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Table 1. X-ray data for our sample. Listed are all X-ray sources detected in the ROSAT All-Sky Survey (sorted by right ascension), studied optically in this work. We list ROSAT source designation (X-ray positions can be obtained from data in Table 2), number of counts in the broad ROSAT band with errors, exposure time, hardness ratios with errors, the maximum likelihood of existence ML, the emission energy (typical error being ± 0.55 keV), the absorbing foreground column density (typical error ± 0.77, in $\log(N_{\rm H})$ cm^{-2}), and finally the X-ray flux (typical error $\pm 1.87\,10^{-13}$erg s^{-1}cm^{-2})

designation	counts	exp (s)	$HR1$	$HR2$	ML	k$T_{\rm X}$ (keV)	$\log(N_{\rm H})$ (cm^{-2})	$f_{\rm X}/10^{-13}$ (erg s^{-1} cm^{-2})
RXJ0207.0−1407	7.1±3.3	442.1	1.00±0.21	0.69±0.31	14.3	1.14	22.00	19.56
RXJ0209.1−1536	16.3±5.5	444.2	0.95±0.49	-0.09±0.35	21.8	0.72	20.85	5.17
RXJ0210.4−1308	21.5±7.3	548.2	0.35±0.31	0.20±0.39	17.7	1.07	18.10	3.53
RXJ0212.3−1330	17.9±6.8	556.2	0.20±0.38	0.23±0.45	10.9	1.22	18.00	2.98
RXJ0215.0−1402	9.9±4.5	529.3	0.67±0.38	0.43±0.53	12.4	1.67	20.35	3.06
RXJ0218.6−1004	17.9±5.6	486.2	1.00±0.12	-0.04±0.31	21.7	0.58	21.55	11.53
RXJ0219.4−1321	11.6±4.7	523.8	0.92±0.63	-0.03±0.40	12.3	0.81	20.60	2.76
RXJ0219.7−1026	46.2±9.4	530.5	0.49±0.19	0.46±0.19	53.1	1.70	20.10	12.16
RXJ0220.4−1305	15.8±6.5	506.5	0.07±0.45	-0.23±0.25	10.5	0.39	18.00	2.31
RXJ0223.3−1615	8.6±4.1	532.1	1.00±0.22	0.18±0.46	9.6	0.57	21.85	21.09
RXJ0229.5−1224	12.3±5.0	516.4	0.60±0.35	0.41±0.37	12.8	1.68	20.25	3.70
RXJ0237.3−0527	9.2±4.5	279.4	0.22±0.48	0.44±0.68	7.7	1.63	19.45	3.60
RXJ0239.1−1028	6.5±3.3	326.0	0.33±0.51	0.26±0.24	12.7	1.15	18.90	1.91
RXJ0243.9−0850	8.3±4.5	341.7	0.44±0.44	0.55±0.74	7.5	1.67	20.00	3.22
RXJ0248.3−1117	8.0±4.3	418.7	0.16±0.28	0.01±0.38	7.7	1.15	18.00	1.76
RXJ0251.8−0203	8.5±3.9	325.7	0.43±0.43	0.09±0.46	12.6	0.96	18.00	2.28
RXJ0254.8−0709	10.4±4.4	329.7	0.70±0.32	0.76±0.26	15.7	1.94	21.80	20.03
RXJ0255.8−0750	8.7±4.3	330.5	0.89±0.80	0.30±0.42	10.0	1.17	20.60	4.15
RXJ0309.1+0324	28.5±7.2	614.3	0.81±0.19	0.39±0.24	38.1	1.39	20.50	7.75
RXJ0312.8−0414	34.0±7.9	424.7	0.64±0.20	0.07±0.23	43.4	0.93	19.70	8.31
RXJ0314.8−0406	6.7±3.9	465.8	1.00±0.29	0.46±0.48	8.5	0.76	22.00	24.47
RXJ0317.9+0231	14.3±5.6	541.9	1.00±0.16	-0.01±0.39	12.2	0.58	21.60	10.67
RXJ0319.3+0003	8.7±4.4	603.2	1.00±0.26	-0.10±0.51	8.8	0.55	21.45	4.66
RXJ0324.4+0231	21.7±7.1	461.1	0.36±0.34	0.15±0.38	16.6	1.03	18.00	4.23
RXJ0329.1+0118	11.9±4.9	637.8	1.00±0.14	0.50±0.35	12.5	0.83	22.00	28.73
RXJ0330.7+0306	54.4±9.8	737.7	1.00±0.04	0.05±0.18	54.9	0.59	21.70	40.64
RXJ0333.0+0354	9.9±4.5	634.2	1.00±0.22	0.57±0.46	10.5	0.94	22.00	21.98
RXJ0333.1+1036	20.3±6.2	564.3	0.36±0.25	0.48±0.26	30.8	1.66	19.85	4.55
RXJ0336.0+0846	8.7±4.0	543.0	0.78±0.85	-0.26±0.44	10.7	0.51	20.30	1.72
RXJ0338.1+1224	8.3±4.2	555.1	1.00±0.23	0.25±0.50	10.0	0.60	21.90	18.40
RXJ0338.3+1020	13.2±4.8	529.8	1.00±0.16	0.17±0.35	15.1	0.64	21.80	19.04
RXJ0339.6+0624	8.6±4.1	569.3	1.00±0.20	0.47±0.40	9.7	0.78	22.00	24.42
RXJ0340.3+1220	26.9±6.6	517.6	0.85±0.17	-0.18±0.25	49.3	0.64	20.35	5.77
RXJ0340.5+0639	5.3±2.9	522.8	1.00±0.26	0.26±0.25	9.8	0.61	21.90	12.48
RXJ0341.2+0453	37.6±8.2	538.1	1.00±0.04	0.26±0.21	56.6	0.63	21.90	81.67
RXJ0341.2+0759	8.1±3.9	567.9	1.00±0.23	0.19±0.47	8.3	0.59	21.85	17.56
RXJ0343.6+1039	17.5±6.0	555.3	0.89±0.30	0.60±0.24	21.0	2.02	21.45	11.78
RXJ0344.8+0359	25.5±6.9	529.7	0.88±0.13	-0.15±0.29	29.0	0.67	20.45	5.55
RXJ0347.2+0933	16.1±5.4	527.6	0.58±0.28	0.85±0.16	19.9	2.02	22.00	32.54
RXJ0347.9+0616	8.6±4.0	466.0	1.00±0.24	0.43±0.19	11.3	0.70	22.00	33.14
RXJ0348.2+1109	23.8±6.5	471.2	0.30±0.28	-0.07±0.32	29.7	0.93	18.00	4.41
RXJ0348.5+0832	23.3±6.4	486.9	0.92±0.23	-0.28±0.29	30.6	0.44	20.80	6.81
RXJ0349.4+1255	19.7±5.7	479.3	0.81±0.35	-0.25±0.29	42.5	0.53	20.35	4.56
RXJ0350.2+0849	6.6±3.3	470.2	1.00±0.24	0.07±0.51	11.8	0.61	21.70	7.74
RXJ0350.6+0454	7.4±3.7	488.1	1.00±0.23	0.09±0.50	11.6	0.58	21.75	12.09
RXJ0350.6+1033	12.5±5.3	569.5	1.00±0.17	0.51±0.33	9.4	0.85	22.00	33.80
RXJ0351.4+0953	11.8±4.9	491.4	0.90±0.24	-0.25±0.42	8.8	0.51	20.65	2.95
RXJ0351.8+0413	6.5±3.3	441.1	1.00±0.25	-0.10±0.52	9.2	0.55	21.45	4.77
RXJ0352.4+1223	11.8±4.8	522.4	1.00±0.18	-0.00±0.42	13.3	0.55	21.65	9.48
RXJ0354.1+0528	7.4±4.1	535.0	1.00±0.26	0.55±0.19	7.6	0.91	22.00	20.34

Table 1. Continued

designation	counts	exp (s)	$HR1$	$HR2$	ML	kT_X (keV)	log(N_H) (cm^{-2})	$f_X/10^{-13}$ (erg s^{-1} cm^{-2})
RXJ0354.3+0535	19.2±6.1	536.7	1.00±0.11	0.42±0.31	24.7	0.69	22.00	64.23
RXJ0354.4+1204	8.2±3.9	474.2	0.58±0.39	1.00±1.00	13.2	1.62	20.20	2.53
RXJ0354.8+1232	16.6±5.9	505.8	0.81±0.33	-0.11±0.36	18.3	0.73	20.15	3.42
RXJ0356.7+0943	10.3±5.1	507.5	0.60±0.39	-0.40±0.42	9.1	0.32	20.35	2.80
RXJ0357.3+1258	17.9±6.1	486.0	0.65±0.24	-0.39±0.30	15.9	0.33	20.40	4.63
RXJ0358.1+0932	27.6±6.9	467.6	0.86±0.22	0.57±0.20	42.7	2.02	21.35	19.43
RXJ0400.0+0730	10.0±4.1	459.9	1.00±0.15	0.61±0.33	14.9	1.00	22.00	29.38
RXJ0400.1+0818	169.6±16.6	450.7	0.27±0.10	0.17±0.12	298.5	1.11	18.00	34.22
RXJ0400.8+1116	15.7±5.7	494.8	1.00±0.15	-0.05±0.38	13.4	0.56	21.55	10.26
RXJ0402.5+0552	18.2±5.8	414.1	0.68±0.27	0.24±0.37	19.5	1.11	20.05	5.37
RXJ0403.5+0837	20.2±6.2	480.6	1.00±0.09	0.56±0.25	22.3	0.93	22.00	59.17
RXJ0404.4+0519	20.3±5.6	413.6	1.00±0.06	-0.06±0.28	41.8	0.57	21.55	15.87
RXJ0405.5+0324	34.2±7.8	445.4	1.00±0.04	0.03±0.23	54.4	0.57	21.70	44.18
RXJ0407.2+0113	10.1±4.1	421.0	1.00±0.16	0.35±0.39	13.0	0.52	22.00	56.03
RXJ0407.6+0638	19.2±6.4	474.5	1.00±0.08	-0.25±0.34	16.3	0.46	21.30	9.69
RXJ0408.6+1017	5.9±3.4	375.6	1.00±0.25	0.53±0.43	8.0	0.88	22.00	23.10
RXJ0408.8+1028	106.0±13.6	387.9	0.52±0.11	0.24±0.14	159.7	1.11	19.65	29.51
RXJ0409.8+1209	10.5±5.1	357.3	0.76±0.65	0.30±0.23	7.7	1.19	20.30	4.21
RXJ0410.6+0608	8.7±3.9	395.1	1.00±0.19	0.08±0.46	10.1	0.56	21.75	18.47
RXJ0413.2+1028	13.0±4.6	374.5	1.00±0.01	0.56±0.11	20.0	0.97	22.00	48.87
RXJ0418.6+0143	9.2±4.5	411.3	0.52±0.40	0.46±0.39	8.2	1.61	20.10	3.11
RXJ0419.8+0214	17.3±6.1	404.5	1.00±0.12	0.11±0.35	13.6	0.62	21.75	34.11
RXJ0419.9+0231	47.7±9.7	385.4	1.00±0.04	0.06±0.18	12.5	0.61	21.70	7.69
RXJ0422.9+0141	15.4±5.9	444.8	0.90±0.25	0.50±0.33	10.1	1.78	20.85	7.51
RXJ0423.5+0955	33.9±8.8	577.2	0.01±0.26	-0.00±0.35	22.9	2.02	18.00	5.54
RXJ0425.5+1210	21.3±6.2	641.0	1.00±0.08	-0.09±0.29	23.5	0.55	21.50	10.75
RXJ0426.4+0957	16.3±5.6	657.7	1.00±0.12	-0.09±0.34	18.6	0.54	21.50	8.01
RXJ0427.4+1039	20.6±6.3	654.3	1.00±0.10	0.62±0.25	23.3	1.02	22.00	42.55
RXJ0427.5+0616	67.2±11.4	612.2	0.37±0.16	-0.06±0.20	75.5	0.90	18.00	9.45
RXJ0427.8+0049	17.8±6.0	495.9	0.84±0.23	-0.05±0.34	17.7	0.80	20.25	4.04
RXJ0429.9+0155	15.1±5.1	534.7	1.00±0.11	0.33±0.30	18.5	0.63	21.95	53.69
RXJ0433.7+0522	15.1±6.3	817.3	1.00±0.18	0.31±0.39	10.2	0.59	21.95	37.34
RXJ0434.3+0226	33.6±8.1	775.6	1.00±0.04	0.11±0.24	39.0	0.56	21.80	36.33
RXJ0435.5+0455	19.6±6.0	746.2	1.00±0.08	0.37±0.26	25.4	0.58	22.00	53.09
RXJ0441.9+0537	96.3±13.6	582.9	1.00±0.01	0.50±0.12	123.1	0.89	22.00	242.90
RXJ0442.3+0118	19.8±7.1	528.9	0.27±0.44	0.34±0.43	14.1	1.31	19.15	3.76
RXJ0442.5+0906	22.0±6.4	532.0	0.36±0.28	-0.03±0.29	24.2	0.91	18.00	3.56
RXJ0442.6+1018	83.9±12.0	537.8	0.90±0.07	0.07±0.14	142.0	0.91	20.55	19.83
RXJ0442.9+0400	17.4±5.9	532.6	1.00±0.11	0.11±0.34	21.3	0.62	21.75	26.06
RXJ0444.3+0941	62.2±10.4	568.1	0.58±0.14	0.11±0.17	95.5	0.97	19.55	10.84
RXJ0444.4+0725	12.6±4.9	514.6	1.00±0.15	-0.30±0.39	12.6	0.35	21.30	7.16
RXJ0444.7+0814	18.9±6.6	571.0	0.58±0.33	0.32±0.35	19.2	1.25	20.00	4.27
RXJ0445.2+0729	10.1±5.0	568.8	1.00±0.21	0.19±0.46	8.0	0.59	21.85	21.86
RXJ0445.3+0914	9.5±4.7	600.6	1.00±0.21	0.43±0.51	8.9	0.70	22.00	28.40
RXJ0445.5+1207	9.4±4.4	617.3	0.78±0.50	0.60±0.40	11.6	2.02	21.40	5.01
RXJ0448.0+0738	88.8±12.8	535.0	0.28±0.14	-0.13±0.18	93.9	0.44	18.00	12.52
RXJ0450.0+0151	20.6±6.3	535.6	0.95±0.21	-0.08±0.31	21.1	0.74	20.80	5.16
RXJ0451.6+0619	9.5±4.3	558.8	1.00±0.18	-0.04±0.45	8.9	0.58	21.55	5.33
RXJ0459.9+1017	29.4±7.7	603.5	1.00±0.05	0.32±0.23	27.8	0.62	21.95	98.47
RXJ0511.2+1031	18.4±6.4	661.5	1.00±0.13	0.26±0.37	15.7	0.62	21.90	34.24
RXJ0511.9+1112	12.9±4.8	618.1	0.71±0.36	0.29±0.37	12.8	1.18	20.20	2.87
RXJ0512.0+1020	23.6±6.7	651.2	0.78±0.21	0.13±0.29	23.4	0.99	20.20	4.46
RXJ0513.6+0955	9.2±3.9	593.2	0.43±0.42	-0.45±0.17	14.4	0.29	20.25	1.98

Table 1. Continued

designation	counts	exp (s)	$HR1$	$HR2$	ML	kT_X (keV)	log(N_H) (cm^{-2})	$f_X/10^{-13}$ (erg s^{-1} cm^{-2})
RXJ0515.3+1221	27.5±7.9	690.5	0.57±0.24	-0.07±0.30	24.4	0.79	19.05	3.46
RXJ0516.3+1148	24.9±7.3	658.6	0.98±0.24	-0.03±0.29	23.8	0.54	21.60	15.87
RXJ0523.0+0934	8.3±4.1	429.6	0.74±0.52	-0.25±0.51	8.0	0.54	20.15	1.92
RXJ0523.5+1005	28.7±6.9	466.5	0.93±0.15	0.15±0.22	49.7	0.98	20.70	9.10
RXJ0523.9+1101	6.8±3.3	498.8	0.28±0.40	-0.10±0.24	16.2	0.78	18.00	1.14
RXJ0525.7+1205	15.6±6.3	846.4	1.00±0.15	0.62±0.13	9.9	1.02	22.00	24.91
RXJ0528.4+1213	33.8±7.9	661.9	1.00±0.05	0.06±0.23	43.3	0.61	21.70	28.14
RXJ0528.5+1219	11.0±4.4	626.0	0.66±0.29	0.30±0.37	17.0	1.19	20.10	2.32
RXJ0528.9+1046	13.2±5.0	639.2	1.00±0.16	0.64±0.25	21.4	1.05	22.00	26.86
RXJ0529.3+1210	23.2±6.9	631.9	0.15±0.29	0.03±0.42	24.2	1.20	18.00	3.40
RXJ0530.9+1227	28.2±7.5	693.4	1.00±0.06	0.34±0.25	23.2	0.51	22.00	94.99
RXJ0531.8+1218	10.5±4.8	688.5	0.61±0.30	-0.02±0.46	7.9	0.84	19.40	1.42

Table 2. Closest optical counterparts. Listed is the closest optical counterpart to each X-ray source in Table 1. We list designation (as in Table 1, but with indications of the particular counterpart meant here, if several counterparts have been observed), optical position (for J 2000.0) from the GSC (or Simbad if available), offset between X-ray and optical position, V magnitude from the GSC (or Simbad as indicated by colons if available), X-ray to optical flux ratio, discrimination probability P, and remarks. Note that some GSC counterparts appear on several GSC plates which may have different colors and different filters; we have always chosen the closest counterpart, i.e. we neither try to average the magnitudes nor indicate the plate color as GSC magnitudes are very uncertain anyway (about half a magnitude)

designation	α (opt.)	δ (opt.)	$\Delta\alpha('')$	$\Delta\delta('')$	V	$\log(f_X/f_V)$	P	remarks
RXJ0207.0-1407	2 07 02.94	-14 06 52.0	-33.0	-5.8	15.1	-0.83	0.65	
RXJ0209.1-1536	2 09 06.70	-15 35 43.0	-3.6	0.7	13.0	-1.32	0.81	
RXJ0210.4-1308NE	2 10 25.84	-13 07 57.0	3.0	4.9	10.5	-2.29	0.76	
RXJ0212.3-1330	2 12 18.72	-13 30 42.1	17.6	-17.3	11.4	-2.01	0.65	
RXJ0215.0-1402	2 15 00.45	-14 01 31.9	13.8	31.9	15.1	-0.77	0.54	
RXJ0218.6-1004	2 18 39.54	-10 04 05.0	-12.3	6.3	11.8	-1.79	0.81	
RXJ0219.4-1321B	2 19 25.30	-13 21 06.6	9.6	-12.0	14.8	-0.81	0.65	
RXJ0219.7-1026	2 19 47.38	-10 25 39.9	-9.3	6.9	11.6	-1.50	0.70	
RXJ0220.4-1305	2 20 28.34	-13 05 23.9	0.5	-18.8	14.6	-0.75	0.27	
RXJ0223.3-1615NE	2 23 21.41	-16 14 20.9	-5.3	12.8	13.4	-1.51	0.86	
RXJ0229.5-1224	2 29 35.05	-12 24 08.8	13.0	-13.6	9.9:	-2.74	0.54	HD 15526
RXJ0237.3-0527	2 37 19.85	-05 26 54.1	4.6	7.6	13.3	-1.24	0.54	
RXJ0239.1-1028	2 39 08.72	-10 27 44.1	-0.6	2.7	13.2	-1.50	0.65	
RXJ0243.9-0850	2 43 52.29	-08 49 30.3	18.3	14.2	12.9	-1.53	0.59	
RXJ0248.3-1117	2 48 22.16	-11 17 12.3	25.8	6.4	12.0	-2.00	0.65	
RXJ0251.8-0203	2 51 48.47	-02 03 38.1	11.1	-8.9	12.7	-1.58	0.76	
RXJ0254.8-0709SE	2 54 52.43	-07 09 24.2	4.7	5.8	14.5	-0.78	0.59	
RXJ0255.8-0750S	2 55 52.63	-07 50 39.0	-3.4	-15.3	14.0	-1.06	0.81	
RXJ0309.1+0324N	3 09 09.86	03 23 44.4	25.7	5.6	10.2	-2.33	0.59	
RXJ0312.8-0414NW	3 12 50.43	-04 14 08.1	20.8	-18.4	9.9	-2.22	0.76	
RXJ0314.8-0406	3 14 50.70	-04 05 56.4	-14.6	-5.5	14.4	-1.16	0.70	
RXJ0317.9+0231	3 17 59.18	02 30 12.9	11.6	32.9	11.0	-2.26	0.70	
RXJ0319.3+0003	3 19 22.53	00 02 32.4	-0.2	17.6	9.2:	-3.24	0.27	SAO 130417, (1)
RXJ0324.4+0231	3 24 25.22	02 31 01.2	3.6	-7.7	12.4	-1.45	0.65	
RXJ0329.1+0118	3 29 08.01	01 18 05.3	-15.0	11.4	10.7	-2.52	0.65	
RXJ0330.7+0306N	3 30 43.45	03 05 47.9	12.4	2.6	10.9	-1.86	0.81	
RXJ0333.0+0354	3 33 01.54	03 53 38.4	3.0	14.9	13.3	-1.55	0.70	
RXJ0333.1+1036	3 33 11.62	10 35 56.3	-9.6	9.8	11.7	-1.84	0.65	
RXJ0336.0+0846	3 36 00.32	08 45 35.7	15.4	0.6	12.4	-1.94	0.76	
RXJ0338.1+1224	3 38 09.04	12 23 53.1	16.6	0.6	10.9	-2.55	0.65	
RXJ0338.3+1020	3 38 18.21	10 20 17.1	21.6	-6.2	11.0	-2.30	0.70	
RXJ0339.6+0624	3 39 40.57	06 24 43.1	13.5	-17.3	11.3	-2.38	0.70	
RXJ0340.3+1220	3 40 19.26	12 20 18.0	-1.4	-0.3	12.5	-1.36	0.76	
RXJ0340.5+0639	3 40 31.48	06 39 00.3	-15.4	11.8	13.2	-1.79	0.81	
RXJ0341.2+0453	3 41 14.30	04 53 25.4	3.2	-11.0	15.2	-0.17	0.70	
RXJ0341.2+0759	3 41 14.36	07 59 33.1	7.1	-3.7	10.7	-2.65	0.70	
RXJ0343.6+1039	3 43 40.51	10 39 14.0	-1.9	-9.3	10.2	-2.50	0.65	
RXJ0344.8+0359	3 44 53.15	03 59 30.9	9.0	5.6	12.3	-1.50	0.81	
RXJ0347.2+0933SW	3 47 14.25	09 32 53.0	21.5	-1.4	13.4	-1.24	0.65	
RXJ0347.9+0616	3 47 56.81	06 16 07.0	19.1	-4.8	11.0	-2.40	0.70	
RXJ0348.2+1109	3 48 16.50	11 08 41.0	-4.6	-0.8	10.1:	-2.34	0.70	HD 23793 B, (2)
RXJ0348.5+0832	3 48 31.42	08 31 37.5	15.9	-7.5	10.9	-2.04	0.76	
RXJ0349.4+1255N	3 49 27.85	12 54 41.4	-6.5	6.1	9.1:	-2.83	0.65	BD+12 511
RXJ0350.2+0849	3 50 12.91	08 49 34.0	-4.5	-6.1	12.1	-2.09	0.81	
RXJ0350.6+0454	3 50 41.72	04 53 44.7	-28.8	-3.4	15.2	-0.82	0.76	
RXJ0350.6+1033	3 50 40.80	10 32 51.1	-9.3	19.9	10.1	-2.70	0.59	
RXJ0351.4+0953W	3 51 26.30	09 53 37.0	2.6	-16.5	12.6	-1.23	0.65	
RXJ0351.8+0413	3 51 49.40	04 13 30.7	-16.5	-12.3	13.5	-1.51	0.81	
RXJ0352.4+1223	3 52 24.68	12 22 44.2	-4.2	-6.9	9.5:	-2.93	0.59	BD+11 533

Table 2. Continued

designation	α (opt.)	δ (opt.)	$\Delta\alpha('')$	$\Delta\delta('')$	V	$\log(f_X/f_V)$	P	remarks
RXJ0354.1+0528	3 54 06.58	05 27 23.7	11.3	20.8	11.9	-2.18	0.70	
RXJ0354.3+0535	3 54 21.28	05 35 40.9	-0.5	-14.2	10.1	-2.51	0.54	
RXJ0354.4+1204	3 54 25.15	12 04 07.9	-3.3	-14.9	11.2	-2.36	0.70	
RXJ0354.8+1232	3 54 50.70	12 32 06.4	4.9	10.7	12.9	-1.40	0.81	
RXJ0356.7+0943	3 56 45.51	09 43 39.4	-4.0	-13.2	13.3	-1.44	0.70	
RXJ0357.3+1258	3 57 21.34	12 58 17.3	3.8	3.6	10.9	-2.16	0.70	
RXJ0358.1+0932	3 58 12.62	09 32 21.6	-13.5	-2.1	12.2	-1.42	0.70	
RXJ0400.0+0730	4 00 01.14	07 30 10.4	-0.7	4.0	12.2	-1.86	0.65	
RXJ0400.1+0818N	4 00 09.37	08 18 19.3	6.6	4.0	9.9:	-1.54	0.65	BD+07 582B, (3)
RXJ0400.8+1116	4 00 53.92	11 15 27.8	-25.2	21.9	13.8	-1.07	0.70	
RXJ0402.5+0552	4 02 35.68	05 51 36.0	-18.0	14.5	10.9	-2.08	0.70	
RXJ0403.5+0837	4 03 29.69	08 37 14.2	35.6	4.7	12.6	-1.42	0.76	
RXJ0404.4+0519	4 04 28.48	05 18 43.7	-5.1	4.0	10.9	-2.02	0.81	
RXJ0405.5+0324	4 05 30.24	03 23 50.4	-2.1	6.5	11.5	-1.61	0.81	
RXJ0407.2+0113N	4 07 16.49	01 13 14.5	15.2	-4.3	10.5	-2.50	0.54	
RXJ0407.6+0638	4 07 37.26	06 38 45.2	9.5	-23.1	14.8	-0.56	0.54	
RXJ0408.6+1017	4 08 39.90	10 17 32.6	-13.5	-26.8	12.6	-1.84	0.65	
RXJ0408.8+1028	4 08 49.57	10 27 50.0	-3.8	-4.3	8.9:	-2.08	0.70	HD 26172
RXJ0409.8+1209	4 09 51.54	12 09 02.3	22.0	-7.6	12.0	-1.81	0.65	HD 286556
RXJ0410.6+0608	4 10 39.66	06 08 38.9	-22.2	-19.8	12.9	-1.56	0.86	
RXJ0413.2+1028	4 13 14.66	10 28 01.1	-10.7	-14.7	14.9	-0.56	0.65	
RXJ0418.6+0143	4 18 39.27	01 42 10.5	13.5	29.9	12.3	-1.83	0.59	
RXJ0419.8+0214	4 19 49.92	02 13 43.5	-13.8	-11.3	14.6	-0.61	0.76	
RXJ0419.9+0231	4 19 59.60	02 30 30.6	-11.5	24.1	13.6	-0.54	0.76	
RXJ0422.9+0141	4 22 54.61	01 41 32.1	22.5	-17.7	12.3	-1.63	0.70	
RXJ0423.5+0955	4 23 30.28	09 54 30.0	10.6	13.8	11.6	-1.66	0.49	
RXJ0425.5+1210	4 25 35.30	12 10 00.0	-6.3	-0.5	10.4	-2.40	0.65	HD 286753
RXJ0426.4+0957W	4 26 26.77	09 56 59.7	11.6	-3.4	12.0	-1.91	0.81	
RXJ0427.4+1039	4 27 30.29	10 38 48.9	-11.1	1.7	11.3	-2.05	0.65	
RXJ0427.5+0616	4 27 32.07	06 15 52.1	0.4	1.8	10.6	-1.80	0.76	
RXJ0427.8+0049	4 27 52.84	00 49 25.9	-5.5	3.3	9.0:	-2.92	0.22	BD+00 760, (4)
RXJ0429.9+0155	4 29 56.94	01 54 48.9	0.8	12.0	11.1	-2.19	0.70	
RXJ0433.7+0522	4 33 46.09	05 22 09.1	18.8	-16.6	15.3	-0.71	0.81	
RXJ0434.3+0226	4 34 19.51	02 26 26.1	5.8	2.1	13.3	-1.12	0.86	
RXJ0435.5+0455	4 35 31.56	04 55 32.3	-8.9	-12.6	9.7	-2.78	0.49	
RXJ0441.9+0537	4 41 57.64	05 36 34.3	0.3	7.3	10.2:	-1.78	0.70	BD+05 706
RXJ0442.3+0118	4 42 18.61	01 17 39.9	8.9	3.5	11.2	-2.03	0.70	
RXJ0442.5+0906	4 42 31.94	09 06 01.7	-16.5	10.1	10.6:	-1.94	0.76	BD+08 742
RXJ0442.6+1018	4 42 40.81	10 17 44.8	-3.6	3.3	8.2	-2.59	0.65	
RXJ0442.9+0400	4 42 54.69	04 00 11.7	9.6	1.7	10.9	-2.21	0.70	
RXJ0444.3+0941	4 44 20.21	09 41 06.8	1.5	0.3	8.6:	-2.60	0.65	HD 287017
RXJ0444.4+0725	4 44 27.16	07 24 59.8	-9.3	8.7	13.7	-1.22	0.65	
RXJ0444.7+0814	4 44 45.44	08 13 47.6	-20.1	4.5	11.8	-1.86	0.70	
RXJ0445.2+0729	4 45 13.18	07 29 17.7	-9.9	10.4	12.2	-1.97	0.81	
RXJ0445.3+0914	4 45 23.81	09 13 47.8	-4.9	-13.0	11.8	-2.15	0.65	
RXJ0445.5+1207	4 45 36.49	12 07 51.1	-7.4	-22.4	12.9	-1.74	0.76	
RXJ0448.0+0738	4 48 00.86	07 37 56.9	-5.6	-7.0	11.2	-1.40	0.70	
RXJ0450.0+0151	4 50 04.68	01 50 43.1	17.0	13.2	12.2	-1.63	0.86	
RXJ0451.6+0619	4 51 41.51	06 19 20.6	-12.4	-18.1	12.8	-1.73	0.86	
RXJ0459.9+1017	4 59 54.95	10 17 18.2	-12.6	0.9	14.4	-0.62	0.76	
RXJ0511.2+1031	5 11 15.98	10 30 36.0	-1.2	8.9	14.0	-1.02	0.86	
RXJ0511.9+1112	5 12 00.30	11 12 19.8	-9.5	-14.1	11.4	-2.21	0.65	
RXJ0512.0+1020	5 12 03.21	10 20 06.8	-7.5	5.3	11.3	-1.99	0.76	
RXJ0513.6+0955	5 13 40.44	09 54 50.7	-13.5	2.3	12.0	-2.08	0.65	

Table 2. Continued

designation	α (opt.)	δ (opt.)	$\Delta\alpha('')$	$\Delta\delta('')$	V	$\log(f_X/f_V)$	P	remarks
RXJ0515.3+1221	5 15 20.55	12 21 14.1	12.6	-1.1	11.6	-1.84	0.81	
RXJ0516.3+1148	5 16 21.52	11 47 47.3	5.3	-3.2	12.4	-1.53	0.86	
RXJ0523.0+0934	5 23 04.65	09 34 01.0	-25.2	5.0	10.4	-2.64	0.76	
RXJ0523.5+1005	5 23 33.72	10 04 29.8	-1.5	-11.1	11.2	-1.81	0.76	
RXJ0523.9+1101	5 23 57.04	11 00 57.5	-26.4	15.9	10.8	-2.62	0.70	
RXJ0525.7+1205SE	5 25 47.21	12 04 10.2	0.6	36.3	14.1	-1.17	0.65	
RXJ0528.4+1213	5 28 25.74	12 12 36.1	-4.9	5.9	11.5	-1.77	0.81	
RXJ0528.5+1219	5 28 35.19	12 19 04.0	1.8	10.1	12.7	-1.77	0.70	
RXJ0528.9+1046	5 28 58.50	10 45 37.9	-7.9	-0.1	12.7	-1.71	0.76	
RXJ0529.3+1210	5 29 18.97	12 09 29.7	-4.6	3.6	12.9	-1.36	0.54	
RXJ0530.9+1227	5 30 57.23	12 27 26.8	27.3	0.4	10.7	-2.19	0.70	
RXJ0531.8+1218	5 31 47.77	12 18 08.1	16.4	12.8	12.1	-2.06	0.81	

Remarks: (1) Not listed in the GSC; (2) HD 23793 B (F5V) and the early-type star HR 1174 (B3) are an optical pair with 9$''$ separation (Lindroos 1986); the later type star is more likely to be the true optical counterpart of the X-ray source (e.g. Schmitt et al. 1993); (3) Companion N is an unresolved binary itself; (4) Not listed in the GSC.

Table 3. Other optical counterparts observed. Listed are optical counterparts other than those in Table 2, but which have also been observed by us. We list designation (as in Table 1, but with indications regarding the particular counterpart listed here), approximate optical position (for J 2000.0), a remark regarding its position relative to the counterpart listed in Table 2, approximate V magnitude, and remarks. The source for optical positions, V magnitudes, and remarks are either GSC, Simbad, or visual inspection of plates

designation	α (opt.)	δ (opt.)	rel. pos.	V	remarks
RXJ0210.4−1308SW	2 10 26	-13 07 56	2$''$ southwest of NE	12.5	
RXJ0219.4−1321A	2 20 29	-13 20 25	60$''$ northeast of B	13	
RXJ0219.4−1321C	2 19 25	-13 21 47	40$''$ south of B	15.5	
RXJ0223.3−1615SW	2 23 25	-16 14 31	10$''$ southwest of NE	13.5	
RXJ0254.8−0709NW	2 54 53	-07 09 20	6$''$ northwest of SE	15.5	
RXJ0255.8−0750N	2 55 52	-07 50 29	10$''$ north of S	15.5	
RXJ0309.1+0324S	3 09 10	03 23 42	2$''$ south of N	11	
RXJ0312.8−0414SE	3 12 51	-04 14 19	14$''$ southeast of NW	10.5	
RXJ0330.7+0306S	3 30 43	03 05 18	30$''$ south of N	15	
RXJ0347.2+0933NE	3 47 17	09 33 08	40$''$ northeast of SW	12	
RXJ0349.4+1255S	3 49 28	12 54 28	14$''$ south of N	10	BD+12 511B
RXJ0351.4+0953E	3 51 28	09 53 34	25$''$ east of W	13.7	
RXJ0400.1+0818S	4 00 09	08 18 15	4$''$ south of N	10	BD+07 582
RXJ0407.2+0113S	4 07 16	01 13 12	2$''$ south of N	12	
RXJ0426.4+0957E	4 27 30	09 57 00	45$''$ east of W	11.5	also in GSC
RXJ0525.7+1205NW	5 25 44	12 04 30	45$''$ northwest of SE	14.5	

Table 4. Results of medium-resolution spectroscopy of all potential counterparts to RASS X-ray sources. Listed are source designation, the telescope used to observe the star (INT for the Isaac Newton Telescope, ESO for the ESO 1.52m telescope), Hα equivalent width (negative when in emission, 'f' indicates that $H\alpha$ emission is filling in the absorption line, 'abs' for absorption without available equivalent width), lithium 6708Å absorption equivalent width (colons indicate large uncertainty), spectral type (always luminosity class V unless otherwise noted), nature of object (see text), and remarks (e.g. 'SB' for spectroscopic binaries or '(N95c)' if mentioned in Neuhäuser et al. 1995c)

designation	tel.	$W_\lambda(H\alpha)$ (Å)	W_λ(Li) (Å)	SpType	nature	remarks
RXJ0207.0−1407	INT	3.3	no	F8	non-PMS	
RXJ0209.1−1536	INT	-1.2	no	K4	dKe	
RXJ0210.4−1308SW	INT	-0.12	no	K3	dKe	2″ sep.
RXJ0210.4−1308NE	INT	3.5	no	G5	non-PMS	2″ sep.
RXJ0212.3−1330	INT	1.2	no	K1	non-PMS	
RXJ0215.0−1402	INT	1.15	no	K4	non-PMS	maybe K3 III
RXJ0218.6−1004	INT	1.6	no	G8	non-PMS	SB
RXJ0219.4−1321C	ESO	abs	no	G0	non-PMS	
RXJ0219.4−1321B	ESO	0.60 f	no	M0	dMe	
RXJ0219.4−1321A	ESO	-4.30	no	M3	dMe	
RXJ0219.7−1026	INT	-0.25	0.1:	K4	PMS?	(N95c), (1)
RXJ0220.4−1305	INT	5.7	no	F0?	non-PMS	
RXJ0223.3−1615SW	ESO	-0.8	no	K7	dKe	10″ sep.
RXJ0223.3−1615NE	ESO	2.1	no	G7	non-PMS	10″ sep.
RXJ0229.5−1224	ESO	2.6	0.28	G8	PMS	HD 15526
RXJ0237.3−0527	INT	-0.30	no	K5	dKe	(N95c)
RXJ0239.1−1028	INT	-0.35	no	K7-M0	dKe	SB
RXJ0243.9−0850	ESO	0.50 f	no	M2	dMe	
RXJ0248.3−1117	INT	2.1	no	G7	non-PMS	
RXJ0251.8−0203	INT	-0.60	no	K6	dKe	(N95c)
RXJ0254.8−0709NW	INT	-4.2	no	M5	dMe	3″ sep.
RXJ0254.8−0709SE	INT	-2.2	no	M3	dMe	3″ sep.
RXJ0255.8−0750N	INT	-0.7	0.2:	M5	PMS?	10″ sep.
RXJ0255.8−0750S	INT	-0.2	no	K7-M0	dKe	10″ sep., SB
RXJ0309.1+0324N	INT	3.6	no	F7	non-PMS	2″ sep.
RXJ0309.1+0324S	INT	1.7	no	G6	non-PMS	2″ sep.
RXJ0312.8−0414NW	ESO	3.5	0.2	G0	PMS	14″ sep.
RXJ0312.8−0414SE	ESO	2.5	0.3	G8	PMS	14″ sep.
RXJ0314.8−0406	INT	5.5	no	late A	non-PMS	
RXJ0317.9+0231	INT	1.4	no	G6	non-PMS	
RXJ0319.3+0003	ESO	4.4	no	G5	non-PMS	SAO 130417
RXJ0324.4+0231	INT	-0.40	0.33	K5	PMS	(N95c)
RXJ0329.1+0118	INT	4.0	0.13	G0	PMS?	(N95c)
RXJ0330.7+0306N	INT	1.1 f	no	K5	dKe	SB, (2)
RXJ0330.7+0306S	INT	1.0	no	K7	non-PMS	
RXJ0333.0+0354	INT	-2.4	0.2:	K7-M0	PMS?	(N95c)
RXJ0333.1+1036	INT	-0.8	0.32	K3	PMS	(N95c)
RXJ0336.0+0846	INT	-0.1	no	M3	dMe	
RXJ0338.1+1224	ESO	1.5	no	K0	non-PMS	
RXJ0338.3+1020	INT	2.0	0.25	G9	PMS	
RXJ0339.6+0624	INT	-0.1	0.13	G9	PMS?	(N95c)
RXJ0340.3+1220	INT	-1.1	no	K5	dKe	
RXJ0340.5+0639	ESO	1.6	no	K2	non-PMS	(3)
RXJ0341.2+0453	INT	3.2	no	G9	non-PMS	
RXJ0341.2+0759	ESO	3.2	no	K0	non-PMS	
RXJ0343.6+1039	INT	1.5	0.1	K0	PMS?	SB, (4)
RXJ0344.8+0359	INT	0.3 f	0.30	K3	PMS?	(N95c)
RXJ0347.2+0933SW	ESO	-0.40	0.4	K4	PMS	
RXJ0347.2+0933NE	ESO	2.00	0.1	G9	PMS?	
RXJ0347.9+0616	INT	2.6	0.2	G2	PMS	

Table 4. Continued

designation	tel.	$W_\lambda(H\alpha)$ (Å)	W_λ(Li) (Å)	SpType	nature	remarks
RXJ0348.2+1109	ESO	5.6	no	F5	non-PMS	HD 23793B
RXJ0348.5+0832	INT	-0.1	0.26	G7	PMS	(5)
RXJ0349.4+1255N	INT	2.5	no	G0	non-PMS	BD+12 511, 14″ sep.
RXJ0349.4+1255S	INT	2.0	no	G7	non-PMS	BD+12 511B, 14″ sep.
RXJ0350.2+0849	INT	-0.2	no	K5	dKe	SB
RXJ0350.6+0454	INT	-0.15	no	K7	dKe	SB
RXJ0350.6+1033	ESO	2.4	no	K0 III	non-PMS	
RXJ0351.4+0953W	INT	0.5 f	0.3	K1	PMS?	
RXJ0351.4+0953E	INT	2.0	no	F0	non-PMS	maybe F0 III
RXJ0351.8+0413	ESO	2.00	0.12	G6	PMS?	(3), (6)
RXJ0352.4+1223	ESO	3.7	0.10	G2	PMS?	BD+11 533
RXJ0354.1+0528	ESO	2.8	0.24	G8	PMS	(3)
RXJ0354.3+0535	INT	3.5	0.2	G1	PMS	(N95c)
RXJ0354.4+1204	ESO	3.9	no	G5	non-PMS	
RXJ0354.8+1232	INT	-1.7	no	K7	dKe	
RXJ0356.7+0943	INT	-2.7	no	M3	dMe	
RXJ0357.3+1258	INT	1.8	0.25	G0:	PMS	
RXJ0358.1+0932	INT	-0.10 f	0.2	K3	PMS?	(N95c)
RXJ0400.0+0730	INT	1.3	no	G3	non-PMS	
RXJ0400.1+0818S	ESO	2.5	0.24	K0	PMS?	BD+07 582, 4″ sep.
RXJ0400.1+0818N	ESO	-0.05	0.40	K2	PMS	BD+07 582B, 4″ sep.
RXJ0400.8+1116	INT	1.8	no	K0	non-PMS	
RXJ0402.5+0552	INT	1.7	no	G4	non-PMS	
RXJ0403.5+0837	INT	1.3	no	K0	non-PMS	
RXJ0404.4+0519	INT	1.0 f	0.25	K0	PMS?	
RXJ0405.5+0324	INT	-0.4	no	K4	dKe	
RXJ0407.2+0113N	INT	3.3	0.2	G4	PMS	2″ sep.
RXJ0407.2+0113S	INT	0.5 f	0.35	K3	PMS	2″ sep.
RXJ0407.6+0638	INT	2.0	no	G0	non-PMS	
RXJ0408.6+1017	INT	1.8	no	G7	non-PMS	
RXJ0408.8+1028	ESO	3.2	no	G5	non-PMS	HD 26172
RXJ0409.8+1209	INT	3.3	0.10	F9	PMS?	HD 286556
RXJ0410.6+0608	INT	-0.05	0.11	K4	PMS?	SB?
RXJ0413.2+1028	INT	3.0	no	G0	non-PMS	
RXJ0418.6+0143	INT	0.4 f	no	K4	dKe	
RXJ0419.8+0214	INT	4.5	no	F5	non-PMS	
RXJ0419.9+0231	INT	3.6	no	F9	non-PMS	
RXJ0422.9+0141	INT	1.5	yes	F8	PMS?	SB, (7)
RXJ0423.5+0955	INT	-0.1	0.27	K4	PMS?	
RXJ0425.5+1210	INT	4.2	0.1	F9	PMS?	HD 286753
RXJ0426.4+0957W	INT	7.5	no	late A	non-PMS	
RXJ0426.4+0957E	INT	2.9	0.14	G2	PMS?	
RXJ0427.4+1039	INT	1.3 f	0.35	G0:	PMS	
RXJ0427.5+0616	INT	1.5	0.25	G4	PMS	
RXJ0427.8+0049	INT	3.2	no	G3	non-PMS	BD+00 760, SB
RXJ0429.9+0155	INT	1.5	no	K3	non-PMS	maybe K3 III
RXJ0433.7+0522	INT	4.0	no	F8	non-PMS	
RXJ0434.3+0226	INT	-0.4	0.3	K4	PMS	
RXJ0435.5+0455	INT	1.2	no	K3 III	non-PMS	
RXJ0441.9+0537	INT	abs	no	G5	non-PMS	BD+05 706, (8)
RXJ0442.3+0118	INT	-1.0	no	K2	dKe	
RXJ0442.5+0906	INT	1.4	0.25	G7	PMS	BD+08 742
RXJ0442.6+1018	INT	1.2	no	K3	non-PMS	maybe K3 III
RXJ0442.9+0400	INT	1.1	0.22	K0	PMS?	

Table 4. Continued

designation	tel.	$W_\lambda(H\alpha)$ (Å)	W_λ(Li) (Å)	SpType	nature	remarks
RXJ0444.3+0941	INT	3.2	no	F9	non-PMS	HD 287017, SB
RXJ0444.4+0725	INT	-0.3	0.12	K5	PMS?	
RXJ0444.7+0814	INT	-0.80	0.28	K3	PMS?	(N95c)
RXJ0445.2+0729	INT	2.6	0.25	G0	PMS	
RXJ0445.3+0914	INT	3.8	no	G0	non-PMS	
RXJ0445.5+1207	INT	-2.0	0.35	K7	PMS	
RXJ0448.0+0738	INT	-0.1 f	no	K1	dKe	(N95c)
RXJ0450.0+0151	INT	0.5 f	0.35	K3	PMS	
RXJ0451.6+0619	INT	1.3 f	no	K2	dKe	SB?
RXJ0459.9+1017	INT	3.0	no	F5	non-PMS	SB
RXJ0511.2+1031	INT	-2.8	0.65	K7	PMS	
RXJ0511.9+1112	INT	1.2	0.25	G4	PMS	
RXJ0512.0+1020	INT	-0.1	0.4	K2	PMS	
RXJ0513.6+0955	INT	1.4	no	G6	non-PMS	
RXJ0515.3+1221	INT	1.2 f	no	K0	dKe	SB, (9)
RXJ0516.3+1148	INT	0.1 f	0.5	K4	PMS	(N95c)
RXJ0523.0+0934	INT	4.2	no	F8	non-PMS	
RXJ0523.5+1005	INT	-0.5	no	K3	dKe	SB, (9)
RXJ0523.9+1101	INT	3.7	no	G0	non-PMS	
RXJ0525.7+1205NW	INT	1.4	no	G8	non-PMS	maybe G8 III
RXJ0525.7+1205SE	INT	1.4	no	G8	non-PMS	maybe G8 III
RXJ0528.4+1213	INT	2.5	no	K2	non-PMS	
RXJ0528.5+1219	INT	0.7 f	0.35	K3	PMS	
RXJ0528.9+1046	INT	0.1 f	0.4	K3	PMS	
RXJ0529.3+1210	INT	-2.0	0.35	K7-M0	PMS	
RXJ0530.9+1227	INT	1.3	no	K0	non-PMS	
RXJ0531.8+1218	INT	-0.74	0.5	K4	PMS	(N95c)

Remarks: (1) Spectrum blue-shifted by 2Å; (2) Star A itself is SB, with the secondary having almost the same spectral type as the primary; (3) Also observed at INT; (4) Spectrum blue-shifted by 1Å, the $H\alpha$ line shows a P Cyg profile; (5) $H\alpha$ line shows an inverse P Cyg profile; (6) Spectrum red-shifted by 2Å; (7) SB: the primary is F8 with $H\alpha$ in absorption and W_λ(Ca) $<$ W_λ(Li) $=$ 0.16Å, the secondary has W_λ(Ca) $>$ W_λ(Li) $=$ 0.13Å, thus the system may by a close PMS binary; $H\alpha$ line shows a P Cyg profile; (8) Very noisy spectrum; (9) Secondary seems to have a slightly earlier spectral type.