

Curriculum Vitae

DR. JAN-UWE NESS

XMM-Newton Observatory SOC

European Space Astronomy Centre, Apartado 78

28691 Villanueva de la Cañada, Madrid, Spain

born 28. September, 1970 in Oldenburg, i.O., Germany

Positions	since 2008	Scientist in XMM-Newton SOC
	2006-2008	<i>Chandra</i> Fellow at Arizona State University
	2004-2006	research associate at Dep. of Theor. Physics at University of Oxford
	2002-2004	research associate at Hamburger Sternwarte, Hamburg, Germany
	1999-2002	research assistant at Hamburger Sternwarte, Hamburg, Germany
Education	1997-1998	teaching assistant at University of Kiel, Germany
	May 2002	Ph.D. in Astrophysics at University of Hamburg, Germany <i>Thesis on</i> HIGH-RESOLUTION X-RAY PLASMA DIAGNOSTICS OF STELLAR CORONAE
	Dec 1998	Graduation in Astrophysics at University of Kiel, Germany <i>Thesis on</i> N-BODY SIMULATIONS OF INTERACTING GALAXIES
	Jul 1996	Certificate in Church Music
	Oct 1991	First Cambridge Certificate in English
	May 1991	Graduation from High School with Abitur in Germany
	1988-1989	High School in Renton, Washington, USA
	Teaching	2006/2007
2005		Problem class (4th year); Univ. Oxford (Applied Atomic Physics)
2002-2004		Two problem classes (1st year); Univ. Hamburg (Introduction)
2002-2004		lectures as substitute for J.H.M.M. Schmitt (Univ. Hamburg) (for all faculties, Radiation processes, Relativistic Astrophysics, Solar- and Stellar physics)
1997-1998		instructor in practicals at Univ. of Kiel, Germany (Optical observations, Fortran programming)
Stipends and Awards	2008	Ramon y Cajal (declined)
	2005	Chandra Fellowship
	2002	Harvard Stipend with Dr. Nancy Brickhouse
	2001	DAAD Stipend with Dr. Rolf Mewe (SRON)
	1997	Practical RADIATION PHYSICS AND CHEMISTRY OF POLYMERS at Flerov Laboratory of Nuclear Reactions (Dubna, Russia)
Participation in Commissions	2005-2008	Chandra AO-7 and AO-10 peer review panel
	2003-2004	XMM-Newton AO-3 and AO-4 peer review panels
	Dec 2002	Commission appointing a C-3 Professor at Hamburger Sternwarte
Misc	1999-2004	Installation and maintenance of software at Hamburger Sternwarte
	Since 1991	Organist in Church services (several denominations) Several short Organ concerts in Hamburg, Germany Invitation to give Organ concert in Oña (Burgos), Spain
	1996-1999	Member in Church board in Kiel, Germany Guiding tours through historic Hamburger Sternwarte Historic description of Hamburger Sternwarte in web pages
	1991-1993	Military Service in Cologne (Köln), Germany Driving license CE (trucks), First Cambridge Certificate in English
	April 1988	Ham radio license

Presentations at conferences

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Invited talks

Mar 2009	3 rd High resolution X-ray Spectroscopy Workshop - Towards IXO	MSSL, UK
May 2008	The X-ray Universe	Granada, Spain
Oct 2007	Chandra Fellowship Symposium	Cambridge, USA
+Nov 2006, Oct. 2005		
Jul 2004	35 th Cospar Scientific Assembly	Paris, France
Jul 2004	Cool Stars Workshop 13	Hamburg, Germany
Sep 2003	Highlight Talk at AG Meeting (plus 2 posters)	Freiburg, Germany
Jul 2003	X-ray and Radio Emission of Young Stars	Tokyo, Japan

Contributed talks

May 2008	8th Pacific Rim Conference on Stellar Astrophysics	Phuket, Thailand
Jun 2007	RS Ophiuchi (2006)	Keele, UK
May 2007	AAS 210th Meeting	Honolulu, Hawaii, USA
Dec 2006	The Extreme Universe in the Suzaku Era	Kyoto, Japan
Mar 2006	High resolution X-ray spectroscopy: Towards XEUS and Con-X (plus 1 poster)	MSSL, UK
Nov 2002	Chandra Calibration Workshop	MIT, Cambridge, MA, USA
Oct 2002	34 th Cospar Scientific Assembly	Houston, TX, USA
Oct 2002	MSSL Workshop on high resolution X-ray spectroscopy	MSSL, UK
Sep 2002	AG meeting	Berlin, Germany
Aug 2001	Cool Stars Workshop 12 (plus 1 poster)	Boulder, Colorado, USA
June 2001	Stellar Coronae 2001 (plus 1 poster)	Noordwijk, Netherlands
Sep 1999	AG meeting	Göttingen, Germany

Poster presentations at conferences

Mar 2009	Wild Stars in the Old West (II)	Tucson, AZ, USA
Dec 2007	The Suzaku X-ray Universe	San Diego, CA, USA
Nov 2004	X-ray Diagnostics for Astrophysical Plasmas	Cambridge, MA

Successful proposals

Year	Source	Project	funding
2008	XMM-Newton	Target of Opportunity One bright Nova in outburst	55,000 sec
2008	NASA Funding	Bright Nova in outburst	\$75,000
2006	Chandra	Probing spectral changes in variable active M dwarfs	100,000 sec
2005	Chandra Fellowship	High-resolution X-ray spectroscopy of Classical Novae and Super Soft X-ray Binaries	\$200,000
2003	Chandra	X-ray observation of Saturn	70,000 sec
2001	Deutscher Akademischer Austauschdienst (DAAD)	X-ray Diagnostics of Coronal Plasmas with Dr. R. Mewe at SRON, Netherlands	€2500

Presentations at Institute Seminars

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Invitations for Colloquium talks: ** host covered full costs; * costs shared

Oct 2008 Harvard University, Cambridge, MA, USA
Sep 2008 University of West Chester, near Philadelphia, PA, USA*
Sep 2008 University of Wisconsin, Madison, WI, USA*
Aug 2008 University of Oxford, UK*
Jul 2008 University of Leicester, UK*
Jul 2008 MPE Garching, Germany*
Jun 2008 Institut d'Estudis Espacials de Catalunya, Barcelona, Spain**
May 2008 University of Hamburg, Germany*
Sep 2007 University of Chicago, IL, USA*
Sep 2007 University of Minnesota, MN, USA**
Jul 2007 Université de Genève, Switzerland*
Jul 2007 Universität Tübingen, Germany*
Jul 2007 Kiepenheuer Institut für Sonnenphysik, Freiburg, Germany*
Jun 2007 Universität Hamburg, Germany
Jun 2007 Warwick University, UK*
Jan 2007 University of California (San Diego), CA, USA**
Jan 2007 Keele University, Staffordshire, UK**
Oct 2006 University of West Chester, near Philadelphia, PA, USA*
Oct 2006 University of Leicester, UK*
Sep 2006 Keele University, Staffordshire, UK**
Aug 2006 Harvard University, Cambridge, MA, USA
Aug 2006 University of Oxford, UK*
Aug 2006 University of Sheffield, UK
Jul 2006 Universität Hamburg, Germany
Apr 2006 MIT, Cambridge, MA, USA
Feb 2006 University of California (Berkeley), CA, USA*
Jan 2006 Columbia University, New York, NY, USA**
Nov 2005 University of Oxford, UK*
Apr 2005 Mullard Space Science Laboratory (MSSL), Dorking, UK*
Oct 2005 Imperial College London, UK
Jul 2004 Kiepenheuer Institut für Sonnenphysik, Freiburg, Germany**
Apr 2004 University of Palermo, Italy*
Mar 2004 Eidgenössische Technische Hochschule Zürich, Switzerland*
Nov 2003 Universität Kiel, Germany**
Aug 2003 Max Planck Institut für Extraterrestrische Physik (MPE), Garching, Germany*
Feb 2001 Landessternwarte Königstuhl, Heidelberg, Germany*

Past research

1998-1999:

My research career started with research in galactic dynamics with N-body simulations of interacting galaxies. The aim was to study starformation triggered by interactions between disk galaxies and satellite galaxies (minor mergers). The method applied was based on the Sticky Particle Scheme developed by Theis & Hensler (1993, A&A 280, 85), where I implemented the disintegration of massive cloud particles by starformation.

1999-2004:

I then moved on to high-resolution X-ray spectroscopy of stellar coronae and have accomplished the first detection of X-rays from Saturn as a small side project. I have analysed high-resolution X-ray spectra of stellar coronae and carried out temperature and density analyses. Some highlights of this period was:

- Development of line fitting tool Cora, which accounts for low-count statistics.
- Survey of density and temperature measurements from line ratios which I used to derive volume filling factors which can be studied as a function of activity.
- Survey of X-ray spectra sampling the possibility of resonant line scattering.
- Variations of densities during stellar flares.
- Density measurement in the Classical T Tauri star TW Hya.
- Concepts for dealing with line blends.
- Detection of N/C abundance anomalies in stellar coronae that reflect the evolutionary state of the underlying star.

Since 2006:

The Chandra Fellowship has been awarded for research on Classical Nova outbursts, which was a significant change from my previous field. I have analysed high resolution X-ray spectra taken during and shortly after outburst. My experience of spectral analyses of stellar coronae gives me a unique profile in the new community. Highlights are:

- Determination of temperature structure and elemental composition of the ejecta of a nova from collisional shock spectra.
- Discovery of an unexpected sudden turn off of a nova during the observation. This phenomenon is not understood. The same observation also yielded high-amplitude oscillations that persisted through the entire evolution.
- Discovery of a nova still being active 11 years after outburst. This is now the oldest known classical nova to still be active.
- In the *Chandra* spectra of RS Oph I have discovered numerous new phenomena: Variable column density in the O I K-shell absorption edge, correlation between hardness and irregular brightness changes (hardness lagging 1000 sec behind), reduction of blue shifts in absorption lines.
- Two XMM-Newton observations of the brightest phase in X-rays of the nova V2491 Cyg. Over the period of only 10 days the X-ray spectrum of the nova has dramatically changed.

Most important Collaboration Partners

- **Prof. Sumner Starrfield**, former faculty contact person at Arizona State University; Outbursts of Classical Novae (CNe)
Dr. Starrfield is a specialist in computing hydrodynamic models of Classical Novae and we plan and discuss X-ray observations and funding proposals.
- **Prof. Dame Carole Jordan**, supervisor during postdoc time at University of Oxford (UK): Corona and transition region of single stars
Dr. Jordan is a specialist in atomic physics. She has “invented” the He-like triplet density diagnostics. Our collaboration is based on combining my expertise from high-resolution X-ray spectroscopy with her knowledge of the solar corona/transition region and atomic physics.
- **Prof. Jürgen Schmitt**, PhD supervisor at Hamburger Sternwarte (Germany): Magnetically Induced Activity of Cool Stars
Continuing collaboration with him and his post-docs and partial supervision of his students. We write Chandra and XMM-Newton proposals together.
- **Prof. Peter Hauschildt**, Hamburger Sternwarte (Germany):
Computation of stellar atmospheric models with the aim to adjust the parameters to reproduce X-ray observations of Classical Novae and Supersoft X-ray Sources (SSS).
- **Prof. Mike Bode**, Liverpool John Moores University (UK):
Analysis of the shock spectra measured during the outburst of RS Ophiuchi. Planning and interpreting Swift monitoring campaigns.
- **Dr. Julian Osborne**, University of Leicester (UK):
Planning and publishing Swift observations of Classical Novae.
- **Dr. Greg Schwarz**, West Chester University, PA, (USA):
Dr. Schwarz is specialised in optical and UV observations of Classical Novae. Our collaboration is characterised by combining results from optical/UV with those from X-ray observations. We mostly work with Swift data, which carries both, UV and X-ray instruments.

Student/Post-doc Projects under my supervision

- **Dr. Andrej Dobrotka** (Slovakia): Andrej is a highly competent programmer and has specialised in light curve analyses of CVs. He has contacted me for learning the interpretation of X-ray data. I have trained him to determine multiple periods and statistical uncertainties thereof. We have a paper submitted and a second one in preparation. He will visit me at ESAC in September and give a seminar talk. I see great potential for further collaborations in the future.
- **Mr. Dai Takei** (Tokyo, Japan): Dai is deeply involved in the Suzaku mission, where he partly does some operations duties. He works on his PhD thesis under the supervision of Prof. Shunji Kitamoto. He has spent two months at ESAC on a project where he does a combined analysis of Suzaku and XMM-Newton spectra of the same source during different stages of evolution. A paper is almost completed. Future collaborations are anticipated.
- **Mr. Daan vanRossum** (Hamburg, Germany): Daan is a theoretician with expertise in computing atmosphere models. He works on his PhD thesis under supervision of Prof. Peter Hauschildt. I am helping him to compare the models to data, and to promote his models to the scientific public. I am convinced that his models are the only models that have the potential to describe the spectra emitted by the expanding ejecta of a nova outburst.

Most outstanding publications

Dr. Jan-Uwe Ness

1. **High-Resolution X-ray Spectroscopy of the Evolving Shock in the 2006 Outburst of RS Ophiuchi**

Authors: **J.-U. Ness**, J.J. Drake, S. Starrfield, M.F. Bode, T.J. O'Brien, A. Evans, S.P.S. Eyres, L.A. Helton, J.P. Osborne, K.L. Page, C. Schneider, C.E. Woodward

AJ **137**, 3414; **3 citations (since 2009!)**

Most notable aspects:

The 6th recorded outburst of RS Oph triggered enough interest that multiple observations with XMM-Newton and Chandra were taken. The high quality of the data make strong demands on the analysis methods, and standard methods with quick `xspec` fitting do not necessarily deliver reliable results. I demonstrate that APEC models yield good fits, but I also show that alternative analysis methods (line-based EMD modelling) yield sometimes better results. I determined shock velocities that pose important constraints on models, and plasma abundances that are an important corner stone to decide whether or not RS Oph might be a SN Ia progenitor.

2. **The SSS Phase of RS Ophiuchi Observed with Chandra and XMM I. Data and Preliminary Models**

Authors: **J.-U. Ness**, S. Starrfield, A.P. Beardmore, M. Bode, J.J. Drake, A. Evans, R.D. Gehrz, M.R. Goad, R. Gonzalez-Riestra, P. Hauschildt, J. Krautter, T.J. O'Brien, J.P. Osborne, K.L. Page, R. Schönrich, C.E. Woodward

ApJ **665**, 1334 (2007); **16 citations**

Most notable aspects:

RS Oph is a prominent recurrent nova that has outbursts every ~ 20 years. The 6th recorded outburst was followed in X-rays, and in this paper three spectra of the brightest phase in X-rays during the evolution (the SSS phase) are presented. The high-resolution spectra force us to work extremely careful, and notable findings are:

- (a) Deep absorption lines are present and are blue-shifted
- (b) The blue shift of absorption lines decreases with time
- (c) The depth of the K-shell absorption edge from O I varies, which can be explained by varying ionisation of circumstellar neutral oxygen
- (d) The absorption edges from C VI, O VII and N VII are absent
- (e) Variations in the early light curve are accompanied by the same variations in spectral hardness, but these changes appear retarded by 1000sec.

3. **Swift X-ray Observations of Classical Novae**

Authors: **J.-U. Ness**, G.J. Schwarz, A. Retter, S. Starrfield, J.H.M.M. Schmitt, N. Gehrels, D. Burrows, J.P. Osborne

ApJ **663**, 505 (2007); **14 citations**

Most notable aspects:

Swift is extremely well suited for systematic studies of novae. The evolution of novae occurs over a time period of a few months to several years, with changes on time scales of weeks to months. This is the first paper to summarise all nova observations taken until mid 2006. We defined a standard extraction procedure of counts that is going to be used in all future Swift papers. We found criteria for the observability of novae in X-rays and established Swift as a trigger mission for deeper observations with Chandra or XMM-Newton. This paper delivers the important arguments that motivate our current monitoring campaigns that are revolutionizing our view on Classical Novae.

4. **An X-ray emission line spectrum of Nova V382 Velorum 1999**

Authors: **J.-U. Ness**, S. Starrfield, C. Jordan, J. Krautter, J.H.M.M. Schmitt
MNRAS **364**, 1015 (2005); **14 citations**

Most notable aspects:

Once nuclear burning on the white dwarf surface ceases, all X-ray emission should disappear. Less than two months after bright X-ray emission was still observed, we only found a weak emission line spectrum. We were only able to detect signatures of the cooling white dwarf. The emission lines originate from radiatively cooling plasma. We found different profiles for different elements. We applied the techniques from Stellar Coronae to determine the temperature structure and elemental abundances.

5. **A Chandra LETGS observation of V4743 Sagittarius: A Super Soft X-ray Source and a Violently Variable Light Curve**

Authors: **J.-U. Ness**, S. Starrfield, V. Burwitz, R. Wichmann, P. Hauschildt, J.J. Drake, R.M. Wagner, H.E. Bond, J. Krautter, M. Orío, M. Hernanz, R.D. Gehrz, C.E. Woodward, Y. Butt, K. Mukai, S. Balman, and J.W. Truran
ApJL **594**, 127-130 (2003); **43 citations**

Most notable aspects:

V4743 Sgr (2002) was one of the brightest novae in X-rays. The X-ray light curve was violently variable and showed a strong period of 22min. Within less than two hours the count rate dropped by two orders of magnitude, and the spectrum changed from a broad continuum spectrum to a weak emission line spectrum.

6. **Helium-like triplet density diagnostics: Applications to CHANDRA–LETGS X-ray observations of Capella and Procyon**

Authors: **J.-U. Ness**, R. Mewe, J.H.M.M Schmitt, A.J.J. Raassen, D. Porquet, J.S. Kaastra, R.L.J. van der Meer, V. Burwitz, and P. Predehl
A&A **367**, 282-296 (2001); **61 citations**

Most notable aspects:

This is the first detailed spectral analysis of a high-resolution X-ray grating spectrum. We derived plasma densities and temperatures from ratios of emission lines for two stellar coronae. We carefully discussed all the difficulties, line blends, higher dispersion orders, contamination by the stellar radiation field, and optical depths effects.

Publication list

Dr. Jan-Uwe Ness

In Refereed Journals

- 1. High-Resolution X-ray Spectroscopy of the Evolving Shock in the 2006 Outburst of RS Ophiuchi**
Authors: **J.-U. Ness**, J.J. Drake, S. Starrfield, M.F. Bode, T.J. O'Brien, A. Evans, S.P.S. Eyres, L.A. Helton, J.P. Osborne, K.L. Page, C. Schneider, C.E. Woodward
AJ **137**, 3414 (2009); **3 citations**
- 2. Swift X-ray and UV monitoring of the Classical Nova V458 Vul (Nova Vul 2007)**
Authors: **J.-U. Ness**, J.J. Drake, A.P. Beardmore, D. Boyd, M.F. Bode, S. Brady, P.A. Evans, B.T. Gaensicke, S. Kitamoto, C. Knigge, I. Miller, J.P. Osborne, K.L. Page, P. Rodriguez-Gil, G. Schwarz, B. Staels, D. Steeghs, D. Takei, M. Tsujimoto, R. Wesson, A. Zijlstra
AJ **137**, 4160 (2009); **1 citation**
- 3. Multifrequency nature of the 0.75 mHz feature in X-ray observations of the nova V4743 Sgr**
Authors: A. Dobrotka & **J.-U. Ness**
MNRAS, submitted
- 4. Evolution of X-ray spectra and light curves of V1494 Aquilae**
Authors: J.G. Rohrbach, **J.-U. Ness**, S. Starrfield
AJ **137**, 4627 (2009)
- 5. Pre-nova X-ray observations of V2491 Cygni (Nova Cyg 2008b)**
Authors: A. Ibarra, E. Kuulkers, J.P. Osborne, K.L. Page, **J.-U. Ness**, R.D. Saxton, W. Baumgartner, V. Beckmann, M.F. Bode, M. Hernanz, and 5 coauthors
A&AL **497**, 5 (2009); **2 citations**
- 6. Suzaku Detection of Super-hard X-ray Emission from the Classical Nova V2491 Cygni**
Authors: D. Takei, M. Tsujimoto, S. Kitamoto, **J.-U. Ness**, J.J. Drake, H. Takahashi, K. Mukai
ApJ **697**, L54 (2009)
- 7. X-Ray Spectroscopy of the Classical Nova V458 Vulpeculae with Suzaku**
Authors: M. Tsujimoto, D. Takei, J.J. Drake, **J.-U. Ness**, S. Kitamoto
PASJ **61S**, 69 (2009); **2 citations**
- 8. V4743 Sgr in time: The X-ray monitoring observations**
Authors: **J.-U. Ness**, S. Starrfield, J.J. Drake, G.Sala, P. Hauschildt, G.J. Schwarz, J. Krautter
in prep for AJ
- 9. Coronal properties of the EQ Peg binary system**
Authors: C. Liefke, **J.-U. Ness**, J.H.M.M. Schmitt, and A. Maggio
A&AL **491**, 859 (2008)
- 10. V723 Cas in X-rays: Has the nova become a permanent SSS?**
Authors: **J.-U. Ness**, G. Schwarz, S. Starrfield, J.P. Osborne, K.L. Page, A.P. Beardmore, R.M. Wagner, and C.E. Woodward
AJ **135**, 1328 (2008); **2 citations**

11. **The corona and upper transition region of ϵ Eridani**
Authors: **J.-U. Ness** and C. Jordan
MNRAS **385**, 1691 (2008); **6 citations**
12. **Pinpointing a stellar flare: A multiwavelength study of a flare and its surrounding active region**
Authors: U. Wolter, J. Robrade, J.H.M.M. Schmitt, and **J.-U. Ness**
A&AL **478**, 11 (2008); **4 citations**
13. **The SSS Phase of RS Ophiuchi Observed with Chandra and XMM I. Data and Preliminary Models**
Authors: **J.-U. Ness**, S. Starrfield, A.P. Beardmore, M. Bode, J.J. Drake, A. Evans, R.D. Gehrz, M.R. Goad, R. Gonzalez-Riestra, P. Hauschildt, J. Krautter, T.J. O'Brien, J.P. Osborne, K.L. Page, R. Schönrich, C.E. Woodward
ApJ **665**, 1334 (2007); **16 citations**
14. **Swift X-ray Observations of Classical Novae**
Authors: **J.-U. Ness**, G.J. Schwarz, A. Retter, S. Starrfield, J.H.M.M. Schmitt, N. Gehrels, D. Burrows, J.P. Osborne
ApJ **663**, 505 (2007); **14 citations**
15. **X-ray accretion signatures in the close CTTS binary V4046 Sagittarii**
Authors: H.M. Günther, C. Liefke, J.H.M.M. Schmitt, J. Robrade, and **J.-U. Ness**
A&A **459**, L29 (2006); **24 citations**
16. **Advances of plasma diagnostics with high-resolution spectroscopy of stellar coronae**
Authors: **J.-U. Ness**
Adv. Space Res. **38**, 1494 (2006) DOI: 10.1016/j.asr.2004.12.067
17. **Anomalous X-ray line ratios in the cTTS TW Hya**
Authors: **J.-U. Ness** and J.H.M.M. Schmitt
A&A **444**, L41 (2005); **11 citations**
18. **An X-ray emission line spectrum of Nova V382 Velorum 1999**
Authors: **J.-U. Ness**, S. Starrfield, C. Jordan, J. Krautter, J.H.M.M. Schmitt
MNRAS **364**, 1015 (2005); **14 citations**
19. **Detection of X-ray emission from β Pictoris with XMM-Newton: A cool corona, a boundary layer or what?**
Authors: M. Hempel, J. Robrade, **J.-U. Ness**, J.H.M.M. Schmitt
A&A **440**, 727 (2005); **5 citations**
20. **On the nature of the X-ray source in GK Persei**
Authors: S. Vriellmann, **J.-U. Ness**, J.H.M.M. Schmitt
A&A **439**, 287 (2005); **7 citations**
21. **Spectral Indications of Density Variability in the Corona of AD Leonis**
Authors: A. Maggio & **J.-U. Ness**
ApJL **622**, 57 (2005); **4 citations**

22. **X-rays from accretion shocks in T Tauri stars: The case of BP Tau**
Authors: J.H.M.M. Schmitt, J. Robrade, **J.-U. Ness**, F. Favata, and B. Stelzer
A&AL **432**, 35 (2005); **49 citations**
23. **Modeling CHANDRA low energy transmission grating spectrometer observations of classical novae with PHOENIX. I. V4743 Sagittarii**
Authors: A. Petz, P.H. Hauschildt, **J.-U. Ness**, and S. Starrfield
A&A **431**, 321 (2005); **14 citations**
24. **Coronal Evolution of the Sun in Time: High-Resolution X-Ray Spectroscopy of Solar Analogs with Different Ages**
Authors: A. Telleschi, M. Güdel, K. Briggs, M. Audard, **J.-U. Ness**, & S. Skinner
ApJ, **622**, 653 (2005); **39 citations**
25. **Die explodierte Zigarre**
Authors: N. Steenken and **J.-U. Ness**
Sterne und Weltraum 12/05, page 68 (2005)
26. **On the sizes of stellar X-ray coronae**
Authors: **J.-U. Ness**, M. Güdel, J.H.M.M. Schmitt, M. Audard, and A. Telleschi
A&A **427**, 667 (2004); **57 citations**
27. **Is T Leonis a superoutbursting intermediate polar?**
Authors: S. Vriemann, **J.-U. Ness**, and J.H.M.M. Schmitt
A&A **419**, 673 (2004); **1 citation**
28. **Detection of Saturnian X-ray emission with XMM-Newton**
Authors: **J.-U. Ness**, J.H.M.M. Schmitt, and J. Robrade
A&A **414**, L49 (2004); **7 citations**
29. **X-ray emission from Saturn**
Authors: **J.-U. Ness**, J.H.M.M. Schmitt, S.J. Wolk, K. Dennerl, and V. Burwitz
A&A **418**, 337 (2004); **10 citations** and several press releases
30. **Spatially resolved X-ray emission of EQ Pegasi**
Authors: J. Robrade, **J.-U. Ness**, and J.H.M.M. Schmitt
A&A **413**, 317 (2004); **5 citations**
31. **Coronal abundances from high-resolution X-ray data: The case of Algol**
Authors: J.H.M.M. Schmitt and **J.-U. Ness**
A&A **415**, 1099 (2004); **19 citations**
32. **A spatially resolved limb flare on Algol B observed with XMM-Newton**
Authors: J.H.M.M. Schmitt, **J.-U. Ness**, and G. Franco
A&A **412**, 849 (2003); **16 citations**
33. **Modeling the Ne IX Triplet Spectral Region of Capella with the Chandra and XMM-Newton Gratings**
Authors: **J.-U. Ness**, N.S. Brickhouse, J.J. Drake, and D.P. Huenemoerder
ApJ **598**, 1277-1289 (2003); **41 citations**

34. **A Chandra LETGS observation of V4743 Sagittarius: A Super Soft X-ray Source and a Violently Variable Light Curve**
Authors: **J.-U. Ness**, S. Starrfield, V. Burwitz, R. Wichmann, P. Hauschildt, J.J. Drake, R.M. Wagner, H.E. Bond, J. Krautter, M. Orío, M. Hernanz, R.D. Gehrz, C.E. Woodward, Y. Butt, K. Mukai, S. Balman, and J.W. Truran
ApJL **594**, 127-130 (2003); **43 citations**

35. **Are stellar coronae optically thin in X-rays? A systematic investigation of opacity effects**
Authors: **J.-U. Ness**, J.H.M.M. Schmitt, M. Audard, and M. Güdel
A&A **407**, 347-358 (2003); **28 citations**

36. **Chandra-LETGS X-ray observation of α Centauri: A nearby (G2V+K1V) binary system**
Authors: A.J.J. Raassen, **J.-U. Ness**, R. Mewe, R.L.J. van der Meer, V. Burwitz, and J.S. Kaastra
A&A **400**, 671-678 (2003); **35 citations**

37. **Coronal densities and temperatures for cool stars in different stages of activity**
Authors: **J.-U. Ness**, M. Audard, J.H.M.M. Schmitt, and M. Güdel
Adv. Space Res. Vol. 32, No 6., pp. 937-943; **4 citations**

38. **Coronal density diagnostics with Helium-like triplets: CHANDRA-LETGS observations of Algol, Capella, Procyon, ϵ Eri, α Cen A&B, UX Ari, AD Leo, YY Gem, and HR 1099**
Authors: **J.-U. Ness**, J.H.M.M. Schmitt, V. Burwitz, R. Mewe, A.J.J. Raassen, R.L.J. van der Meer, P. Predehl, and A.C. Brinkman
A&A **394**, 911-926 (2002); **39 citations**

39. **Simultaneous X-ray spectroscopy of YY Gem with Chandra and XMM-Newton**
Authors: B. Stelzer, V. Burwitz, M. Audard, M. Güdel, **J.-U. Ness**, N. Grosso, R. Neuhäuser, J.H.M.M. Schmitt, P. Predehl, B. Aschenbach
A&A **392**, 585-598 (2002); **27 citations**

40. **High-resolution X-ray spectroscopy of Procyon by Chandra and XMM-Newton**
Authors: A.J.J. Raassen, R. Mewe, M. Audard, M. Güdel, E. Behar, J.S. Kaastra, R.L.J. van der Meer, C.R. Foley, **J.-U. Ness**
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3 citations

Statistical assessment of Publication list

In total, I am involved in 147 publications, in 64 of which I am the first author (not all are listed). Out of **46 refereed papers** I am first or only author on **22** papers, thus **~50%**.

25 of the refereed papers were published in Astronomy & Astrophysics (**A&A**), **10** in the Astrophysical Journal (**ApJ**), **5** in Monthly Notices of the Royal Astronomical Society (**MNRAS**), **two** in Advances of Space Research (**AdSpR**, refereed), **4** in the Astrophysical Journal (**AJ**), and **one** in **Astronomische Nachrichten**. I have been invited to write two review papers.

I have supported a German amateur astronomer with two refereed publications, for one of which I am second author in the journal "Sterne und Weltraum". An article about polarization from the galaxy M81 appeared in the December 2005 issue. After my X-ray detections of Saturn with *Chandra* and with *XMM-Newton*, I was invited to a television interview on the local television station of Northern Germany (NDR).