

# Wissenschaftlicher Anhang

DR. TOBIAS BEUCHERT

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## Wissenschaftliche Erfahrungen

### Multiwellenlängenastronomie

Planung, Durchführung, und Auswertung von Beobachtungen von erd- und orbitgebundenen Observatorien bei den folgenden Wellenlängen: radio (Polarimetrie, Inerferometrie), sub-mm, optisch (Photometrie, Spektroskopie), UV, Röntgen, und Gamma, sowie der Beobachtung von Neutrinos (ANTARES Detektor)

### Methoden

Selbstkonsistente Modellierung großer und komplexer Datenmengen (Zeit- und Frequenzdomäne), eingehende Parameteranalysen, Bildgebungsverfahren (Radiointerferometrie, Coded-Mask) und Bildanalyse, Modellierung von (astro)physikalischen Prozessen über viele Größenordnungen (Zeit- / Frequenz- / Raumdomäne)

### Designstudien für Röntgensatelliten

Detektorsimulationen und Telemetrie

## Wissenschaftliche Aufenthalte

### Univ. of California San Diego (UCSD), USA

07/2013, 04/2015

### Mehrere Aufenthalte am Max-Planck Institut für Radioastronomie, Bonn

04/2010 – 03/2013

### European Space Agency's Astronomy Centre (ESAC), Madrid, Spanien

09/2011 – 12/2011

## Internationale Kollaborationen

### TANAMI: Tracking Active Galactic Nuclei with Australian-South-African Milliarsecond Interferometry

2013 – heute

## Auswahl Konferenzvorträge

### ISM (Interstellares Medium), Bamberg

03/2018

*"Self-consistent study of feedback in Ultraluminous X-ray sources"*

### Tautenburg Seminar, Tautenburg

07/2017

*"X-raying the obscuring environment of Active Galactic Nuclei"*

### Polarized Emission from Astrophysical Jets, Ierapetra, Griechenland

06/2017

*"VLBA polarimetry monitoring of 3C 111: jet physics on parsec scales"*

### The X-ray Universe, Rom, Italien

06/2017

*"A Suzaku, NuSTAR, and XMM-Newton view on variable absorption and relativistic reflection in NGC 4151"*

### ESAC Trainee Meeting, Madrid, Spanien

10/2014

*"A variable-density absorption event in NGC 3227 mapped with Suzaku and Swift"*

### Jahresversammlung der deutschen Astronomischen Gesellschaft, Bamberg

09/2014

*"A variable-density absorption event in NGC 3227 mapped with Suzaku and Swift"*

### 10ter INTEGRAL/BART Workshop, Karlovy Vary, Tschechien

06/2013

*X-ray Variability Study of Polar Scattered Seyfert I Galaxies*

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## Auswahl geladener Vorträge

**ASTRON, Dwingeloo, Niederlande**

05/2018

**Anton Pannekoek Institute for Astronomy, Univ. Amsterdam, Niederlande**

04/2017

**Center for Astrophysics & Space Sciences, San Diego, USA**

04/2015

**Caltech, Pasadena, USA**

04/2015

## Ausgewählte Konferenzen mit Posterbeiträgen

**Blazars Through Sharp Multiwavelength Eyes, Malaga, Spanien**

06/2016

**High-resolution X-ray spectroscopic software and tools, Madrid, Spanien**

05/2016

**XMM-Newton (Röntgensatellit): Next Decade, ESAC, Madrid, Spanien**

05/2016

**Torus 2015, Winchester, England**

09/2015

**XMM-Newton Science Workshop, Madrid, Spanien**

06/2015

**The X-ray Universe, Dublin, Irland**

06/2014

**The innermost regions of relativistic jets and their magnetic fields, Granada, Spanien**

06/2013

## Erfolgreiche Anträge auf Beobachtungszeit

**IRAM 30-m (sub-mm Teleskop)**

2019

*"Probing jet feedback influence onto molecular gas in SS 433"*

**XMM-Newton (Röntgensatellit)**

2018

*"Detecting wind-outflows in the young Active Galaxy PKS 1718–649"*

**XMM-Newton (Röntgensatellit)**

2016, 2017, 2018

*"Probing correlated X-ray and radio absorption variability in the young Active Galactic Core of PKS 1718–649"*

**Swift (Röntgensatellit)**

2015

*"Follow-up observations of the Active Galaxy NGC 3227"*

**XMM-Newton (Röntgensatellit)**

2015

*"Correlated X-ray and radio absorption variability in PKS 1718–649"*

**XMM-Newton (Röntgensatellit)**

2014

*"Occultation event in the Active Galactic Core of NGC 3227"*

# Publikationsliste

DR. TOBIAS BEUCHERT

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## Veröffentlichungen (peer-reviewed)

- 1 Burtscher, L., Dalglish, H., Barret, D., **Beuchert, T.**, et al. 2021, Nature Astronomy, 5, 857-860: Forging a sustainable future for astronomy
- 2 White, J. A., Dalglish, H., Burtscher, L., Frost, A. J., **Beuchert, T.**, The A4E Community, 2021, Bulletin of the AAS, 53(2): Astronomers for Planet Earth: Engaging with the Public to Forge a Sustainable Future
- 3 Cangemi, F., **Beuchert, T.**, et al. 2021, A&A, 650, 93: Potential origin of the state-dependent high-energy tail in the black hole microquasar Cygnus X-1 as seen with INTEGRAL
- 4 Kantzas, D., Markoff, S., **Beuchert, T.**, et al. 2021, MNRAS, 500, 2112-2126: A new lepto-hadronic model applied to the first simultaneous multiwavelength data set for Cygnus X-1
- 5 Schulz, R., Kadler, M., Ros, E., .. **Beuchert, T.** .. et al. 2020, A&A, 644, 85: Sub-milliarcsecond imaging of a bright flare and ejection event in the extragalactic jet 3C 111
- 6 Garcia, J. A., Kara, E., Walton, D., **Beuchert, T.**, et al. 2019, ApJ, 871, 88: Implications of the Warm Corona and Relativistic Reflection Models for the Soft Excess in Mrk 509
- 7 **Beuchert, T.**, Rodríguez-Ardila, A., Moss, V. A., et al. 2018, A&A, 612, L4: Extended X-ray emission in PKS 1718–649
- 8 **Beuchert, T.**, Großberger, C., Schulz, R., et al. 2018, A&A, 610, A32: VLBA polarimetry monitoring of 3C 111
- 9 **Beuchert, T.**, Markowitz, A. G., Dauser, T., et al. 2017, A&A, 603, 50: A Suzaku, NuSTAR and XMM-Newton view on variable absorption and relativistic reflection in NGC 4151
- 10 Ahnen, M. L., Ansoldi, S., Antonelli, L. A., .. **Beuchert, T.** .. et al. 2017, A&A, 603, A25: First Multi-wavelength Campaign on the Gamma-ray-loud Active Galaxy IC 310
- 11 Kadler, M., Krauß, F., Mannheim, .. **Beuchert, T.** .. et al. 2016: Coincidence of a high-fluence blazar outburst with a PeV-energy neutrino event, Nature Physics, 12, 807
- 12 Krauß, F., Wilms, J., Kadler .. **Beuchert, T.** .. et al. 2016: The TANAMI Multiwavelength Program: Dynamic spectral energy distributions of southern blazars, A&A, 591, A130
- 13 Fürst, F., Müller, C., Madsen, K. K. .. **Beuchert, T.** .. et al. 2016: NuSTAR and XMM-Newton Observations of the Hard X-Ray Spectrum of Centaurus A, ApJ, 819, 150
- 14 **Beuchert, T.**, Markowitz, A. G., Krauß, F., et al. 2015: A variable-density absorption event in NGC 3227 mapped with Suzaku and Swift, A&A, 584, A82
- 15 Svoboda, J., **Beuchert, T.**, Guainazzi, M., et al. 2015: An X-ray variable absorber within the broad line region in Fairall 51, A&A, 578, A96
- 16 ANTARES Collaboration, Adrián-Martínez, S., Albert, A. .. **Beuchert, T.** .. et al. 2015: ANTARES constrains a blazar origin of two IceCube PeV neutrino events, A&A, 576, L8
- 17 Müller, C., Krauß, F., Dauser, T., Kreikenbohm, A., **Beuchert, T.**, et al. 2015: Redshifted Fe K $\alpha$  line from the unusual  $\hat{\nu}$ -ray source PMN J1603-4904, A&A, 574, A117
- 18 Krauß, F., Kadler, M., Mannheim, K. .. **Beuchert, T.** .. et al. 2014: TANAMI blazars in the IceCube PeV-neutrino fields, A&A, 566, L7
- 19 Miniutti, G., Sanfrutos, M., **Beuchert, T.**, et al. 2014: The properties of the clumpy torus and BLR in the polar-scattered Seyfert 1 galaxy ESO 323-G77 through X-ray absorption variability, MNRAS, 437, 1776

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## Proceedings, Poster und Bulletins

(reviewed: "Acta Polytechnica", "European Physics Journal Web of Conferences", "SPIE")

- 1 White, J. A., Dagleish, H., Burtscher, L., Frost, A. J., **Beuchert, T.**, The A4E Community, 2021, Bulletin of the AAS, 53(2): Astronomers for Planet Earth: Engaging with the Public to Forge a Sustainable Future
- 2 **Beuchert, T.**, Markowitz, A. G., Dauser, T., et al. 2016: The symbiosis of variable absorption and blurred reflection in the X-ray-absorbed Seyfert 1.5 galaxy NGC 4151, In: Active Galactic Nuclei: What's in a Name?, 94
- 3 Fink, M., Dauser, T., **Beuchert, T.**, et al. 2016: Relativistic Iron Line Fits, In: Active Galactic Nuclei: What's in a Name?, 92
- 4 **Beuchert, T.**, Markowitz, A., Dauser, T., et al. 2016: The symbiosis of variable absorption and blurred reflection in the X-ray-absorbed Seyfert 1.5 galaxy NGC 4151, In: XMM-Newton: The Next Decade, 78
- 5 Krauss, F., Wilms, J., Kadler, M. .. **Beuchert, T.** .. et al. 2016: VizieR Online Data Catalog: Dynamic SEDs of southern blazars - DSSB (Krauss+, 2016), VizieR Online Data Catalog, 359
- 6 **Beuchert, T.**, Markowitz, A. G., Krauß, F., et al. 2015: A Variable-Density Absorption Event in NGC 3227 mapped with Suzaku and Swift, In: Gandhi, P. and Hoenig, S. F. (eds.), TORUS 2015, 26
- 7 **Beuchert, T.**, Markowitz, A., Longinotti, A., et al. 2015: A Variable-Density Absorption Event in NGC 3227 mapped with Suzaku and Swift, In: Strassmeier K. G., Brandenburg, A., Kudritzki, R. P., Neuhäuser, R. (eds.), The Extremes of Black Hole Accretion, 73
- 8 Wilms, J., Brand, T., Barret, D., **Beuchert, T.**, et al. 2014: ATHENA end-to-end simulations, Proc. SPIE, 9144
- 9 Kuehnel, M., Ballhausen, R., Krauss, F., **Beuchert, T.**, et al. 2014: Swift-XRT spectrum of the first detected double-peaked outburst of GRO J1008-57, The Astronomer's Telegram, 6656
- 10 **Beuchert, T.**, Markowitz, A., Dauser, T., et al. 2014: A Variable-Density Absorption Event in NGC 3227 mapped with Suzaku and Swift, In: Ness, J. U. (ed.), The X-ray Universe 2014, 228
- 11 **Beuchert, T.**, Wilms, J., Kadler, M., et al. 2014, In: Adlerová, I. (ed.), IBWS 2013, Acta Polytechnica, 54, 266
- 12 **Beuchert, T.**, Kadler, M., Wilms, J., et al. 2013: Single-Dish Radio Polarimetry in the F-GAMMA Program with the Effelsberg 100-m Radio Telescope, In: Gómez, J. L. (ed.), European Physical Journal Web of Conferences, 61
- 13 Grossberger, C., Kadler, M., Wilms, J., Müller, C., **Beuchert, T.** et al. 2012, In: Acta Polytechnica, 52, 18

30 Publikationen; 403 citations; h-index: 11

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