

Ludwig-Maximilians-Universität München

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# Akkretionsphänomene in kompakten Doppelsternen

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## Verzeichnis häufig verwendeter Abkürzungen

AGB	asymptotischer Riesenast ( <b>A</b> symptotic <b>G</b> iant <b>B</b> ranch)
AGN	aktives Zentrum einer Galaxie ( <b>A</b> ctive <b>G</b> alactic <b>N</b> ucleus)
AM	<b>A</b> M Herculis System: synchron rotierender, magnetisch akkretierender Weisser Zwerg, (Unterklasse der Kataklysmischen Variablen)
BH	Schwarzes Loch ( <b>B</b> lack <b>H</b> ole)
CH	<b>C</b> handrasekhar, im Zusammenhang mit der Chandrasekhar-Masse
CV	Kataklysmische Variable ( <b>C</b> ataclysmic <b>V</b> ariable)
DIM	Scheiben-Instabilitäts-Modell ( <b>D</b> isk <b>I</b> nstability <b>M</b> odel)
DN	Zwernova ( <b>D</b> warf <b>N</b> ova, Unterklasse der CVs)
DQ	<b>D</b> Q Her Stern: CV mit einem schnell rotierenden, magnetisierten Weissen Zwerg
Edd	<b>E</b> ddington, im Zusammenhang mit der Eddington-Leuchtkraft oder der Eddington-Akkretionsrate
GC	Kugelsternhaufen ( <b>G</b> lobular <b>C</b> luster)
HMXB	massereicher Röntgendoppelstern ( <b>H</b> igh <b>M</b> ass <b>X</b> -ray <b>B</b> inary)
HR	<b>H</b> auptreihe
IMXB	Röntgendoppelstern mittlerer Masse ( <b>I</b> ntermediate <b>M</b> ass <b>X</b> -ray <b>B</b> inary)
IP	<b>I</b> ntermediate <b>P</b> olar: asynchron rotierender, magnetisch akkretierender Weisser Zwerg, (Unterklasse der Kataklysmischen Variablen)
KH	<b>K</b> ugelsterhaufen
LMC	grosse Magellansche Wolke ( <b>L</b> arge <b>M</b> agellanic <b>C</b> loud)
LMXB	massearmer Röntgendoppelstern ( <b>L</b> ow <b>M</b> ass <b>X</b> -ray <b>B</b> inary)
msPSR	Millisekundenpulsar ( <b>m</b> illisecond <b>p</b> ulsar)
MTBM	<b>M</b> ass <b>T</b> ransfer <b>B</b> urst <b>M</b> odell

N	klassische Nova, (Unterklasse der CVs)
Na	schnelle, klassische Nova, (Unterklasse der CVs)
Nb	langsame, klassische Nova, (Unterklasse der CVs)
Nc	extrem langsame, klassische Nova, (Unterklasse der CVs)
NL	novaähnliches System (novalike system, Unterklasse der CVs)
Nr	rekurrierende Nova, (Unterklasse der CVs)
NS	Neutronenstern (neutron star)
PSR	Pulsar
QSO	Quasar (Quasi-Stellar Object)
SGR	soft $\gamma$ -ray repeater (soft gamma-ray repeater)
SL	Schwarzes Loch
SMC	kleine Magellansche Wolke (Small Magellanic Cloud)
SN	Supernova
SNR	Supernovaüberrest (Supernova Remnant)
SSS	Supersoft X-ray source
SXT	Soft X-ray Transient, transiente Röntgenquelle
Sy	Symbiotischer (Doppel-)stern
UG	U Geminorum Stern, Zwergnova, (Unterklasse der CVs)
WD	Weisser Zwerg (White Dwarf)
WZ	Weisser Zwerg
WZ	WZ Sagittae Stern, Zwergnova, (Unterklasse der CVs)
ZAMS	Alter Null Hauptreihe (Zero Age Main Sequence)
ZC	Z Camelopardalis Stern, Zwergnova, (Unterklasse der CVs)



WEISSE ZWERGE

An introduction to white dwarfs: [http://imagine.gsfc.nasa.gov/docs/science/known\\_1/dwarfs.html](http://imagine.gsfc.nasa.gov/docs/science/known_1/dwarfs.html)  
More on white dwarfs: [http://imagine.gsfc.nasa.gov/docs/science/known\\_2/dwarfs.html](http://imagine.gsfc.nasa.gov/docs/science/known_2/dwarfs.html)  
Almost everything about white dwarfs: <http://whitewarf.org/index.html#main&o>  
Type Ia Supernovae: <http://www.astro.uic.edu/~Epmricker/research/typeIa/>  
Simulations of Type Ia Supernovae: [http://www.mpa-garching.mpg.de/mpa/research/current\\_research/hl2004-10/hl2004-10-en.html](http://www.mpa-garching.mpg.de/mpa/research/current_research/hl2004-10/hl2004-10-en.html)  
The White Dwarf Database: <http://procyon.lpl.arizona.edu/WDB/>  
The White Dwarf Catalog (McCook & Sion): <http://www.astronomy.villanova.edu/WDCatalog/index.html>

AKKRETIERENDE WEISSE ZWERGE (KATAKLYSMISCHE VARIABLE)

An introduction to CVs: <http://home.midspring.com/~7Emikesimonsen/cvnet/id1.html>  
A lecture course on CVs by Mark Cropper: [http://www.mssl.ucl.ac.uk/www.astro/gal/Sardinia\\_SA.htm](http://www.mssl.ucl.ac.uk/www.astro/gal/Sardinia_SA.htm)  
A general overview, with many more links: <http://www-physics.llnl.gov/Research/CataclysmicVariables/>  
Another general overview: [http://imagine.gsfc.nasa.gov/docs/science/known\\_12/cataclysmic\\_variables.html](http://imagine.gsfc.nasa.gov/docs/science/known_12/cataclysmic_variables.html)  
Yet another general overview: <http://www.astro.fit.edu/cv/cv.html>  
Dwarf novae: [http://observe.arc.nasa.gov/nasa/space/stellardeath/stellardeath\\_4b.html](http://observe.arc.nasa.gov/nasa/space/stellardeath/stellardeath_4b.html)  
Dwarf novae: <http://cosmos.swin.edu.au/lookup.html?e=dwarfnovae>  
Magnetic CVs: [http://www.mssl.ucl.ac.uk/www.astro/gal/gal\\_title.html](http://www.mssl.ucl.ac.uk/www.astro/gal/gal_title.html)  
Intermediate polars: <http://lheawww.gsfc.nasa.gov/users/mukai/iphome/iphome.html>  
SW Sextantis Stars: <http://spider.ipac.caltech.edu/staff/hoard/biglist.html>  
Individual CVs of special interest: <http://www.aavso.org/vstar/vsots/archive.shtml>  
Classical novae: <http://cosmos.swin.edu.au/lookup.html?e=classicalnovae>  
Classical novae: [http://observe.arc.nasa.gov/nasa/space/stellardeath/stellardeath\\_4a.html](http://observe.arc.nasa.gov/nasa/space/stellardeath/stellardeath_4a.html)  
Supersoft X-ray sources: <http://www.astro.physik.uni-goettingen.de/~Ereinsch/presentations/ssxb/img0.htm>  
3D pictures of cataclysmic variables: [http://www.astro.keele.ac.uk/~7Eapb/UGL\\_CV/oglc.html](http://www.astro.keele.ac.uk/~7Eapb/UGL_CV/oglc.html)  
A catalog and Atlas of Cataclysmic Variables: <http://archive.stsci.edu/prepds/cvcat/index.html>  
CV/LMXB/related objects catalog 7th edition: <http://www.mpa-garching.mpg.de/RKcat/>  
CV/LMXB/related objects catalog 7th edition: <http://physics.open.ac.uk/RKcat/>  
The Catalog of Supersoft X-ray Sources: <http://www.aip.de/People/JGreiner/sssscat.html>

NEUTRONENSTERNE

An introduction to neutron stars and pulsars: [http://imagine.gsfc.nasa.gov/docs/science/known\\_1/pulsars.html](http://imagine.gsfc.nasa.gov/docs/science/known_1/pulsars.html)  
An introduction to pulsars: [http://imagine.gsfc.nasa.gov/docs/science/known\\_2/pulsars.html](http://imagine.gsfc.nasa.gov/docs/science/known_2/pulsars.html)  
A tutorial on radio pulsars: <http://www.jb.man.ac.uk/~7Epuisar/Education/Tutorial/tut/tut.html>  
Coleman Miller's neutron star page: <http://www.astro.umd.edu/~7Emiller/nstar.html>  
X-ray bursts: [http://imagine.gsfc.nasa.gov/docs/ask\\_astro/answers/961213b.html](http://imagine.gsfc.nasa.gov/docs/ask_astro/answers/961213b.html)  
Virtual Trips to Neutron Stars: [http://antwrp.gsfc.nasa.gov/htmltest/rjn\\_bht.html](http://antwrp.gsfc.nasa.gov/htmltest/rjn_bht.html)  
The ATNF Pulsar Group: <http://www.atnf.csiro.au/research/pulsar/>  
The ATNF Pulsar Catalog web interface: <http://www.atnf.csiro.au/research/pulsar/psrcat/>  
Pulsars in Globular Clusters: <http://www.naic.edu/~7Epfreire/GCpsr.html>

SCHWARZE LOECHER

An introduction to black holes: [http://imagine.gsfc.nasa.gov/docs/science/known\\_2/black\\_holes.html](http://imagine.gsfc.nasa.gov/docs/science/known_2/black_holes.html)  
Black holes: [http://www.damtp.cam.ac.uk/user/gr/public/bh\\_home.html](http://www.damtp.cam.ac.uk/user/gr/public/bh_home.html)  
Frequently asked questions: <http://cosmology.berkeley.edu/Education/BHfaq.html>  
Virtual Trips to black holes: [http://antwrp.gsfc.nasa.gov/htmltest/rjn\\_bht.html](http://antwrp.gsfc.nasa.gov/htmltest/rjn_bht.html)

AKKRETIERENDE NEUTRONENSTERNE UND SCHWARZE LOECHER (ROENTGENDOPPELSTERNE)

A short introduction and space art: [http://www.novacelestia.com/space\\_art\\_binary/x-ray\\_binaries.html](http://www.novacelestia.com/space_art_binary/x-ray_binaries.html)  
The X-ray binaries page: <http://www.astro.soton.ac.uk/~7Ebexmgr/xbp.html>  
Soft X-ray transients: <http://cosmos.swin.edu.au/lookup.html?e=softx-raytransient>  
CV/LMXB/related objects catalog 7th edition: <http://www.mpa-garching.mpg.de/RKcat/>  
CV/LMXB/related objects catalog 7th edition: <http://physics.open.ac.uk/RKcat/>

AKKRETION

A short introduction to accretion discs: [http://imagine.gsfc.nasa.gov/docs/ask\\_astro/answers/001106a.html](http://imagine.gsfc.nasa.gov/docs/ask_astro/answers/001106a.html)  
A short introduction to magnetic accretion: <http://physics.open.ac.uk/~7Eajnton/ipflows/ipflows.html>

Alle diese Links koennen auch ueber die Seite <http://www.mpa-garching.mpg.de/~hsr/links-r.html> aktiviert werden.

## AKKRETIIONSPHÄNOMENE IN KOMPAKTEN DOPPELSTERNEN

### Literaturliste

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- Lewin, W.H.G., van der Klis (eds.): **Compact Stellar X-Ray Sources**, Cambridge Astrophysics Series Vol. 39, Cambridge University Press, Cambridge (2006), ISBN 0-521-82659-4
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- Kawaler, S.D., Novikov, I., Srinivasan, G.: **Stellar Remnants**, Saas-Fee Advanced Course 25, Springer Verlag, Berlin (1997), ISBN: 3-540-61520-2
- Lasota, J.-P.: **The disc instability model of dwarf novae and low-mass X-ray binary transients**, 2001, New Astron. Rev. 45, 449
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- Ritter, H., Kolb, U.: **Catalogue of cataclysmic binaries, low-mass X-ray binaries and related objects (7th edition)**, 2003, A&A 404, 301, aktualisierte elektronische Version unter der Adresse <http://www.mpa-garching.mpg.de/RKcat/> oder <http://physics.open.ac.uk/RKcat/>