockstiegel and A. B. Walter: *High quality factor platinum silicide microwave kinetic inductance detectors*, Applied Physics Letters **109**, 151102 (2016).
- M. J. Strader, A. M. Archibald, S. R. Meeker, P. Szypryt, A. B. Walter, J. C. van Eyken, **G. Ulbricht**, C. Stoughton, B. Bumble, D. L. Kaplan and B. A. Mazin: *Search for optical pulsations in PSR J0337+1715*, MNRAS **459**, 427-430 (2016).
- **G. Ulbricht**, B. A. Mazin, P. Szypryt, A. B. Walter, C. Bockstiegel and B. Bumble: *Highly multiplexible thermal kinetic inductance detectors for x-ray imaging spectroscopy*, Applied Physics Letters **106**, 251103 (2015).
- P. Szypryt, G.E. Duggan, B.A. Mazin, S.R. Meeker, M.J. Strader, J.C. van Eyken, D. Marsden, K. O'Brien, A.B. Walter, **G. Ulbricht**, T.A. Prince, C. Stoughton and B. Bumble: *Direct Detection of SDSS J0926+3624 Orbital Expansion with ARCONS*, MNRAS **439**, 2765-2770 (2014).
- B. A. Mazin, S. R. Meeker, M. J. Strader, P. Szypryt, D. Marsden, J. C. van Eyken, G. E. Duggan, A. B. Walter, **G. Ulbricht** and M. Johnson: *ARCONS: A 2024 Pixel Optical through Near-IR Cryogenic Imaging Spectrophotometer*, Publications of the Astronomical Society of the Pacific, **125**:1348-1361 (2013).
- M. J. Strader, M. D. Johnson, B. A. Mazin, G. V. Spiro Jaeger, C. R. Gwinn, S. R. Meeker, P. Szypryt, J. C. van Eyken, D. Marsden, K. O'Brien, A. B. Walter, **G. Ulbricht**, C. Stoughton and B. Bumble: *Excess optical enhancement observed with ARCONS for early Crab giant pulses*, Astrophysical Journal Letters **779**:L12 (6pp) (2013).
- J. Martin, N. Akerman, **G. Ulbricht**, T. Lohmann, K. von Klitzing, J. H. Smet, A. Yacoby: *The nature of localization in graphene under quantum Hall conditions*, Nature Physics **5**, 669 – 674 (2009).
- J. Martin, N. Akerman, **G. Ulbricht**, T. Lohmann, J. H. Smet, K. von Klitzing, A. Yacoby: *Observation of electron-hole puddles in graphene using a scanning single-electron transistor*, Nature Physics **4**, 144-148 (2008).
- S. Sellner, A. Gerlach, S. Kowarik, F. Schreiber, H. Dosch, S. Meyer, J. Pflaum, **G. Ulbricht**: *Comparative study of the growth of sputtered aluminum oxide films on organic and inorganic substrates*, Thin Solid Films **516**, 6377-6381 (2008).

- M. Haluska, D. Obergfell, J. C. Meyer, G. Scalia, **G. Ulbricht**, B. Krauss, D. H. Chae, T. Lohmann, M. Lebert, M. Kaempgen, M. Hulman, J. Smet, S. Roth, K. von Klitzing: *Investigation of the shift of Raman modes of graphene flakes*, Physica Status Solidi (B) **244**, 4143 – 4146 (2007).
- S. Sellner, A. Gerlach, F. Schreiber, M. Kelsch, N. Kasper, H. Dosch, S. Meyer, J. Pflaum, M. Fischer, B. Gompf, **G. Ulbricht**: *Mechanisms for the enhancement of the thermal stability of organic thin films by aluminum oxide capping layers*, J. Mater. Res. **21**, 455-464 (2006).

Non-refereed:

- S. Meyer, S. Sellner, F. Schreiber, H. Dosch, **G. Ulbricht**, M. Fischer, B. Gompf, J. Pflaum: *The Impact of Capping on the Mobility and Thermal Stability of Organic Thin Film Transistors*, Mater. Res. Soc. Symp. Proc. **965**, 0965-S06-13 (2007).