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Abbreviations

AD	accretion disk	HMXB	high-mass X-ray binary	QPO	quasi-periodic oscillation
BH	black hole	IP	intermediate polar	RV	radial velocity
CB	close binary	LC	light curve	SB	spectroscopic binary
CV	cataclysmic variable	LMXB	low-mass X-ray binary	WD	white dwarf
EB	eclipsing binary	NS	neutron star	WR	Wolf-Rayet star

Several entries of this issue use the abbreviation:

OAP — Odessa Astronomical Publications (issue of the Odessa Astronomical Observatory of the Odessa State University, Ukraine), Vol. 10, June 1999, Astroprint Publishing Company, Ukraine

Individual Stars

Z And	*Sokoloski, J.L., Bildsten, L.* 1999, ApJ 517, 919. (1o) Suggest magnetic WD in system.
RT And	*Arévalo, M.J., Lázaro, C.* 1999, AJ 118, 1015. (1bc, 2e)
AE Aqr	*Ikhsanov, N.R.* 1999, A&A 347, 915. (5) Spindown of WD in CV.
HU Aqr	*Heerlein C., Horne, K., Schwope, A.D.* 1999, MNRAS 304, 145. (2g) Modeling of the magnetic accretion flow.
OO Aql	*Djurasevic, G., Erkapic, S.* 1999, Ap&SS 262, 305. (2a)
V500 Aql	*Häfner, R.* 1999, IBVS 4706. (1a)
V1101 Aql	*Kato, T., Nogami, D., Baba, H.* 1999, IBVS 4766. (1a) Cyclic variability of dwarf nova.
V1333 Aql	1999, IAU Circ. 7161. (1a) Outburst.
(Aql X-1)	1999, IAU Circ. 7171. (1a) Mini-outburst.
	1999, IAU Circ. 7180. (1a, 3c) Line of sight interloper is counterpart.
V1343 Aql (SS 433)	*Brinkmann, W.* 1998, New Astron. Rev. 42, 589. (2g) Progress report on jets.
	Fabrika, S.N. et al. (4 authors) 1998, Izvestia Krymskoi Astrofizicheskoy Observatorii 94, 256. (1bc, 2c)
	Paragi, Z. et al. (6 authors) 1998, New Astron. Rev. 42, 641. (1r) Radio emission and absorption regions.
	Seifina, E.V. 1999, AZh 76, 356. (1x, 2e)
V1408 Aql	*Nowak, M.A., Wilms, J.* 1999, ApJ 522, 476. (2g) BH binary: warped precessing disk?
V1432 Aql (RX J1940.1-1025)	*Geckeler, R.D., Staubert, R.* 1999, AG Abstr. Ser. 15, 110. (1ax, 2g) Accretion geometry and spin period change of WD in magnetic CV.
Nova Aql 1999	1999, IAU Circ. 7223. (1p, 3b, 1a)
(V1493 Aql)	1999, IAU Circ. 7225. (1v, 1b)
	1999, IAU Circ. 7228. (1a) Position.
	1999, IAU Circ. 7232. (1v)
V824 Ara	*Hatzes, A.P., Kuerster, M.* 1999, A&A 346, 432. (1b, 2e) Doppler imaging of active binary.
RX Ari	*Antoniuk, K.A.* 1997, OAP 10, 18. (1p)
TT Ari	*Andronov, I.L. et al.* (21 authors) 1997, OAP 10, 10. (1af, 2c)
	Gänsicke, B.T. et al. (6 authors) 1999, A&A 347, 178. (1bou, 2eg) Low state of CV.
UX Ari	*Padmakar, S.P., Pandey, S.K.* 1999, Bull. Astron. Soc. India 27, 117. (2e) Spot activities.
ϵ Aur	*Sheffer, Y., Lambert, D.L.* 1999, PASP 111, 829. (1bu, 2e) Identification and origin of far UV lines.
SS Aur	*Harrison, T.E. et al.* (7 authors) 1999, ApJ 515, L93. (1e) HST parallax measurement.
CL Aur	*Wolf, M., Šarounová, L., Brož, M., Horan, R.* 1999, IBVS 4683. (1af, 2c) A triple star.
IY Aur	*Antoniuk, K.A.* 1997, OAP 10, 18. (1p)
RR Cae	*Bruch, A.* 1999, AJ 117, 3031. (1b, 2ab) Pre-cataclysmic EB.
AS Cam	*Kozyreva, V.S., Zakharov, A.I., Khalillin, Kh.F.* 1999, IBVS 4690. (1f, 2cd) Third body in the system.

BQ Cam	*Negueruela, I. et al.* (4 authors) 1999, MNRAS 307, 695. (1aboi, 2ae) Evidence for a tilt between the orbit and the equatorial plane.
CI Cam	*Clark, J.S. et al.* (4 authors) 1999, A&A 348, 888. (1bi, 2eg) Be component of HMXB.
WY Cnc	*Arévalo, M.J., Lázaro, C.* 1999, AJ 118, 1015. (1bc, 2e)
YZ Cnc	*Verbunt, F., Wheatley, P.J., Mattei, J.A.* 1999, A&A 346, 146. (1x, 2eg) Outburst cycle of CV.
ZZ Cnc	*Antoniuk, K.A.* 1997, OAP 10, 18. (1p)
AM CVn	*Kunze, S., Speith, R.* 1999, AG Abstr. Ser. 15, 104. (2g, 5) 3D hydrodynamical simulation of AD to explain superhumps.
R CMa	*Varricatt, W.P., Ashok, N.M.* 1999, AJ 117, 2980. (1aif, 2abe)
CG CMa	*Duerbeck, H.W. et al.* (4 authors) 1999, IBVS 4759. (1ab, 3d) Superoutburst of dwarf nova.
	Kato, T., Matsumoto, K., Stubbings, R. 1999, IBVS 4760. (1a) Period analysis.
EZ CMa	*Georgiev, L.N. et al.* (5 authors) 1999, A&A 347, 583. (2ce) The binary scenario revisited.
GU CMa	*Ezhkova, O.V.* 1999, IBVS 4693. (1a, 2c)
OY Car	*Pratt, G.W. et al.* 1999, MNRAS 307, 413. (1aox, 2acg) An eclipse of the X-ray flux from the dwarf nova.
γ Cas	*Owens, A. et al.* (6 authors) 1999, A&A 348, 170. (1x, 2ef) BeppoSAX broad-band observations.
RZ Cas	*Clarke, F.J., Lister, T.A.* 1999, IBVS 4738. (1af)
YZ Cas	*Bychkov, V.D.* 1998, Izvestia Krymskoi Astrofizicheskoy Observatorii 94, 250. (1b, 2ef)
AR Cas	*Holmgren, D.E. et al.* (8 authors) 1999, A&A 345, 855. (1ab, 2abde) Spectroscopic variability of CB.
BH Cas	*Metcalfe, T.S.* 1999, AJ 117, 2503. (1ab, 2ab) New optimization algorithm used.
MQ Cas	*Miroshnichenko, A.S. et al.* (5 authors) 1999, A&A 347, 137. (1abio, 2e, 6) Algol-type variability of Herbig Ae/Be candidate.
V541 Cas	*Molík, P., Brož, M., Wolf, M.* 1999, IBVS 4710. (2c)
	Volkov, I.M., Khaliullin, Kh.F. 1999, IBVS 4680. (1a, 2cd)
V615 Cas (LS I +61°303)	*Gregory, P.C.* 1999, ApJ 520, 361. (5) Peak flux density of outbursts exhibits 1632 day periodicity found by Baysean method.
	Gregory, P.C., Peracaula, M., Taylor, A.R. 1999, ApJ 520, 376. (5) Periodicities refined using the Baysean method.
V709 Cas	*Norton, A.J. et al.* (4 authors) 1999, A&A 347, 203. (1x, 2eg) LC analysis of intermediate polar.
V723 Cas	*Kamath, U.S., Ashok, N.M.* 1999, A&AS 136, 107. (1ai, 2e) Near IR photometry of CV.
V606 Cen	*Lorenz, R., Mayer, P., Drechsel, H.* 1999, A&A 345, 531. (1ab, 2abce) Analysis of early-type EB.
VV Cep	*Graczyk, D., Mikolajewski, M., Janowski, J.L.* 1999, IBVS 4679. (1a, 2cg)
	Leedjaerv, L. et al. (4 authors) 1999, A&A 349, 511. (1abf, 2c) Eclipse was late.

BE Cep	*Samec, R.G. et al.* (6 authors) 1999, IBVS 4753. (1af, 2c, 3d)
Z Cha	*Robinson, E.L. et al.* (4 authors) 1999, ApJ 514, 952. (2g) Effective temperature of AD.
Nova Cir 1999	1999, IAU Circ. 7242. (1a, 1b, 3b) 1999, IAU Circ. 7243. (1a) Position. 1999, IAU Circ. 7246. (1v) 1999, IAU Circ. 7249. (1a)
UU Col	*Burwitz, V., Reinsch, K.* 1999, AG Abstr. Ser. 15, 27. (1abx, 3b) New IP discovered by ROSAT data.
GP Com	*Marsh, T.R.* 1999, MNRAS 304, 443. (1b, 2bc) Doppler tomography.
T CrB	*Hachisu, I., Kato, M.* 1999, ApJ 517, L47. (5) Tilting AD around massive WD suggested.
SS Cyg	*Harrison, T.E. et al.* (7 authors) 1999, ApJ 515, L93. (1e) HST parallax measurement. *Gnedin, Yu.N. et al.* (4 authors) 1999, AZh 76, 532. (2g) *Kjurkchieva, D., Marchev, D., Ogloza, W.* 1999, Ap&SS 262, 54. (1a)
WZ Cyg	*Rovithis, P. et al.* (5 authors) 1999, A&A 348, 184. (1a, 2ac) Analysis of CB.
DL Cyg	*Borkovits, T., Biro, I.B.* 1999, A&A 349, 515. (1a, 2abc) LC analysis of EB.
V367 Cyg	*Tarasov, A.E.; Berdyugin, A.V.* 1998, AZh 75, 559. (1bc)
V1016 Cyg	*Corradi, R.L.M. et al.* (5 authors) 1999, A&A 348, 978. (1b, 2g) On the nebulae around symbiotic stars.
V1193 Cyg	*Diethelm, R., Wolf, M.* 1999, IBVS 4750. (1af, 2c, 3d)
V1500 Cyg	*Friedjung, M., Mikolajewska, J., Mikolajewski, M.* 1999, A&A 348, 475. (1b, 2e) Postmaximum wind of old nova.
YY Dra	*Norton, A.J. et al.* (4 authors) 1999, A&A 347, 203. (1x, 2eg) LC analysis of IP.
AG Dra	*Galis, R. et al.* (4 authors) 1999, A&A 348, 533. (1ab, 2acg) Resonances as cause of outburst. *Gonzalez-Riestra, R. et al.* (4 authors) 1999, A&A 347, 478. (1oux, 2e) Monitoring of symbiotic star. *Tomova, M.T., Tomov, N.A.* 1999, A&A 347, 151. (1b, 2eg) Spectral behaviour.
AI Dra	*Khalesseh, B.* 1999, Ap&SS 260, 299. (1b, 2b)
EP Dra	*Schlegel, E.M.* 1999, AJ 117, 2494. (1x, 2cg) Stream occultation.
YY Eri	*Yang, Y., Liu, Q.* 1999, A&AS 136, 139. (1a, 2ace) LC analysis of contact binary.
AQ Eri	*Kato, T., Matsumoto, K.* 1999, IBVS 4767. (1a) Outburst of dwarf nova.
BF Eri	*Kato, T.* 1999, IBVS 4745. (1a) A low-amplitude dwarf nova?
BV Eri	*Gu, S.* 1999, A&A 346, 437. (2ab) Analysis of contact binary.
UZ For	*Kube, J., Gänsicke, B.T., Beuermann, K.* 1999, AG Abstr. Ser. 15, 25. (1b, 2g) Accretion stream geometry in magnetic CV.
σ Gem	*Zhang, X.B., Zhang, R.X.* 1999, A&AS 137, 217. (1ab, 2e) Spotted model for RS CVn system.
U Gem	*Borisov, N.V., Neustroev, V.V.* 1999, AZh 76, 208. (2g) *Harrison, T.E. et al.* (7 authors) 1999, ApJ 515, L93. (1e) HST parallax measurement.

CI Gem	*Kato, T., Schmeer, P.* 1999, IBVS 4757. (1a) Outburst of dwarf nova. *Schmeer, P., Duerbeck, H.W.* 1999, IBVS 4758. (1a, 3d)
DN Gem	*Retter, A., Leibowitz, E.M., Naylor, T.* 1999, MNRAS 308, 140. (1a, 2ce) An irradiation effect in Nova 1912.
AK Her	*Rovithis-Livaniou, H. et al.* (5 authors) 1999, IBVS 4713. (1f, 2c)
AM Her	*Andronov, I.L. et al.* (4 authors) 1997, OAP 10, 15. (1af, 2c) *Kjurkchieva, D., Marchev, D., Drozdz, M.* 1999, Ap&SS 262, 305. (2a)
HZ Her	1999, IAU Circ. 7144. (1b) Strong emission lines. *Al-Wardat, M.A.S. et al.* (4 authors) 1999, Ap&SS 260, 335. (2a, 2b)
MM Her	*Evren, S., Tas, G.* 1999, IBVS 4687. (1a) *Tas, G., Evren, S., Ibanoglu, C.* 1999, A&A 349, 546. (1a, 2e) Photometric variability of RS CVn EB.
V878 Her	*Bloomer jr., R.H., Ngwele, I.R.* 1999, IBVS 4754. (1a, 2c)
τ 1 Hya	*Henry, G.W., Henry, S.M., Kaye, A.B.* 1999, IBVS 4688. (1a)
RW Hya	*Dumm, T. et al.* (4 authors) 1999, A&A 349, 169. (1bou, 2ae) Circumstellar matter around symbiotic binary.
VW Hyi	*Hartmann, H.W. et al.* (5 authors) 1999, A&A 349, 588. (1abox, 2eg) Outburst in CV.
AR Lac	*Gehren, T., Ottmann, R., Reetz, J.* 1999, A&A 344, 221. (1b, 2ef) Photospheric parameters of RS CVn system. *Qian, S.-B., Liu, Q.-Y., Yang, Y.-L.* 1999, Acta Astron. Sinica 40, 26. (2c) Period variations related to magnetic activities. *Rodono, M. et al.* (7 authors) 1999, A&A 346, 811. (1x, 2e) BeppoSAX observations of RS CVn star.
AP Leo	*Hobart, M.A., Peña, J.H., De la Cruz, C.* 1999, Ap&SS 260, 375. (2c)
AH Men	*Gänsicke, B.T., Koester, D.* 1999, A&A 346, 151. (1bu, 2eg) Modeling of accreting WD.
RU Mon	*Wolf, M., Diethelm, R., Sarounova, L.* 1999, A&A 345, 553. (1af, 2abcd) Apsidal motion and third body in EB.
V616 Mon	*Shahbaz, T., Bandyopadhyay, R.M., Charles, P.A.* 1999, A&A 346, 82. (1bi, 2abeg) Effects of AD contamination.
SY Mus	*Dumm, T. et al.* (4 authors) 1999, A&A 349, 169. (1bou, 2ae) Circumstellar matter around symbiotic binary. *Pereira, C.B., Ortega, V.G., Monte-Lima, I.* 1999, A&A 344, 607. (1u, 2e) Eclipse of symbiotic star.
AL Oph	*Marsakova, V.I.* 1997, OAP 10, 3. (1pf)
V2301 Oph	*Steiman-Cameron, T.Y, Imamura, J.N.* 1999, ApJ 515, 404. (1ox) Use of eclipses to test theories of AM Her flows and shocks.
S Ori 47	see GENERAL (*Schilling, G.*)
EY Ori	*Zakirov, M.M.* 1998, Pis.AZh 24, 931. (1a, 2ab)
V1012 Ori	*Miroshnichenko, A.S. et al.* (5 authors) 1999, A&A 347, 137. (1abio, 2e, 6) Algol-type variability of Herbig Ae/Be candidate.
V1159 Ori	*Szkody, P. et al.* (13 authors) 1999, ApJ 521, 362. (1abiux) 45 day supercycle observed.
V1309 Ori	*Kube, J., Gänsicke, B.T., Beuermann, K.* 1999, AG Abstr. Ser. 15, 25. (1b, 2g) Accretion stream geometry in magnetic CV.
II Peg	*Berdyugina, S.V., Ilyin, I., Tuominen, I.* 1999, A&A 349, 863. (1b, 2e) Chromospheric emission and flares in 1994-1996.

IM Peg	*Berdyugina, S.V., Ilyin, I., Tuominen. I.* 1999, A&A 347, 932. (1b, 2abc) Study of RS CVn binary.
	Lebach, D.E. et al. (7 authors) 1999, ApJ 517, L43. (1er) Change in position, rise in flux density.
IP Peg	*Bobinger, A. et al.* (6 authors) 1999, A&A 348, 145. (1bc, 2eg, 4) Eclipse mapping of CV.
	Harlaftis, E.T. 1999, A&A 346, L73. (1c, 2eg) Doppler mapping of dwarf nova.
	Harlaftis, E.T. et al. (5 authors) 1999, MNRAS 306, 348. (1c, 2g) Spiral shocks in AD during outburst maximum.
V364 Peg	1999, IAU Circ. 7159. (1a) Outburst.
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β Per (Algol)	*Schmitt, J.H.M.M., Favata, F.* 1999, Nature 401, 44. (1x) BeppoSAX observations of giant X-ray flare on Algol B.
	Stelzer, B. et al. (4 authors) 1999, A&A 344, 154. (1x, 2e) X-ray flares in T Tau stars and Algol.
γ Per	*Pourbaix, D.* 1999, A&A 348, 127. (2ab) Challenge for stellar evolution models.
DG Per	*Antoniuk, K.A.* 1997, OAP 10, 18. (1p)
GK Per	*Morales-Rueda, L., Still, M.D., Roche, P.* 1999, MNRAS 306, 753. (1c, 2ag) QPO of IP.
PU Per	*Kato, T., Matsumoto, K.* 1999, IBVS 4765. (1a) Superoutburst of dwarf nova, period analysis.
UV Psc	*Keskin, V. et al.* (6 authors) OAP 10, 32. (1a, 2ac)
RX Pup	*Mikolajewska, J. et al.* (7 authors) 1999, MNRAS 305, 190. (1abou, 2ef) Recurrent nova with Mira companion.
V Sge	*Šimon, V., Shugarov, S.* 1999, IBVS 4744. (1a)
WZ Sge	*Lasota, J.-P., Kuulkers, E., Charles, P.* 1999, MNRAS 305, 473. (2g, 5) Rapidly spinning magnetic rotator.
	Neustroev, V.V. 1998, AZh 75, 847. (1bc, 2g)
HM Sge	*Corradi, R.L.M. et al.* (5 authors) 1999, A&A 348, 978. (1b, 2g) On the nebulae around symbiotic stars.
	Richards, A.M.S. et al. (6 authors) 1999, MNRAS 305, 380. (1r, 2e) High-resolution radio observations.
GM Sgr	1999, IAU Circ. 7253. (1x) Brightening.
V505 Sgr	*Gunn, A.G. et al.* (5 authors) 1999, MNRAS 304, 611. (1r, 2e) Radio emission in the Algol system.
V4332 Sgr (Nova Sgr 1994 I)	*Martini, P. et al.* (6 authors) 1999, AJ 118, 1034. (1ab, 2e) Peculiar outburst suggests single star.
V4444 Sgr (Nova Sgr 1999)	1999, IAU Circ. 7153. (1p, 3b)
	1999, IAU Circ. 7154. (1b) Spectrum of nova.
	1999, IAU Circ. 7155. (1a) New denomination.
	1999, IAU Circ. 7157. (1v)
	1999, IAU Circ. 7159. (1i) Spectra.
	1999, IAU Circ. 7163. (1v)
U Sco	1999, IAU Circ. 7129. (1b) Composite structure of emission lines.
	Kahabka, P. 1999, AG Abstr. Ser. 15, 27. (1x, 2fg) Near Chandrasekhar mass WD, possible SN Ia progenitor.

	Kahabka, P. et al. (4 authors) 1999, A&A 347, L43. (1x, 2eg) SN progenitor?
	Lepine, S., Shara, M.M., Livio, M., Zurlek, D. 1999, ApJ 522, L121. (1c) First direct measurement of nova outflow acceleration.
	Munari, U. et al. (9 authors) 1999, A&A 347, L39. (1ab, 2e) The 1999 outburst of CV.
V893 Sco	*Thorstensen, J.R.* 1999, IBVS 4749. (1b, 2e, 3d)
RY Sct	*Smith, N. et al.* (6 authors) 1999, AJ 118, 960. (1a, 2eg) HST discovery of complex circum-system nebula.
51 Tau	*Lastennet, E. et al.* (4 authors) 1999, A&A 349, 485. (2b, 6) Evolutionary status of Hyades binary.
θ Tau	*Lastennet, E. et al.* (4 authors) 1999, A&A 349, 485. (2b, 6) Evolutionary status of Hyades binary.
V471 Tau	*Nicholls, J., Storey, M.C.* 1999, ApJ 519, 850. (1r, 2ab) Non-thermal radio emission LCs for pre-cataclysmic binary.
	Nicholls, J., Storey, M.C. 1999, Publ. Astron. Soc. Australia 16, 139. (5) Radio emission mechanism.
V818 Tau	*Lastennet, E. et al.* (4 authors) 1999, A&A 349, 485. (2b, 6) Evolutionary status of Hyades binary.
RR Tel	*Contini, M., Formiggini, L.* 1999, ApJ 517, 925. (5) Models at two epochs.
	Lee, H.-W., Park, M.-G. 1999, ApJ 515, L89. (2g) Evidence of AD emission.
RX Tri	*McArthur, B.E. et al.* (15 authors) 1999, ApJ 520, L59. (1e) Trigonometric parallax of CV: 341 pc, $M_V = 5.53$.
CF Tuc	*Budding, E. et al.* (4 authors) 1999, MNRAS 305, 966. (1abdr, 2b) Multiwavelengths observations of RS CVn system.
CP Tuc	*Ramsay, G. et al.* (4 authors) 1999, MNRAS 306, 809. (1adox, 2g)
6 UMa	*Griffin, R.F., Eitter, J.J.* 1999, Observatory 119, 131 (1b, 2a)
62 UMa	*Griffin, R.F. et al.* (4 authors) 1999, Observatory 119, 213 (1b, 2a)
W UMa	*Depasquale, J.M., Bochanski, J.J., Guinan, E.F.* 1999, IBVS 4752. (1af, 2c)
SW UMa	*Gänsicke, B.T., Koester, D.* 1999, A&A 346, 151. (1bu, 2eg) Modeling of accreting WD.
XY UMa	*Arévalo, M.J., Lázaro, C.* 1999, AJ 118, 1015. (1bc, 2e)
ZZ UMa	*Sandberg Lacy, C.H., Sabby, J.A.* 1999, IBVS 4755. (1b, 2b)
AR UMa	*Schlegel, E.M.* 1999, AJ 117, 2494. (1x, 2cg) Ambiguous period.
AW UMa	*Hobart, M.A., Peña, J.H., De la Cruz, C.* 1999, Ap&SS 260, 375. (2c)
	Pribulla, T. et al. (4 authors) 1999, A&A 345, 137. (1ab, 2abc) Contact binary in multiple system.
BE UMa	*Ferguson, D.H. et al.* (5 authors) 1999, ApJ 518, 866. (1b, 2b) Post common envelope binary.
BZ UMa	*Kato, T.* 1999, IBVS 4768. (1a) QPOs of dwarf nova, period analysis.
CY UMa	*Kato, T., Matsumoto, K.* 1999, IBVS 4763. (1a) Superoutburst of dwarf nova, period analysis.
γ Vel	*De Marco, O., Schmutz, W.* 1999, A&A 345, 163. (2ab) Star parameters determined via a new technique.
γ^2 Vel	*Eversberg, T., Moffat, A.F.J., Marchenko, S.V.* 1999, PASP 111, 861. (1bcd, 2g)

CU Vel	*Gänsicke, B.T., Koester, D.* 1999, A&A 346, 151. (1bu, 2eg) Modeling of accreting WD.
IX Vel	*Kubiak, M., Pojmanski, G., Krzeminski, W.* 1999, Acta Astron. 49, 73. (1b, 2ace)
Nova Vel 1993	*Filippenko, A.V. et al.* (6 authors) 1999, PASP 111, 969. (1b, 2ab) LMXB system appears to include a BH.
Nova Vel 1999	1999, IAU Circ. 7176. (1v, 3b)
(V382 Vel)	1999, IAU Circ. 7177. (1a) Position.
	1999, IAU Circ. 7179. (1v) Magnitude estimate.
	1999, IAU Circ. 7184. (1p) Pre-discovery images.
	1999, IAU Circ. 7188. (1b)
	1999, IAU Circ. 7193. (1b, 2a)
	1999, IAU Circ. 7196. (1x, 1a)
	1999, IAU Circ. 7197. (7b)
	1999, IAU Circ. 7203. (1p, 1v) Pre-discovery images.
	1999, IAU Circ. 7205. (1x) Relatively hard spectrum.
	1999, IAU Circ. 7206. (1x) Lower flux than other estimates.
	1999, IAU Circ. 7209. (1a)
	1999, IAU Circ. 7211. (1a)
	1999, IAU Circ. 7216. (1a)
	1999, IAU Circ. 7220. (1b) ONeMg Nova.
	1999, IAU Circ. 7226. (1a)
	1999, IAU Circ. 7232. (1a)
	1999, IAU Circ. 7236. (1v)
	1999, IAU Circ. 7238. (1a,1v)
AG Vir	*Hobart, M.A., Peña, J.H., De la Cruz, C.* 1999, Ap&SS 260, 375. (2c)
AH Vir	*Hobart, M.A., Peña, J.H., De la Cruz, C.* 1999, Ap&SS 260, 375. (2c)
HS Vir	*Mennickent, R.E., Matsumoto, K., Arenas J.* 1999, A&A 348, 466. (1b, 2abc) Spectroscopic orbit of CV.
HW Vir	*Cakirli, O., Devlen, A.* 1999, A&AS 136, 27. (1a, 2ace) Photometry of pre-CV.
	Wood, J.H., Saffer, R. 1999, MNRAS 305, 820. (1b, 2abe) Spectroscopy of post-common envelope binary.
VW Vul	*Kato, T.* 1999, IBVS 4769. (1a) Orbital modulation and LC period analysis of dwarf nova.
DR Vul	*Wolf, M., Diethelm, R., Sarounova, L.* 1999, A&A 345, 553. (1af, 2abcd) Apsidal motion and third body in EB.
QQ Vul	*Halevin, A.V. et al.* (4 authors) 1997, OAP 10, 25. (1af, 2c)

HR, HD, HDE, BD, CoD, CPD, SAO Objects

HR 1960	*Burki, G.* 1999, A&A 346, 134. (1a) Binary model for Be star.
HR 4657	*Fuhrmann, K., Bernkopf, J.* 1999, A&A 347, 897. (1b, 2e) Thick-disk field blue straggler.
HR 6797	*Griffin, R.F.* 1999, Observatory 119, 81 (1b, 2a). Two spectra, P = 5.2 yr, e = 0.70.
HD 4615/6	*Griffin, R.E.M., Griffin, R.F.* 1999, MNRAS 305, 641. (1b, 2ab) Composite-spectrum binary.
HD 9770	*Tagliaferri, G. et al.* (4 authors) 1999, A&A 345, 514. (1x, 2ef) X-ray LC of short-period EB.
HD 12545	*Strassmeier, K.G.* 1999, A&A 347, 225. (1ab, 2abce) Doppler imaging of RS CVn star.
HD 20039	*Osborn, W., Hershey, J.L.* 1999, PASP 111, 566. (1e) Failure to resolve with HST FGS implies more luminous star than a subdwarf.
HD 27397	*Kaye, A.B.* 1999, IBVS 4697. (1b, 2a, 3b) A new SB.
HD 34921	*Clark, J.S. et al.* (4 authors) 1999, A&A 348, 888. (1bi, 2eg) Be component of HMXB.
HD 59435	*Wade, G.A., Mathys, G., North, P.* 1999, A&A 347, 164. (1ab, 2ae) Study of Ap SB.
HD 92740 (WR 22)	*Schweickhardt, J. et al.* (5 authors) 1999, A&A 347, 127. (1b, 2abc) The mass of the most massive WR.
HD 152248	*Penny, L.R. et al.* (4 authors) 1999, ApJ 518, 450. (1bu, 2ab).
HD 154791	*Gaudenzi, S., Polcaro, V.F.* 1999, A&A 347, 473. (1b, 3c) Scenario for X-ray source evolution.
HD 192641 (WR 137)	*Marchenko, S.V. , Moffat, A.F.J., Grosdidier, Y.* 1999, ApJ 522, 433. (1abi) Dusty clumps and jet-like features.
HD 193928	*Ivanov, M.M. et al.* (5 authors) 1999, Rev. Mex. Astron. Astrofis. 35, 25. (1b, 2ac)
BD+61°176	*Harmanec, P. et al.* (4 authors) 1999, A&A 346, 87. (1a, 2c) Ellipsoidal variable or EB?

X-ray sources with constellation names

Aql X-1 (V1333 Aql)	1999, IAU Circ. 7161. (1a) Outburst. 1999, IAU Circ. 7171. (1a) Mini-outburst. 1999, IAU Circ. 7180. (1a,3c) Line of sight interloper is counterpart. *Chevalier, C. et al.* (4 authors) 1999, A&A 347, L51. (1ab, 2e, 3c) Optical counterpart of LMXB. *Garcia, M.R. et al.* (5 authors) 1999, ApJ 518, 422. (1abx). *Rutledge, R.E. et al.* (5 authors) 1999, ApJ 514, 945. (5) Reevaluation of X-ray spectra.
Cen X-3	*Al-Wardat, M.A.S. et al.* (4 authors) 1999, Ap&SS 260, 335. (2a, 2b) *Ash, T.D. et al.* (6 authors) 1999, MNRAS 307, 357. (1b, 2abc) Mass of NS in V779 Cen.
Cen X-4	*Rutledge, R.E. et al.* (5 authors) 1999, ApJ 514, 945. (5) Reevaluation of X-ray spectra.

Cir X-1	*Johnston, H.M., Fender, R., Wu, K.* 1999, MNRAS 308, 415. (1bio, 2a) An eccentric LMXB model.
Cyg X-1	*Done, C., Zycki, P.T.* 1999, MNRAS 305, 457. (1bx, 2g) Relativistic distortions in X-ray spectrum.
	Feng, Y.X. et al. (4 authors) 1999, ApJ 514, 373. (1x)
	Li, T.P., Feng, Y.X. 1999, ApJ 521, 789. (1x) Data correlations.
	Nowak, M.A. et al. (5 authors) 1999, ApJ 515, 726. (1x,2g) Modeling of corona.
	Shpychka, I.V. 1998, KFNT 14, 357. (1a, 2g)
	Revnivtsev, M., Gilfanov, M., Churazov, E. 1999, A&A 347, L23. (1x, 2eg) Frequency resolved spectra.
	Stirling, A., Spencer, R., Garrett, M. 1998, New Astron. Rev. 42, 657. (1r) High-resolution radio images.
Cyg X-2	*Kuulkers, E., Wijnands, R., van der Klis, M.* 1999, MNRAS 308, 485. (1ax, 2cg) X-ray timing behaviour.
	Orosz, J.A., Kuulkers, E. 1999, MNRAS 305, 132. (1a, 2bc) Mass of NS in V1341 Cyg.
Cyg X-3	*Fender, R.P., Hanson, M.M., Polley, G.G.* 1999, MNRAS 308, 473. (1bi, 2eg) IR spectroscopic variability in outburst and quiescence.
	McCollough, M.L. et al. (11 authors) 1999, ApJ 517, 951. (1rx) Correlation between hard X-ray and radio flux.
	McCollough, M.L. et al. (15 authors) 1998, New Astron. Rev. 42, 629. (1x) RXTE observations.
	Ogley, R.N. et al. (6 authors) 1998, New Astron. Rev. 42, 637. (2e) Magnetic field estimation.
	Peracaula, M. Paredes, J.M., Martí, J. 1998, New Astron. Rev. 42, 645. (1r)
Her X-1	*Leahy, D.A., Marshall, H.* 1999, ApJ 521, L328. (1x) Dip in LC at phase 0.5 due to shadowing of companion by AD?
	Shakura, N.I. et al. (4 authors) 1999, A&A 348, 917. (2g, 5) On the origin of X-ray dips.
Vel X-1	*Al-Wardat, M.A.S. et al.* (4 authors) 1999, Ap&SS 260, 335. (2a, 2b)

Object names including RA and DEC

1E 0035.4-7230 (SMC X-1)	*Kahabka, P., Parmar, A.N., Hartmann, H.W.* 1999, A&A 346, 453. (1x, 2eg) Fitting BeppoSAX observations.
AX J0049-729	*Yokogawa, J. et al.* (5 authors) 1999, PASJ, 51, 547. (1x, 3b) New X-ray pulsar in SMC.
4U 0115+63	1999, IAU Circ. 7126. (1x) Oscillations.
RX J0117.6-7330 (in SMC)	*Raguzova, N.V., Lipunov, V.M.* 1999, A&A 349, 505. (5) Evolutionary evidence for Be/BH binaries.
	Soria, R. 1999, Publ. Astron. Soc. Australia 16, 147. (1ab, 2ab) X-ray transient in SMC.
1RXS J012851.9-233931	*Schwope, A.D., Schwarz, R., Greiner, J.* 1999, A&A 348, 861. (1abox, 2eg, 3d) Low-accretion rate polar.
RX J0558+53	*Harlaftis, E.T., Horne, K.* 1999, MNRAS 305, 437. (1b, 2c) Doppler tomograms of IP.

4U 0614+091	*Piraino, S. et al.* (4 authors) 1999, A&A 349, L77. (1x, 2eg) BeppoSAX observations.
A 0620-00	*Kuulkers, E. et al.* (5 authors) 1999, MNRAS 306, 919. (1r, 2) Multiple jet ejection during the 1975 outburst.
RE J0720-318	*Dobbie, P.D. et al.* (4 authors) 1999, A&A 346, 163. (1abou, 2efg) Model of accreting WD.
EXO 0748-676	*Garcia, M.R., Callanan, P.J.* 1999, AJ 118, 1390. (1bx, 2g) Quiescent state of LMXB. *Homan, J. et al.* (5 authors) 1999, ApJ 516, L91. (1x) QPOs.
RX J0806+15	*Burwitz, V., Reinsch, K.* 1999, AG Abstr. Ser. 15, 27. (1abx, 3b) New IP discovered by ROSAT.
RX J0806.3+1527	*Israel, G.L. et al.* (7 authors) 1999, A&A 349, L1. (1x, 2g, 3cd) IP or isolated NS?
1SAX J0835.9+5118	1999, IAU Circ. 7174. (1x) New X-ray transient.
RX J0925.7-4758	*Hartmann, H.W. et al.* (5 authors) 1999, A&A 346, 125.(1x, 2eg) Spectral parameters of Super Soft Source.
GSC 1009.766	*Lloyd, C., Bernhard, K.* 1999, IBVS 4685. (1a, 2c, 3b)
1E 1024.0-5732	*Reig, P.* 1999, A&A 345, 576. (1box, 2e) On the nature of X-ray binary.
CW 1045+525	*Bennert, N. et al.* (14 authors) 1999, AG Abstr. Ser. 15, 110. (1a) LC of CV.
GSC 1057.1309	*Lloyd, C., Bernhard, K.* 1999, IBVS 4685. (1a, 2c, 3b) W UMa-type star?
XB 1323-619	*Balucinska-Church, M. et al.* (6 authors) 1999, A&A 349, 495. (1x, 2eg) X-ray bursts of LMXB.
XTE J1550-564	1999, IAU Circ. 7184. (1b) BH candidate and late-type star. 1999, IAU Circ. 7187. (1a) Possible ellipsoidal modulation. 1999, IAU Circ. 7191. (1x) Modulation with orbital period. 1999, IAU Circ. 7197. (1b) Spectrum of secondary not confirmed. 1999, IAU Circ. 7202. (7b) *Jain, R.K. et al.* (5 authors) 1999, ApJ 517, L131. (1o, 3c) *Remillard, R. A. et al.* (7 authors) 1999, ApJ 517, L127. (1x) QPOs. *Sanchez-Fernandez, C. et al.* (14 authors) 1999, A&A 348, L9. (1ab, 2eg, 3d) Outburst of BH candidate. *Sobczak, G.J. et al.* (7 authors) 1999, ApJ 517, L121. (1bx)
4U 1608-522	*Rutledge, R.E. et al.* (5 authors) 1999, ApJ 514, 945. (5) Reevaluation of X-ray spectra.
4U 1626-67	*Yi, I., Vishniac, E.T.* 1999, ApJ 516, L87. (5) Torque reversal accompanied by spectral transition.
4U 1630-47	*Hjellming, R.M. et al.* (12 authors) 1999, ApJ 514, 383. (1erx) First observed radio emission, position to within 1 arcsec.
4U 1633-47	1999, IAU Circ. 7165. (1x) Increasing activity level.
4U 1636-536	*Kaaret, P. et al.* (4 authors) 1999, ApJ 514, L31. (1x) QPOs lag the hard X-ray emission.
GRO J1655-40	*Israelian, G. et al.* (5 authors) 1999, Nature 401, 142. (1b, 2f) Large overabundance of α-elements indicates SN ejecta captured by companion; primary almost certainly BH; see also News & Views, p.142 (J. Cowan). *Hannikainen, D., Hunstead, R., Campbell-Wilson, D.* 1998, New Astron. Rev. 42, 601. (1r) Molonglo synthesis telescope observations. *Hynes, R.J.* 1998, New Astron. Rev. 42, 605. (1ax) HST-RXTE flux anticorrelation.

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OAO 1657-415	*Orlandini, M. et al.* (7 authors) 1999, A&A 349, L9. (1x, 2e) Fitting of broad-band spectrum.
MXB 1659-29 (V2134 Oph)	1999, IAU Circ. 7138. (1s, 1x) Confirmed outburst.
4U 1700-37	*Reynolds, A.P. et al.* (5 authors) 1999, A&A 349, 873. (1x, 2eg) BeppoSAX observations of HMXB.
4U 1702-429	*Strohmayer, T.D., Markwardt, C.B.* 1999, ApJ 516, L81. (1x) Rotation as source of X-ray oscillations.
1SAX J1712.6-3739	1999, IAU Circ. 7246. (1x) New X-ray transient. 1999, IAU Circ. 7246. (1x) LMXB in burst with NS component.
GRO J1719-24	*Van der Hooft, F. et al.* (10 authors) 1999, ApJ 519, 332. (1x) Hard X-ray lags in this low-mass binary.
XTE J1723-376	1999, IAU Circ. 7133. (1x, 3b) Improved position, LMXB spectrum.
4U 1728-34	*Mendez, M., van der Klis, M.* 1999, ApJ 517, L51. (1x) Precise measurement of kHz QPOs. *Strohmayer, T.D., Markwardt, C.B.* 1999, ApJ 516, L81. (1x) Rotation as source of X-ray oscillations.
X 1732-304	*Guainazzi, M., Parmar, A.N., Oosterbroek, T.* 1999, A&A 349, 819. (1x, 2g) Low emission from X-ray source in Terzan 1.
SLX 1735-269	*Wijnands, R., van der Klis, M.* 1999, A&A 345, L35. (1x, 2g) X-ray variability of burst source.
GRS 1741.9-2853	*Cocchi, M. et al.* (7 authors) 1999, A&A 346, L45. (1x, 2e) Type-I burst from LMXB.
1E 1743.1-2843	*Cremonesi, D.I. et al.* (4 authors) 1999, A&A 345, 826. (1x, 2eg) LMXB with a NS?
SAX J1748.9-2021	*in't Zand, J.J.M. et al.* (11 authors) 1999, A&A 345, 100. (1x, 2e) X-ray outburst in the globular cluster NGC 6440.
XTE J1806-246	*Wijnands, R., van der Klis, M.* 1999, ApJ 522, 965. (1ax) QPOs discovered in X-ray transient.
SAX J1808.4-3658	*Gaensler B.M., Stappers, B.W., Getts, T.J.* 1999, ApJ 522, L117. (1r) Observational support that LMXBs are progenitors of millisecond pulsars. *Giles, A.B., Hill, K.M., Greenhill, J.G.* 1999, MNRAS 304, 47. (1ax, 2c, 3c) *Psaltis, D., Chakrabarty, D.* 1999, ApJ 521, 332. (5) Disk-magnetosphere interaction.
SAX J1810.8-2609	*Greiner, J. et al.* (8 authors) 1999, MNRAS 308, L17. (1iox, 2g, 3cd)
GS 1826-238	*in 't Zand, J.J.M. et al.* (6 authors) 1999, A&A 347, 891. (1x, 2eg) Broad-band spectrum of LMXB. *Ubertini, P. et al.* (7 authors) 1999, ApJ 514, L27. (1x) First detected X-ray burst.
RX J1826.2-1450	*Ribo, M. et al.* (4 authors) 1999, A&A 347, 518. (1bx, 2e) X-ray timing analysis of HMXB.

XTE J1855-026	*Corbet, R.H.D. et al.* (4 authors) 1999, ApJ 517, 956. (1x) Primary may be an O or B supergiant.
XTE J1859+083	1999, IAU Circ. 7240. (1x, 3b) New transient.
GRS 1915+105	*Fender, R.P. et al.* (8 authors) 1998, New Astron. Rev. 42, 593. (1r) Merlin observations.
	Greiner, J., Morgan, E.H., Remillard, R.A. 1998, New Astron. Rev. 42, 597. (1bx) RXTE spectroscopy.
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XB 1916-053	*Ko, Y.-K. et al.* 1999, ApJ 520, 292. (1ax) ASCA observations of dipping X-ray source.
RX J1940.1-1025 (V1432 Aql)	*Geckeler, R.D., Staubert, R.* 1999, AG Abstr. Ser. 15, 110. (1ax, 2g) Accretion geometry and spin period change of WD in magnetic CV.
4U 1957+115	*Hakala, P.J., Muhli, P., Dubus, G.* 1999, MNRAS 360, 701. (1a, 2cg) Evolving AD structure in LMXB.
1WGA J1958.2+3232	*Israel, G.L. et al.* (4 authors) 1999, A&A 345, L1. (1ab, 2eg, 3c) Identification of pulsar with Be-star/X-ray binary.
GSC 2003-139 (1RXS33146+291631)	*Robb, R.M., Balam, D.D., Greimel, R.* 1999, IBVS 4714. (1a, 3d)
XTE J2012+381	*Hynes, R.I. et al.* (4 authors) 1999, MNRAS 305, L49. (1abio, 3cd) Identification of soft X-ray transient.
EUVE J2115-58	*Schlegel, E.M.* 1999, AJ 117, 2494. (1x, 2cg) Low-state detection.
XTE J2123-058	*Tomsick, J.A. et al.* (4 authors) 1999, ApJ 521, 341. (1ax, 3b) Discovery of NS X-ray transient.
4U 2129+47	*Garcia, M.R., Callanan, P.J.* 1999, AJ 118, 1390. (1bx, 2g) Quiescent state of LMXB.
PSR B2303+46	*van Kerkwijk, M. H., Kulkarni, S.R.* 1999, ApJ 516, L25. (1o, 3c) Suggested massive WD companion.

Galactic objects with other designations

Anonymous	*Szabó, R.* 1999, IBVS 4700. (1a, 3bd) Star no. 33 is probably EB.
GX 1+4	*Murray, J.R. et al.* (4 authors) 1999, ApJ 515, 738. (2g) Spin-up/spin-down of AD.
GX 17+2	1999, IAU Circ. 7219. (1a, 3c)
	1999, IAU Circ. 7249. (1a) Confirmed counterpart.
GX 339-4	*Hannikainen, D., Hunstead, R., Campbell-Wilson, D.* 1998, New Astron. Rev. 42, 601. (1r) Molonglo synthesis telescope observations.
	Nowak, M.A. et al. (4 authors) 1999, ApJ 517, 355. (1x) Timing analysis.
He 2-147	*Corradi, R.L.M. et al.* (5 authors) 1999, A&A 348, 978. (1b, 2g) On the nebulae around symbiotic stars.

LS I +61°303 (V615 Cas)	*Punsly, B.* 1999, ApJ 519, 336. (5) Model of highly magnetized BH companion producing gamma-rays.
MWC 342	*Miroshnichenko, A., Corporon, P.* 1999, A&A 349, 126. (1aboi, 2e) Be binary?
NSV 11321	*Beltraminelli, N. et al.* (4 authors) 1999, IBVS 4696. (1af, 2c, 3bd)
NSV 13826	*Vandenbroere, J.* 1999, IBVS 4726. (1a, 2c)
S 193	*Martinez, I.G., Rodriguez-Gil, P., Casares, J.* 1999, MNRAS 305, 661. (1b, 2a) Non-eclipsing SW Sex star.
Sh 2-71	*Feibelman, W.A.* 1999, PASP 111, 719. (1bu) Possible hot companion to central star.
SS 433 (V1343 Aql)	*Brinkmann, W.* 1998, New Astron. Rev. 42, 589. (2g) Progress report on jets.
	Fabrika, S.N. et al. (4 authors) 1998, Izvestia Krymskoi Astrofizicheskoy Observatorii 94, 256. (1bc, 2c)
	Paragi, Z. et al. (6 authors) 1998, New Astron. Rev. 42, 641. (1r) Radio emission and absorption regions.
	Seifina, E.V. 1999, AZh 76, 356. (1x, 2e)
V4 in NGC 7654	*Choi, H.S. et al.* (4 authors) 1999, A&A 348, 789. (1a, 3b) Discovery of EB in open cluster.
V5 in Mel 71	*Kim, S.-L., Park, B.-G., Chun, M.-Y.* 1999, A&A 348, 795. (1a, 2c, 3b) Discovery of EB in open cluster.
WR 1	*Morel, T. et al.* (6 authors) 1999, A&A 349, 457. (1ab, 2e) Unlikely binary hypothesis.
WR 104	*Tuthill, P.G., Monnier, J.D., Danchi, W.C.* 1999, Nature 398, 487. Dusty pinwheel around the massive star WR 104 (binary companion responsible, see News & Views, p. 463, S. Tomlin)

Extragalactic variables, SN, X-ray sources

AC 211 (in M15)	*Callanan, P.J., Drake, J.J., Fruscione, A.* 1999, ApJ 521, L125. (5) Detection of first LMXB at EUVE energies in M15?
CV in UGC 11093	1999, IAU Circ. 7146. (1b) Dwarf nova and not SN.
	1999, IAU Circ. 7149. (1b) CV.
CV in UGC 11289	1999, IAU Circ. 7146. (1a, 3b)
GRB 971214	*Kulkarni, S.R. et al.* (16 authors), 1998, Nature 393, 35. Identification of a host galaxy of γ-ray burster at redshift $z = 3.42$.
Nova LMC 1995	*Orio, M., Greiner, J.* 1999, A&A 344, L13. (1x, 2e) Supersoft X-ray nova after outburst.
Novae in M31	1999, IAU Circ. 7218. (1a, 3b)
	1999, IAU Circ. 7236. (1a, 3b)
	1999, IAU Circ. 7220. (7b)
	1999, IAU Circ. 7249. (1a, 3b)
Nova in NGC205	1999, IAU Circ. 7240. (1a, 3b)
Nova in NGC 6822	1999, IAU Circ. 7208. (1a, 3b)
	1999, IAU Circ. 7209. (3b) Independent discovery.
	1999, IAU Circ. 7220. (1b) Nova confirmed.
Nova in SMC	1999, IAU Circ. 7239. (1a, 3b)

R81 in LMC	*Tubbesing, S. et al.* (6 authors) 1999, AG Abstr. Ser. 15, 25. (1ab, 2a) P Cygni-type EB monitored with complete phase coverage over P = 74.55 days.
RX J0117.6-7330 (in SMC)	*Raguzova, N.V., Lipunov, V.M.* 1999, A&A 349, 505. (5) Evolutionary evidence for Be/BH binaries.
SMC X-1 (1E 0035.4-7230)	*Kahabka, P., Li, X.-D.* 1999, A&A 345, 117. (1x, 2eg) Spin period in X-ray pulsar.
	Kahabka, P., Parmar, A.N., Hartmann, H.W. 1999, A&A 346, 453. (1x, 2eg) Fitting BeppoSAX observations.

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