Reference number: AA/2005/3718

Title: High-mass X-ray binaries in the Magellanic Clouds

Authors: Q.Z. Liu, J. van Paradijs, and E.P.J. van den Heuvel

Name of the journal, year, volume and first page: A&A, 2005, ??, ??

Keywords: stars: early-type stars - X-ray: binaries - Magellanic Clouds - catalogues

Description of the table and its columns:

Table 1 and Table 2 list the 92 HMXBs in the SMC and 36 HMXBs in the LMC, respectively. In the tables the sources are ordered according to right ascension of sources; part of the (mainly numerical) information on a source is arranged in six columns, below which for each source additional information is provided in the form of key words with reference numbers [in square brackets]. The columns have been arranged as follows.

In Column 1 the first line contains the source name, with rough information on its sky location, according to the conventional source nomenclature of space satellites in which the source was detected, hhmm±ddd, or hhmm.m±ddmm. Here hh, mm and ss indicate the hours, minutes and seconds of right ascension, ddd the declination in units of 0.1 degree (in a small number of cases, the coordinates shown in the name are given with more, or fewer, digits). The prefix J indicates a name based on J2000 coordinates. Otherwise, 1950 coordinates were used in the name. An alternative source name is given in the second line. In the third line of Column 1, the source types are indicated with a letter code, as follows:

• P: X-ray pulsar (47 in the SMC and 7 in the LMC);
• T: transient X-ray source;
• U: ultra-soft X-ray spectrum. These sources include black-hole candidates; some 'extreme ultra-soft' (EUS) source may be white dwarf (WD) on whose surface steady nuclear burning takes place.

Column 2 contains in the first two lines the right ascension (RA) and declination (DEC) of the source for epoch 2000. RA is given as hhmmss.s to an accuracy of 0.1 s, DEC is given in ° ' ", to an accuracy of 1" (in a small number of cases, the coordinates are given with more, or fewer, digits). The third line gives the galactic longitude and latitude to an accuracy of 0.1°. A reference on the source position is given below the columnar information under *'pos.'*. In the parentheses following the *'pos.'*, we provide some information on the type of observation from which the source position has been derived. The following abbreviations have been used: o, optical; x, X-ray; r, radio; IR, infrared. Following the type of observation, we give an indication of the accuracy of this position, in the form of equivalent (90 percent confidence level) error radii, but in several cases this can only be considered an approximation (e.g. when the error box is not circular). When no accuracy is quoted, it is about one arcsecond or better.

The first and second lines of Column 3 give names of an optical counterpart. The third line contains a reference to a finding chart. An asterisk followed by a number or letter refers to star numbers used in the finding chart; "star" refers a star in the finding chart that has not been assigned a number or letter. Many optical counterparts have been indicated with a Hα emission-line object in the SMC by Meyssonier & Azzopardi (1993, hereafter MA93) and a Small Magellanic Cloud member star by Azzopardi & Vigneau (1982, hereafter AzV), or a number in a well-known catalogue (e.g., GSC, 2MASS, OGLE, MACHO etc.).

The fourth column contains some photometric information on the optical counterpart. In the first line, the apparent visual magnitude, V, and the color indices $B-V$, and $U-B$, are listed. The second line contains the spectral type of the optical counterpart and an estimate of the interstellar reddening, E_{B-V}.

In Column 5, the average X-ray flux, or the range of observed X-ray fluxes (2-10 keV, unless otherwise indicated), is given, in units of

$$1\mu Jy = 10^{-29}\ erg\ cm^{-2}\ s^{-1} Hz^{-1} = 2.4\times10^{-12}\ erg\ cm^{-2}\ s^{-1}\ keV^{-1}.$$

The first line in Column 6 gives the orbital period in days. The second line contains for X-ray pulsars the pulse period, in seconds. The third line contains references in which the orbital and/or pulse periods were detected.

References

[1] Alcock, C. et al. 1999, PASP, 111, 1539
[2] Alcock, C. et al. 2001, MNRAS, 321, 678
[3] Allen, D. 1977, IAU Circ. 3143.
[4] Allen, D. A. 1984, MNRAS, 207, 45P.
[5] Anderson, S. F. et al. 1991, ApJ, 371, 332.
[6] Azzopardi, M. & Vigneau, J. 1982, A&AS, 50, 291
[7] Belloni, T. & Hasinger, G. 1990, A&A, 230, 103.
[8] Bianchi, L. & Pakull, M. 1985, A&A, 146, 242.
[9] Bochkarev, N. G. et al. 1988, SvA, 32, 405.
[10] Bonnet-Bidaud, J. M. & Van der Klis, M. 1981, A&A, 97, 134.
[11] Bonnet-Bidaud, J. M. et al. 1981, A&A, 101, 184.
[12] Boyd, P. T. et al. 2000, ApJ, 542, L127
[13] Boyd, P. T. et al. 2001, ApJ, 555, 822
[14] Bradt, H. V. & McClintock, J. E. 1983, ARA&A, 21, 63.
[15] Brocksopp, C. et al. 2001, MNRAS, 328, 139
[16] Brunet, J. P. et al. 1975, A&AS, 21, 109.
[17] Buckley, D. A. H. et al. 2000, MNRAS, 320, 281
[18] Burderi, L. et al. 1998, ApJ, 498, 831.
[19] Chakrabarty, D. et al. 1998, IAU Circ 7048.
[20] Chakrabarty, D. et al. 1998, IAU Circ 7062.
[21] Charles, P.A. et al. 1983, MNRAS, 202, 657.
[22] Charles, P.A. et al. 1996, IAU Circ 6305.
[23] Chevalier, C. & Ilovaisky, S.A. 1977, A&A, 59, L9.
[24] Chevalier, C. & Ilovaisky, S.A. 1978, ESO Messenger 9, 4.

[25] Chu, Y.-H. et al. 2000, AJ, 119, 2242
[26] Clark, G. et al. 1978, ApJ, 221, L37.
[27] Clark, G. et al. 1979, ApJ, 227, 54.
[28] Clark, G. W. et al. 1997, ApJ 474, L111.
[29] Clarkson, W. I. et al. 2003, MNRAS, 339, 447
[30] Clayton, G.C. et al. 1989, MNRAS, 236, 901.
[31] Coe, M. J., 2000, in Smith M. A., Henrichs H. F., eds, ASP Conf. Ser. Vol. 214, IAU Colloq. 175, The Be Phenomenon in Early-Type Stars. Astron. Soc. Pac., San Francisco, p. 656
[32] Coe, M. J. 2001, MNRAS, 324, 623
[33] Coe, M. J., Edge, W. R. T., 2004, MNRAS, 350, 756
[34] Coe, M. J. & Gaensicke, B. T. 2003, ATel, 123
[35] Coe, M. J. & Orosz, J.A. 2000, MNRAS, 311, 169.
[36] Coe, M. J. et al. 1998, MNRAS, 293, 43.
[37] Coe, M. J. et al. 2000, MNRAS, 314, 290.
[38] Coe, M. J. et al. 2002, MNRAS, 332, 473
[39] Coe, M. J. et al. 2003, MNRAS, 344, 1075
[40] Coe, M. J. et al. 2005, MNRAS, 356, 502
[41] Cook, K., 1998, IAU Circ. 6860.
[42] Corbet, R.H.D. et al. 1985, MNRAS, 212, 565.
[43] Corbet, R.H.D. et al. 1997, ApJ, 476, 833.
[44] Corbet, R. H. D. et al. 1997, IAUC, 6788
[45] Corbet, R. H. D. et al. 1998, IAU Circ. 6803.
[46] Corbet, R. H. D. et al. 2001, IAUC 7562
[47] Corbet, R. H. D. et al. 2001, ApJ, 548, L41
[48] Corbet, R. H. D. et al. 2002, IAUC 7932
[49] Corbet, R. H. D. et al. 2003, ATEL, 163
[50] Corbet, R. H. D. et al. 2003, ATEL, 209
[51] Corbet, R. H. D. et al. 2003, ATEL, 214
[52] Corbet, R. H. D. et al. 2003, IAUC 8064
[53] Corbet, R. H. D. et al. 2003, astro-ph/0402053
[54] Corbet, R. H. D. et al. 2003, AAS/HEAD, 35
[55] Corbet, R. H. D. et al. 2004, ATEL, 273
[56] Corbet, R. H. D. et al. 2004, ATel, 277
[57] Corbet, R. H. D. et al. 2004, ATEL, 347
[58] Covino, S., et al., 2001, A&A, 374, 1009
[59] Cowley, A. P. & Schmidtke, P. C. 2004, AJ, 126, 2949
[60] Cowley, A. P., Schmidtke, P. C. 2004, AJ, 128, 709
[61] Cowley, A.P. et al. 1978, AJ, 83, 1619.
[62] Cowley, A.P. et al. 1983, ApJ, 272, 118.
[63] Cowley, A.P. et al. 1984, ApJ, 286, 196
[64] Cowley, A.P. et al. 1991, ApJ, 373, 228.
[65] Cowley, A.P. et al. 1991, ApJ, 381, 526.
[66] Cowley, A.P. et al. 1994, ApJ, 429, 826.
[67] Cowley, A.P. et al. 1997, PASP, 109, 21.
[68] Crampton, D. et al. 1978, ApJ, 223, L79.
[69] Cusumano, G. et al. 1998, A&A, 337, 772.
[70] Dennerl, K. 1995, IAU Circ. 6184.
[71] Densham, R. H. et al. 1983, MNRAS, 205, 1117.
[72] Dufour, R. J. & Duval, J. E. 1975, PASP, 87, 769.
[73] Ebisawa, K. et al. 1989, PASJ, 41, 519.
[74] Edge, W. R. T. & Coe, M.J. 2003, MNRAS, 338, 428
[75] Edge, W. R. T. et al. 2004, ATel, 225
[76] Edge, W. R. T. et al. 2004, MNRAS, 349, 1361
[77] Edge, W. R. T. et al. 2004, MNRAS, 353, 1286
[78] Edge, W. R. T. et al. 2005, ATEL, 405
[79] Edge, W. R. T. et al. 2005, ATEL, 426
[80] Filipovic, M.D. & Pietsch, W. 2000, A&A, 353, 129.
[81] Filipovic, M.D. et al 2000, A&A, 361, 823
[82] Finger, M.H. et al. 2001, ApJ, 560, 378
[83] Garmany, C.D. & Humphreys, R.M. 1985, AJ, 90, 2009
[84] Grimm, H.-J. et al. 2003, MNRAS, 339, 793
[85] Gruber, D.E. & Rothschild, R.E. 1984, ApJ, 283, 546.
[86] Haardt, F. et al. 2001, ApJS, 133, 187
[87] Haberl, F. & Pietsch, W. 1999, A&A, 344, 521.
[88] Haberl, F. & Pietsch, W. 1999, A&AS, 139, 277
[89] Haberl, F. & Pietsch, W. 2004, A&A, 414, 667
[90] Haberl, F. & Pietsch, W. 2005, A&A, astro-ph/0503613
[91] Haberl, F. & Sasaki, M. 2000, A&A, 359, 573
[92] Haberl, F. et al. 1995, A&A, 302, L1
[93] Haberl, F. et al. 1995, A&A, 303, L49
[94] Haberl, F. et al. 1997, A&A, 318, 490.
[95] Haberl, F. et al. 2000, A&AS, 142, 41.
[96] Haberl, F. et al. 2003, A&A, 406, 471
[97] Haberl, F. et al. 2004, A&A, 420, L19
[98] Hammerschlag-Hensberge, G. et al. 1984, ApJ, 283, 249.
[99] Hanson, C.G. et al. 1989, MNRAS, 240, 1P.
[100] Heemskerk, M.H.M. & Van Paradijs, J. 1989, A&A, 223, 154.
[101] Hill, R.J. et al. 1994, ApJ, 429, 192.
[102] Hiltner, W.A. 1977, IAU Circ 3039.
[103] Howarth, I.D. et al. 1984, MNRAS, 207, 287.
[104] Hughes, J.P. 1994, ApJ, 427, L25.
[105] Hughes, J.P. & Smith, R.C. 1994, AJ, 107, 1363.
[106] Hutchings, J.B. et al. 1977, ApJ, 217, 186.
[107] Hutchings, J.B. et al. 1978, ApJ, 225, 548.
[108] Hutchings, J.B. et al. 1983, ApJ, 275, L43.
[109] Hutchings, J.B. et al. 1985, PASP, 97, 418.
[110] Hutchings, J.B. et al. 1987, AJ, 94, 340.
[111] Hutchings, J. B. et al. 2003, AJ, 126, 2368
[112] Ilovaisky, S.A. et al. 1984, A&A, 140, 251.
[113] Imanishi, K. et al. 1998, IAU Circ. 7040.
[114] Israel, G.L. et al. 1997, ApJ, 484, L141.
[115] Israel, G.L. et al. 1999, IAU Circ. 7101.
[116] Israel, G.L. et al. 2000, ApJ, 531, L131
[117] Isserstedt, J. 1975, A&AS, 19, 259.
[118] Johnston, M.D. et al. 1979, ApJ, 230, L11.
[119] Johnston, M.D. et al. 1979, ApJ, 233, 514.
[120] Johnston, M.D. et al. 1980, Nat, 285, 26.
[121] Kahabka, P., 1999, IAU Circ. 7087, 2
[122] Kahabka, P. 2000, A&A, 354, 999.
[123] Kahabka, P. 2002, A&A, 388, 100
[124] Kahabka, P. & Hilker, M. 2005, A&A, 435, 9
[125] Kahabka, P. & Pietsch, W. 1996, A&A, 312, 919.
[126] Kahabka, P. & Pietsch, W. 1998, IAU circular 6840.
[127] Kahabka, P. et al. 1999, A&AS, 136, 81
[128] Kelley, R.L. et al. 1983, ApJ, 264, 568.
[129] Khruzina, T.S. & Cherepashchuk A.M. 1987, SvA, 31, 180.
[130] Kohno, M. et al. 2000, PASJ, 52, 299
[131] Kuiper, L. et al. 1988, A&A, 203, 79.
[132] La Barbera, A. et al. 2001, ApJ, 553, 375
[133] Lamb, R.C. et al. 2002, ApJ, 567, L129
[134] Lang, F.L. et al. 1981, ApJ, 246, L21.
[135] Laycock, S. et al. 2002, A&A, 385, 464
[136] Laycock, S. et al. 2003, MNRAS, 339, 435
[137] Laycock, S. et al. 2004, Astro/ph 0406420
[138] Levine, A. et al. 1991, ApJ, 381, 101.
[139] Levine, A. et al. 1993, ApJ, 410, 328.
[140] Levine, A. M. 2000, ApJ, 541, 194
[141] Li, F. et al. 1978, Nat, 271, 37.
[142] Li, X.D. & van den Heuvel, E.P.J. 1997, A&A, 321, L25.
[143] Liller, W. 1973, ApJ, 184, L37.

[144] Liu, Q.Z. et al. 2000, A&AS, 147, 25.
[145] Liu, Q.Z. et al. 2001, A&A, 368, 1021.
[146] Liu, Q.Z. et al. 2005, ApSS, accepted.
[147] Lochner, J.C. 1998, IAU Circ. 6858.
[148] Lochner, J.C. 1998, IAU Circ. 7007.
[149] Lochner, J.C. et al. 1998, IAU Circ. 6814.
[150] Lochner, J.C. et al. 1999, AAS 194, 5218.
[151] Long, K.S. et al. 1981, ApJ, 248, 925.
[152] Lucke, P. 1974, ApJS, 28, 73.
[153] Macomb, D.J. et al. 1999, ApJ, 518, L99.
[154] Macomb, D.J. et al. 2003, ApJ, 584, L79
[155] Majid, W. et al. 2004, ApJ, 609, 133
[156] Maragoudaki, F. et al. 2001, A&A, 379, 864
[157] Mark, H. et al. 1969, ApJ, 155, L143
[158] Marshall, F.E. & Lochner, J.C. 1998, IAU Circ. 6818.
[159] Marshall, F.E. et al. 1997, IAU Circ. 6777.
[160] Massey, P. 2002, ApJS, 141, 81
[161] McGarry, M. B. et al. 2005, ApJL, astro-ph/0504360
[162] McGowan, K.E. & Charles, P.A. 2002, MNRAS, 335, 941
[163] McGowan, K.E. & Charles, P.A. 2003, MNRAS, 339, 748
[164] Meyssonnier, N. & Azzopardi, M. 1993, A&AS, 102, 451 (MA93)
[165] Misselt, K.A. 1998, PASP, 110, 396.
[166] Moon, D.-S. & Eikenberry, S. S. 2001, ApJ, 549, L225
[167] Moon, D.-S. et al. 2003, ApJ, 582, L91
[168] Moon, D.-S. et al. 2003, ApJ, 586, 1280
[169] Murdin, P. et al. 1979, MNRAS, 186, 43P.
[170] Nagase, F. 1989, PASJ, 41, 1.
[171] Naik, S. & Paul, B. 2004, A&A, 418, 655
[172] Naik, S. & Paul, B. 2004, ApJ, 600, 351
[173] Naze, Y. et al. 2003, ApJ, 586, 983
[174] Negueruela, I. & Coe, M.J. 2002, A&A, 385, 517
[175] Neilsen, J. et al. 2004, ApJ, 616, L135
[176] Nowak, M. A. et al. 2001, MNRAS, 320, 316
[177] Paczynski, B. 1983, ApJ, 273, L81.
[178] Pakull, M.W. & Angebault, L.P. 1986, Nat, 322, 511.
[179] Pakull, M. & Parmar, A. 1981, A&A, 102, L1.
[180] Pakull, M. et al. 1985, Sp. Sci. Rev., 40, 379.
[181] Paul, B. et al. 2000, ApJ, 528, 410
[182] Paul, B. et al. 2002, ApJ, 579, 411
[183] Pietsch, W. et al. 1985, Sp. Sci. Rev., 40, 371.
[184] Popov, S. B. & Raguzova, N. V. 2005, A&A, astro-ph/0405633
[185] Preciado, M. E. et al. 2002, PASP, 114, 340
[186] Price, R. E. et al. 1971, ApJ, 168, L7
[187] Primini, F. et al. 1977, ApJ, 217, 543.
[188] Raymond, J.C. 1982, ApJ, 258, 240.
[189] Rea, N. et al. 2004, A&A, 421, 235
[190] Reid, N. et al. 1988, MNRAS, 232, 53.
[191] Reynolds, A.P. et al. 1992, MNRAS, 258, 439.
[192] Rousseau, J. et al. 1978, A&AS, 31, 243.
[193] Russell S.C. & Dopita, M.A. 1990, ApJS, 74, 93.
[194] Safi Harb, S. & Ogelman, H. 1996, ApJ, 456, L37.
[195] Sanduleak, N. 1968, AJ, 73, 246.
[196] Santangel, A. et al. 1998, A&A, 338, L59.
[197] Sasaki, M. et al. 2000, A&AS, 143, 391.
[198] Sasaki, M. et al. 2000, A&AS, 147, 75
[199] Sasaki, M. et al. 2001, A&A, 369, L29
[200] Sasaki, M. et al. 2003, A&A, 403, 901
[201] Schmidtke, P.C. & Cowley, A.P. 1998, IAU Circ. 6880.
[202] Schmidtke, P.C. et al. 1992, ASP Conf. Ser., No. 32, ed. H.A. McAlister and W.I. Hartkopf (San Francisco, ASP), p. 386.
[203] Schmidtke, P.C. et al. 1994, PASP, 106, 843.
[204] Schmidtke, P.C. et al. 1995, PASP, 107, 450.
[205] Schmidtke, P.C. et al. 1996, PASP, 108, 668.
[206] Schmidtke, P.C. et al. 1999, AJ, 117, 927.
[207] Schmidtke, P.C. et al. 2003, AJ, 126, 1017
[208] Schmidtke, P. C. et al. 2004, AJ, 127, 3388
[209] Schreier, E. et al. 1972, ApJ, 178, L71.
[210] Seward, F.D. & Mitchell, M. 1981, ApJ, 243, 736.
[211] Shtykovskiy, P. & Gilfanov, M. 2005, A&A, 431, 597
[212] Shtykovskiy, P. & Gilfanov, M. 2005, MNRAS, astro-ph/0503477
[213a] Skinner, G.K. 1980, Nat 288, 141.
[213] Skinner, G.K. et al. 1982, Nat, 297, 568.
[214] Smale, A.P. & Charles, P.A. 1989, MNRAS, 238, 595.
[215] Smale, A.P. et al. 1984, MNRAS, 210, 855.
[216] Soria, R. 1999, PASA, 16, 147.
[217] Southwell, K.A. & Charles, P.A. 1996, MNRAS, 281, L63.
[218] Stevens, J.B. et al. 1999, MNRAS, 309, 421.
[219] Sunyaev, R.A. et al. 1990, SvA Lett., 16, 55.
[220] Tjemkes, S.A. et al. 1986, A&A ,154, 77.
[221] Treves, A. et al. 1988, ApJ, 325, 119.
[222] Treves, A. et al. 1988, ApJ, 335, 142.
[223] Treves, A. et al. 1990, ApJ, 364, 266.
[224] Tsygankov, S.S. & Lutovinov, A.A. 2005, Astro. Letters, 31, 380
[225] Tucholke, H.-J. et al. 1996, A&AS, 119, 91
[226] Tuohy, L.R. et al. 1988, in: "Physics of Neutron Stars and Black Holes", ed. Y. Tanaka, (Universal Academic Press, Tokyo), p. 93.
[227] Udalski, A. 1999, IAU circular 7105.
[228] Udalski, A. et al. 1998, Acta Astronomica, 48, 147
[229] Ueno, M., et al., 2001, eds, ASP Conf. Ser. Vol. 251, New Century of X-ray Astronomy. ASP, San Francisco, p. 420
[230] Ueno, M. et al. 2004, PASJ, 56, 175
[231] Vacca, W.D. et al. 1986, MNRAS, 220, 339.
[232] Van Amerongen, S.F. et al. 1986, IBVS 2901.
[233] Van den Heuvel, E.P.J. & Rappaport, S.A. 1987, in: 'Physics of Be stars', eds. A. Slettebak & T.P. Snow (Cambridge), p. 291.
[234] Van der Klis, M. et al. 1982, A&A, 106, 339.
[235] Van der Klis, M. et al. 1983, MNRAS, 203, 279.
[236] Van der Klis, M. et al. 1985, A&A, 151, 322.
[237] Van Paradijs, J. 1983, in: 'Accretion Driven Stellar X-ray Sources', eds. W.H.G. Lewin & E.P.J. van den Heuvel (Cambridge), p. 189.
[238] Van Paradijs, J. 1995, in: 'X-ray Binaries', eds. W.H.G. Lewin, J. Van Paradijs, & E.P.J. van den Heuvel (Cambridge), p. 536.
[239] Van Paradijs, J. & Kuiper, L. 1984, A&A, 138, 71.
[240] Van Paradijs, J. et al. 1984, MNRAS, 210, 863.
[241] Van Paradijs, J. et al. 1987, A&A, 184, 201.
[242] Vrtilek, S.D. et al. 1997, ApJ, 490, 377.
[243] Vrtilek, S. D. et al. 2001, ApJ, 563, L139
[244] Wang, Q. D. & Wu, X. 1992, ApJS, 78, 391
[245] Waters, L.B.F.M. et al. 1988, A&A, 198, 200.
[246] Wayte, S.R. 1990, ApJ, 355, 473
[247] Webster, B.L. et al. 1972, Nat PS, 240, 183.
[248] White, N.E. 1978, Nat, 271, 38.

[249] White, N.E. & Carpenter, G.F. 1978, MNRAS, 183, 11P.
[250] White, N.E. & Marshall, F.E. 1984, ApJ, 281, 354.
[251] White, N.E. et al. 1978, Nat, 274, 664.
[252] White, N.E. et al. 1984, ApJ, 270, 711.
[253] White, N.E. et al. 1988, ApJ, 324, 363.
[254] Wilms, J. et al. 2001, MNRAS, 320, 327
[255] Wojdowski, P. S. et al. 2000, ApJ, 541, 963
[256] Woo, J.W. et al. 1996, ApJ, 467, 811.
[257] Wood, K.S. et al. 1984, ApJS, 56, 507.
[258] Yokogawa, J. 2002, PhD.T., Kyoto Univ., Japan
[259] Yokogawa, J. & Koyama, K. 1998, IAU Circ. 6853.
[260] Yokogawa, J. & Koyama, K. 1998, IAU Circ. 7028.
[261] Yokogawa, J. & Koyama, K. 2000, IAUC, 7361
[262] Yokogawa, J. et al. 1999, PASJ, 51, 549.
[263] Yokogawa, J. et al. 2000, PASJ, 52, L37
[264] Yokogawa, J. et al. 2000, PASJ, 52, L53
[265] Yokogawa, J. et al. 2000, PASJ, 52, L73
[266] Yokogawa, J. et al. 2000, ApJ, 539, 191
[267] Yokogawa, J. et al. 2001, PASJ, 53, L9
[268] Yokogawa, J. et al. 2001, PASJ, 53, 227
[269] Yokogawa, J. et al. 2003, PASJ, 55, 161
[270] Yoshizawa, A. M.; Noguchi, M. 2003, MNRAS, 339, 1135
[271] Zaritsky, D. et al. 2002, AJ, 123, 855
[272] Zhang, F., Li, X.-D., Wang, Z.-R. 2004, ApJ, 603, 663

Table 1. High-mass X-ray binaries in the SMC

Name(s) type	RA DEC l^{II}, b^{II}	Opt. Ctp. [FC]	V, B-V, U-B Sp. type, E_{B-V}	F_x μJy	P_{orb}(d) P_{pulse}(s)
RX J0032.9-7348	00 32 56.1 -73 48 19 304.7, -43.2	*1 [218]	15.3, - -, - - Be, - - [125]	0.2 [125]	

Pos. (x 12.9"): [95]; very strong emission lines: [218]; another early-type star within error circle: [218].

RX J0041.2-7306	00 41 16.4 -73 06 41 304.0, -44.0	[MA93] 22?	B=18.4, R=17.0 [91]	- -	

Pos. (x 35.6"): [91]; source No. 2 in [91]; counterpart [MA93] 22? or a fg star?: [91]; Be/X-ray binary candidate: [269].

AX J0041.6-7326	00 41 37.0 -73 26 47 303.9, -43.7			0.009 (0.7-10 keV) [269]	

Pos. (x 40"): [269]; source No. 14, X-ray binary candidate: [269].

AX J0042.0-7344	00 42 04.8 -73 44 58 303.8, -43.4			0.023 (0.7-10 keV) [269]	

Pos. (x 40"): [269]; source No. 16, X-ray binary candidate: [269].

RX J0045.6-7313	00 45 37.9 -73 13 54 303.5, -43.9	[MA93] 114 [164]	B=18.3, R=16.9 Be [164]	0.013 [91]	

Pos. (x 29.4"): [91]; Be/X-ray binary?: [91].

RX J0047.3-7312 AX J0047.3-7312 P	00 47 23.42 -73 12 27.3 303.3, -43.9	[MA93] 172 [164]	16.19, -0.08, - B2e, [155, 271]	0.02-0.2 (0.2-10keV) [89]	48.8 263.64 [78, 89, 230]

Pos. (o): [271]; = XMMU J004723.7-731226 = 1XMMU J004723.7-731228; src No. 6: [89]; likely optical counterpart, the emission-line star [MA93] 172: [89]; coincident with OGLE objects 116979 (Phase II) and 45007 (Phase III): [78]; optical ctpt. in crowded field: [40]; Hα strong in emission: [40].

AX J0048.2-7309	00 48 14.9 -73 10 03 303.3, -44.0	[MA93] 215? [164]	15.3, 0.26, - Be [271]	0.011 0.7-10keV [269]	

Pos. (x 4"): [212]; source No. 22, Be/X-ray binary: [269]; position from XMM: [212]; ASCA source 24" from XMM source, the same source?: [212]; [MA93] 215 within the error of ASCA but outside the XMM error: [212]; closest emission-line object about 20" from the XMM source: [212].

RX J0048.5-7302 XMMU J004834.5-730230	00 48 34.5 -73 02 30.0 303.2, -44.1	[MA93] 238 [164]	B=14.6, R=16.9 Be [89]	0.01-0.032 (0.2-10keV) [89]	

Pos. (x 4.1"): [91]; Be/X-ray binary?: [91].

AX J0049-729 RX J0049.1-7250 TP	00 49 02.5 -72 50 52 303.2, -44.3	star [218]	16.92, 0.09, - Be, - - [228]	0.5-9 [125]	642 74.676 [137, 45]

Pos. (x 13.7"): [95, 126]; = AX J0049-728; two Be stars within error circle: [35]; high variability: [125, 126]; X-ray orbital period of 642 d: [137]; pulsations detected with ASCA: [262]; no period in any of the MACHO candidates: [40]; Hα strong in emission: [40]; cutoff energy at 16.2 keV and prominent iron K emission line: [137].

RX J0049.2-7311 XMMU J004913.8-731136 P	00 49 13.84 -73 11 36.7 303.2, -43.9	star [40]	16.51, -0.27, – Be [228]	0.04 [113]	9.1321 [113]

Pos. (x 4"): [91]; = AX J0049-732 ?; src No. 7 in [89]; likely a BeXRB: [40, 95]; Hα strong in emission (EW = -29.6Å): [40]; position of the optical ctpt. coincident with the ROSAT source RX J0049.2-7311: [40]; more likely counterpart to the ASCA 9.1 s pulsar, AX J0049-732: [40, 212].

Table 2. High-mass X-ray binaries in the LMC

Name(s) type	RA DEC l^{II}, b^{II}	Opt. Ctp. [FC]	V, B-V, U-B Sp. type, E_{B-V}	F_x μJy	P_{orb}(d) P_{pulse}(s)
RX J0456.9-6824	04 56 54.1 -68 24 35 279.6, -35.5			0.0026 (0.1-2.4 keV) [88]	
Pos. (x 11.1"): [88]; src No. 657 in [88]; HMXB?: [123].					
RX J0457.2-6612	04 57 12.4 -66 12 10 276.9, -36.1			0.003 (0.1-2.4 keV) [88]	
Pos. (x14.5"): [88]; src No. 266 in [88]; HMXB?: [123].					
RX J0501.6-7034 CAL 9	05 01 23.9 -70 33 33 281.9, -34.5	HV2289 [203]	14.5, -0.07, - - B0Ve, - - [174, 203]	0.011 [174]	
Pos. (x 2.9"): [197]; HV 2289 variable with a large amplitude of variability: [203, 205]; IUE ultraviolet obs.: [205].					
RX J0502.9-6626 CAL E TP	05 02 51.6 -66 26 25 277.0, -35.4	star [203]	14.22, -0.10, - - B0Ve, - - [202]	5.7 [204]	 4.0635 [204]
Pos. (x 1.2"): [197]; X-rays : [63, 204]; highly variable X-ray emission: [203]; IUE ultraviolet obs.: [205].					
RX J0507.6-6847	05 07 37.9 -68 47 49 279.7, -34.5			0.09 0.1-2.4 keV [25]	
Pos. (x 7.1"): [88]; src No. 724 in [88]; a large SNR around an X-ray binary: [25]; a BeRXB in the cluster HS122?: [25]; probably a Be X-ray binary: [25]; on the west end of the LMC bar: [25].					
RX J0512.6-6717	05 12 41.8 -67 17 23 277.8, -34.3			0.0083 (0.1-2.4 keV) [88]	
Pos. (x 40"): [87]; src No. 513 in [88]; a HMXB (?): [88]; weak source, hard X-ray spectrum: [87].					
RX J0516.0-6916 T	05 16 00.1 -69 16 09 280.1, -33.6	*2 [67]	15.0, -0.1, -0.9 B1V, - - [67]	0.07 [67]	
Pos. (x 7.3"): [197]; star 2 likely counterpart, but no obvious emission: [67].					
RX J0520.5-6932 T	05 20 30.3 -69 32 04 280.3, -33.2	star [203]	14.4, 0.01, -0.34 O9Ve, 0.22 [203, 32]	123 (20-70 keV) [76]	24.4 [32]
Pos. (x 16.6"): [87]; not detected with Einstein: [203]; IUE ultraviolet obs.: [205]; long-term MACHO optical light curves and major outburst: [76]; optical period also detected in the MACHO red curve: [76]; 2MASS mag. with J=14.4, H=14.2 and K= 14.3: [76]; Hα and Hβ in emission: [32, 76].					
RX J0523.2-7004	05 23 14.9 -70 04 12 280.8, -32.9			0.002 (0.1-2.4 keV) [88]	
Pos. (x 9.9"): [88]; src 1071 in [88]; classified X-ray binary: [88, 123, 197].					
RX J0524.2-6620	05 24 12.7 -66 20 50 276.4, -33.4			0.0078 (0.1-2.4 keV) [88]	
Pos. (x 7.0"): [88]; src No. 305 in [88]; classified X-ray binary: [88, 123, 197]; in the eastern HI shell of the supergiant shell LMC 4: [123].					
RX J0527.1-7005	05 27 07.9 -70 05 00 280.8, -32.5			0.0025 (0.1-2.4 keV) [88]	