The IBIS soft gamma-ray sky after 1000 INTEGRAL orbits[1]

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ABSTRACT

We report here an all-sky soft gamma-ray source catalog based on IBIS observations performed during the first 1000 orbits of INTEGRAL. The database for the construction of the source list consists of all good quality data available from launch in 2002 up to the end of 2010. This corresponds to ∼110 Ms of scientific public observations with a concentrated coverage on the Galactic Plane and extragalactic deep exposures. This new catalog includes 939 sources above a 4.5 sigma significance threshold detected in the 17-100 keV energy band, of which 120 represent previously undiscovered soft gamma-ray emitters. The source positions are determined, mean fluxes are provided in two main energy bands, and are reported together with the overall source exposure. Indicative levels of variability are provided, and outburst times and durations are given for transient sources. Comparison is made with previous IBIS catalogs, and those from other similar missions.

Subject headings: gamma-rays: observations, surveys, Galaxy:general

1. Introduction

More than eleven years of observations in the energy range from 5 keV up to 10 MeV have been performed with the INTEGRAL observatory, which was selected as the M2 mission within ESA's Horizon 2000 programme. The observing time of INTEGRAL is awarded competitively via a general programme which is open to the community at large, and includes Targets of Opportunity, normal observations and Key Programmes. The latter category consists of deep observations requiring a few Ms observing time, and may accommodate various different requests from the observer community

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for amalgamated single or multiple targets within the selected sky fields. Typical observation times range between 100 ks and more than two weeks, and a number of the programmes have provided regular monitoring of the Galaxy by returning to the same area of sky on multiple occasions.

Survey observations with INTEGRAL make full use of the large field of view of the IBIS coded mask telescope, one of the two main instruments on board. IBIS, with its large field of view (28 x 28°, 9 x 9° fully coded), excellent imaging and spectral capability is ideal for survey work (Ubertini et al. 2003). The imaging system provides a location accuracy of 0.5-4′ depending on the source strength. For the large numbers of newly-detected unidentified sources, these localizations are sufficiently good to enable searches for their soft X-ray counterparts. Results presented here are derived from ISGRI (Lebrun et al., 2003), the low energy array on IBIS, a pixelated CdTe detector operating in the energy band 17-1000 keV.

Since 2004, a sequence of IBIS survey catalogs (Bird et al. 2004, 2006, 2007, 2010) based on data from the ISGRI detector system have been published at regular intervals, making use of an ever-increasing dataset as new observations become publicly available. The last edition of the IBIS survey (Bird et al. 2010), comprising 723 sources, was released in 2010, and was based on INTEGRAL data collected between 2003 February and 2008 April. The overall content of this unbiased catalog comprised known AGNs (35%), X-ray binaries (31%), pulsars and other sources (5%) while 29% of the sources were unknown or detected for the first time with INTEGRAL. A large number of observations at X-ray wavelengths with *Swift*, XMM and Chandra followed in order to obtain better position determinations and hence a more reliable optical identification. Other INTEGRAL-based catalogs have been produced, and focus on specific sky areas such as the Galactic Plane (Krivonos et al. 2012, 2010) or on specific source classes (Revnivtsev et al. 2008a; Lutovinov et al. 2007, 2013; Bassani et al. 2006; Malizia et al. 2012; Revnivtsev et al. 2008b; Scaringi et al. 2010a; Beckman et al. 2009; Sazonov et al. 2007). Another catalog produced in 2008 (Bouchet et al. 2008) was based on SPI (the other primary wide-field instrument on INTEGRAL) observations. Apart from just one variable source, all the objects listed in that publication were included in the 4th IBIS/ISGRI survey catalog (hereafter "cat4") (Bird et al. 2010).

The most recent INTEGRAL survey (Krivonos et al, 2012) is based on nine years of averaged sky images and lists only those sources detected along the Galactic Plane ($|b| < 17.5°$) in three energy bands (17-60, 17-35 and 35-80 keV); it includes 402 objects exceeding a 4.7σ detection threshold on the nine years average map.

In all, the total number of INTEGRAL-discovered sources (i.e. those with an IGR designation) from the various catalogs up to the end of 2013 consists of ∼560 IGR detections, of which only 39% remain unidentified. In large part this unidentified fraction can be attributed to transient sources for which rapid follow-up was not available.

A noteworthy innovation is the SIX catalog (Bottacini et al. 2012) based on a new approach developed to survey the sky at hard X-ray energies (18-55 keV energy band) by combining the observations of *Swift*/BAT and INTEGRAL/IBIS to enhance the exposure time and reduce sys-

tematic uncertainties. This survey may be considered a survey from a *virtual* new hard X-ray mission, and should provide higher sensitivity than individual instrument surveys. The method has been applied to 6200 deg^2 of extragalactic sky (∼20% of the entire extragalactic sky) and lists 113 sources mostly of extragalactic nature: 91 AGNs, 2 clusters of galaxies, 3 Galactic sources, 3 previously detected X-ray sources, and 14 unidentified sources. Suppression of systematics is a key feature of this method, and no false detections due to statistical or systematic fluctuations are expected by the authors.

Here we present an update to the 4th IBIS/ISGRI catalog with data collected up to INTEGRAL orbit 1000, i.e. up to the end of 2010, that now comprises over 900 sources. For this updated database, we again made use of the 'bursticity' tool to improve detection of sources showing high variability and provide enhanced weak transient source detection. In particular, we use improved algorithms to provide a critical re-analysis of the methods used in Bird et al.(2010) and give additional quality flagging in order to reduce the expected levels of false detections in this new work. Details on the analysis and production of this new catalog (hereafter "this work" or "cat1000") are in sections 2 and 3, and comparison with the more recent similar catalogs is provided in section 5.

2. Data analysis and catalog construction

2.1. Input dataset

For this work, all publicly available INTEGRAL data obtained up to the end of 2010 has been processed. This may be compared to cat4, that used public data up to April 2007 (plus Public and Core Programme data up to April 2008). During each satellite orbit (revolution; approximately three days) INTEGRAL operates by dividing each observation into a sequence of short pointings (science windows or scw) with a typical duration of 2 ks. Our dataset extends from revolution twelve onwards, and includes the performance verification, calibration, original core programme (including Galactic Centre Deep Exposure and Galactic Plane Scans) and all pointed observations selected in the various observer AO phases up to revolution 1000 (December 2010). All data from revolution twelve onwards were processed unless flagged as Bad Time Intervals (flagging is provided by the INTEGRAL Science Data Centre, ISDC) for a total of ∼73000 scws (cf. 39548 for cat4). The input catalog used was the INTEGRAL reference catalog v31, that includes all sources of the 4th IBIS/ISGRI catalog, further updated for any new INTEGRAL detected sources published via papers and ATELs since 2010. A final cleaning catalog containing all previously declared INTEGRAL-detected sources was created and used as the input catalog for all pipeline processing.

The total exposure in the dataset (the sum of exposures of all initially selected scw) is 124 Ms (cf. 70 Ms in cat4), and the resulting all-sky exposure distribution is shown in Figure 1 (upper).

As a result of the Core Programme and Key Programmes that operated from 2006, the Galactic Bulge is well covered with ∼12 Ms and the entire Galactic Plane has a coverage of at least 300 ks,

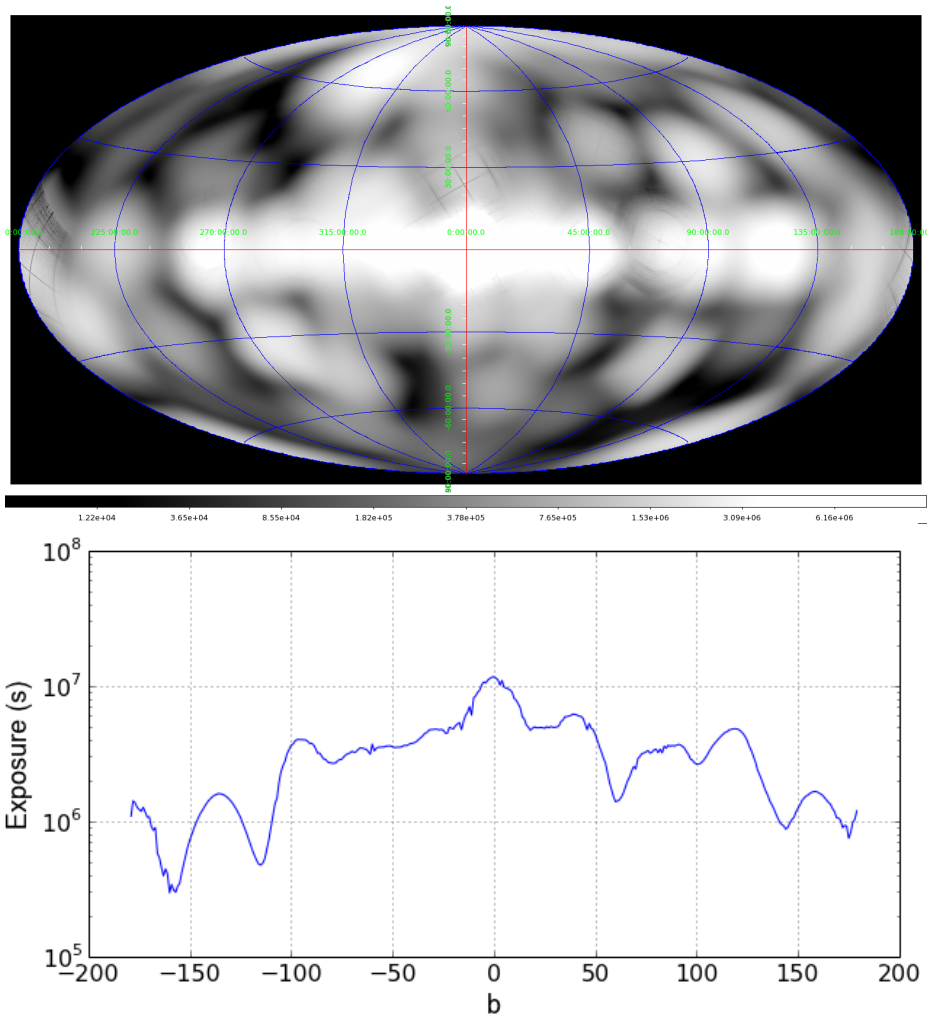

Fig. 1.— (upper) Overall exposure map for 18-60 keV processing; the features of residual filtering (section 2.2.1) can be seen around the positions of the brightest sources. (lower) The exposure along the Galactic Plane resulting from all exposures, but dominated by the Galactic Bulge and Galactic Plane Scan programmes.

rising dramatically in areas where specific sources have been targeted. The Galactic anti-centre region has been less well covered due to mission planning constraints as this region is competing with the Galactic Centre for observing time. The exposure profile along the Galactic Plane is shown in Figure 1 (lower).

The fraction of sky exposed to a certain level is shown in Figure 2 which emphasises the different exposure patterns in the Galactic Plane ($|b| < 15°$) and the extra-galactic sky($|b| > 15°$). In the Galactic Plane, 75% of the sky is covered to better than 1 Ms, while only 20% of the extragalactic sky is covered to the same level. Overall, around one third of the sky is covered to 1 Ms level, and 90% of the sky is covered to 100 ks.

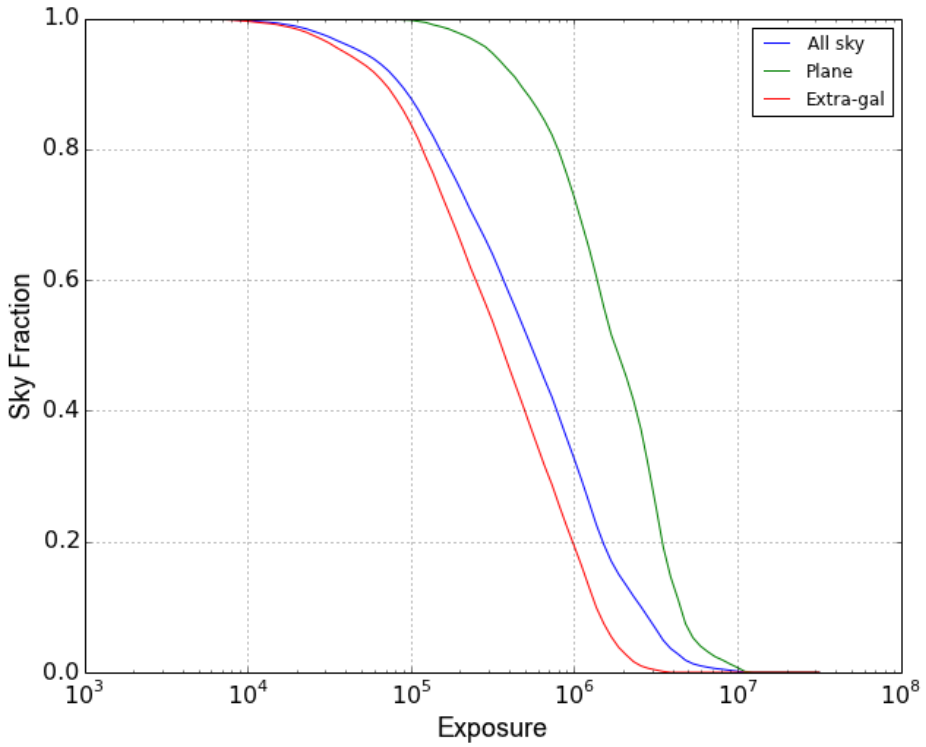

Fig. 2.— Fraction of sky covered as a function of exposure time.

2.2. Data processing and pipeline processing

The data processing was performed with the Standard *OSA 9.0* software to produce sky images of individual scws in five different energy bands (17-30, 30-60, 18-60, 20-40 and 20-100 keV). For mosaic construction, source searching, candidate list production, and final source selection we have been largely following the 4th IBIS catalog procedure as described in Bird et al, 2010. In the

following sections, we only report the main changes with respect to the earlier methodology.

2.2.1. Mosaic construction

Each scw image was tagged with its rms (after removal of sources) to act as an indicator of overall image quality. The primary aim of this step is to remove data taken during periods of enhanced background during solar activity or soon after perigee passage. Filtering was applied based on the rms value of the image background, such that the rms should not exceed a limit of 2σ above the mean image rms for the whole dataset. This function somewhat overlaps with the BTI flagging provided by the ISDC, but we still removed around 5400 of the science windows that exceed this rms limit, for a loss of 11 Ms or 8% to the total exposure. We note that there is a clearly increasing trend in the image rms throughout the mission, especially in the energy bands extending below 20 keV. In future analyses, an adaptive time-varying rms filter may be required if this trend continues, but for now we used a constant threshold, and accepted a slightly higher rejection fraction in the later parts of the mission.

Although they are still processed, data taken in staring mode are not used in the construction of the final sky mosaic images as they contribute a far higher level of systematic noise than the standard dithered observations (although this effect is less pronounced from OSA 9 onwards). Some 1290 science windows in the input dataset were flagged as consisting of staring data, representing a further exposure loss of 3.2 Ms (2.5%) in map construction.

After removal of high-rms and staring data, approximately 67000 scws remained in the dataset, with a total exposure of $\sim$110 Ms. The selected science windows were then combined using a proprietary image mosaic tool which statistically averages the images from multiple input maps. This process has been optimised to allow the creation of all-sky maps based on large numbers of input science windows. Mosaics were constructed for five energy bands (see Section 2.2) with $2.4'$ pixel resolution, significantly oversampling the intrinsic system PSF. Mosaics were made in four projections: centred on the Galactic Center, on the Galactic anti-center, north Galactic polar and south Galactic polar. These multiple projections are intended to present the automatic source detection algorithms with source PSFs with the minimum possible distortion.

Previous catalogs have employed various timescales on which mosaics were constructed in an attempt to optimise the detection of new sources with a variety of duty cycles. We have simplified our approach, and initially constructed mosaics on only revolution and whole-archive timescales. Revolution maps are optimised to detect sources active on timescales of the order of a day and persistent sources can best be detected in an *all-archive* accumulation of all available high-quality data.

2.2.2. Candidate list construction

Maps were searched with two different algorithms, one the standard *SExtractor* tool (Bertin & Arnouts 1996), the other designed specifically to compensate for the varying levels of systematic background found in INTEGRAL/IBIS mosaics. In total, 60 all-sky maps (and variants) and over 19000 revolution maps were constructed and searched. An initial candidate source list was created by iteratively merging the excess lists from each map into a base list which took the cleaning catalog as a starting point. In this way, merging commences with the best reference positions for each source, and the process also ensures that all previously declared sources are checked for their presence in the new dataset. A merge radius of $8'$ was used, and a new candidate was added to the base list if it exceeded a detection threshold of 4.5σ in an all-archive map, or 6σ in a revolution map, and could not be associated with an already listed source. The higher threshold for revolution maps is essential to remove false excesses caused by noise in these lower exposure maps. In addition to this higher threshold for revolution map excesses, a number of revolutions[2] were excluded from this process due to high noise levels associated with solar activity, these being 124–129 (inclusive), 217–218, 234, 252–254, 276–277, 315, 341–342, 349, 352–356, 506–509. This process resulted in a list of 3759 excesses which was manually inspected to ensure that blended sources flagged in previous catalogs survived the merging process.

2.3. Final source list construction

Light curves were constructed for every candidate source in the five standard energy bands. A search for variable source emission was then performed on those light curves by using the 'bursticity' method - i.e. identifying the time window within which the source significance was optimised. Time windows in the range 0.5 days up to the full duration of the light curve were tested. Once the optimum detection time window was determined, an additional map - the 'burst map' - was constructed by mosaicking only those scw falling in the best time interval and using the energy band established by 'bursticity'. This method optimises the detection of any *known or suspected* source that emits on any timescale longer than a science window. Following this procedure, an improved significance has been obtained for ∼200 sources.

The final source list filtering was carried out manually. Experienced operators were presented with all the relevant data - as well as visual inspection of the maps themselves, derived parameters such as persistent significance in five energy bands, burst significance and timescales in five energy bands, local systematic levels, local image residual levels, and the total number of maps each source was detected in were quantified. A final acceptance of each putative source was made on the basis of this overall data. The overall flow of data through the analysis chain is shown in Figure 3, which also shows the selection/rejection criteria applied at each stage.

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[2]Revolution dates can be found at http://www.cosmos.esa.int/web/integral/schedule-information

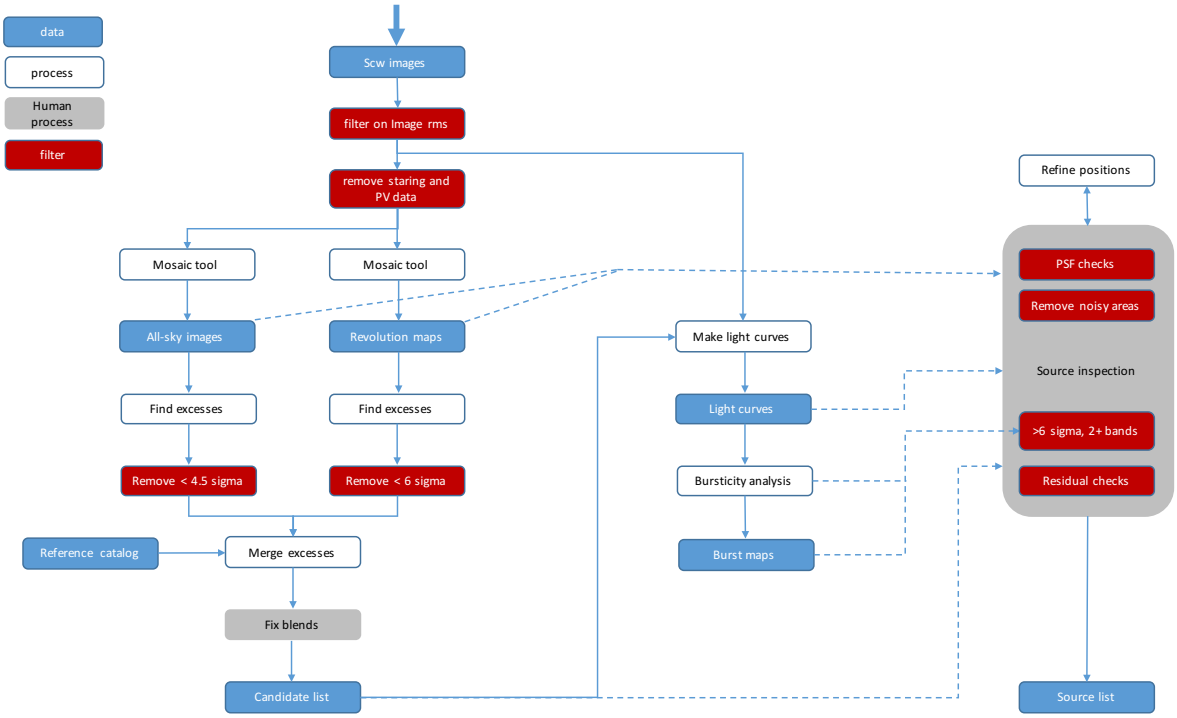

Fig. 3.— Data analysis and source selection flowchart, showing the filtering criteria applied at each stage.

2.4. False positive rates

The false positive rate (FPR; the fraction of 'fake' sources in the catalog) is a key parameter, and depends strongly on the methods used to identify, examine and verify the excesses.

The false positive rate for persistent sources found in inspection of IBIS mosaic images has been well established for previous catalogs (Bird et al. 2004, 2006, 2007, 2010; Krivonos et al. 2010) and can be quantified by inspection of a histogram of either the pixel significance values in the mosaics, or the significances of the detected excesses. We follow the method of cat4 and fit the pixel distribution (Figure 4) with a Gaussian noise component and a power law component representing the sources. The point at which the noise population contributes ∼1% of the source population can therefore be estimated at between 4.5 and 5 sigma, and these values have typically been used in prior catalog constructions. In this work, the threshold for 1% FPR is 4.8 sigma, the same as that quoted for cat4, while above the formal 4.5 sigma threshold, a total of 2.6% of the sources may be due to the noise component. We note however, that in the significance range between 4.5 and 4.8 sigma, the fraction of false sources may be as much as 25% and have indicated this in the table with a WARN flag.

The false positive rate arising from the bursticity method is much harder to quantify. A large number of trials are performed each time a light curve is tested, and the confidence levels for any 'detection' must therefore be assessed carefully. An analytical approach to this is unlikely to yield a satisfactory result, as the ∼3000 light curves tested are of markedly different lengths and temporal structures (the data gaps come from the observing strategy of the telescope). Since both length and structure of the light curve affect the number of valid trials performed, they also affect the confidence limits, and we should formally assign limits on each light curve, but this is too cumbersome, and we adopt a simulation approach on the ensemble of light curves.

We created new light curves by randomisation of existing light curves that were selected to have no source signal. For a light curve containing N data points, N swaps of (time, flux/error) pairs were performed to randomise the light curve while retaining the original overall time structure. The advantage of this method is that a very large number of random light curves can be generated. However, the assumption in this method is that the noise in the light curve is purely statistical white-noise, as any correlated noise would be removed by the randomisation.

The distribution of burst significances detected in 10000 randomised light curves derived from a medium length (2650 scw) light curve is shown in Figure 5. For this typical light curve length, 10% of the 'bursticity' tests resulted in a detection above 4.5 sigma. Corresponding values for short (550 scw) and long (10700 scw) light curves were 0.1% and 10% respectively. In all these tests, less than 1% of iterations generated a detection above 6 sigma.

We performed a second set of simulations based on inversion of the ∼3000 excess light curves. Each source flux light curve was subjected to a *sigma clipping* algorithm to remove bright positive detections above the 5σ level, and then inverted about zero flux. In the assumption that the noise

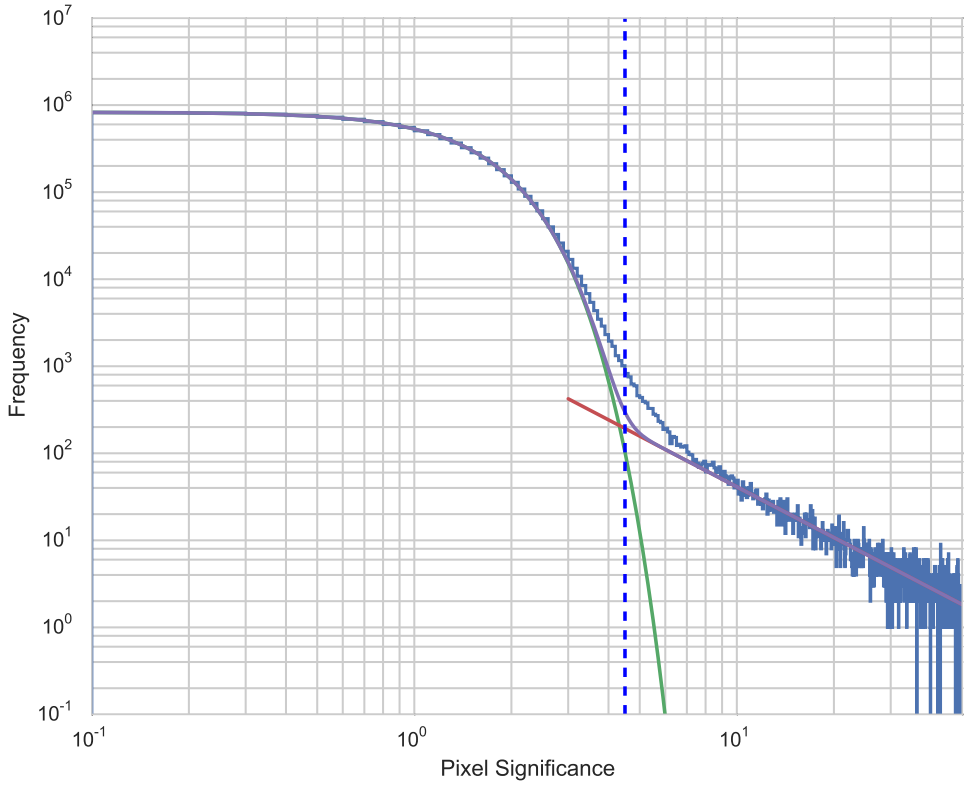

Fig. 4.— Pixel significance distribution for the 18-60 keV all-sky mosaic significance map. The distribution is modelled as a sum of noise (green) and source (red) contributions. The dashed vertical line is at 4.5σ.

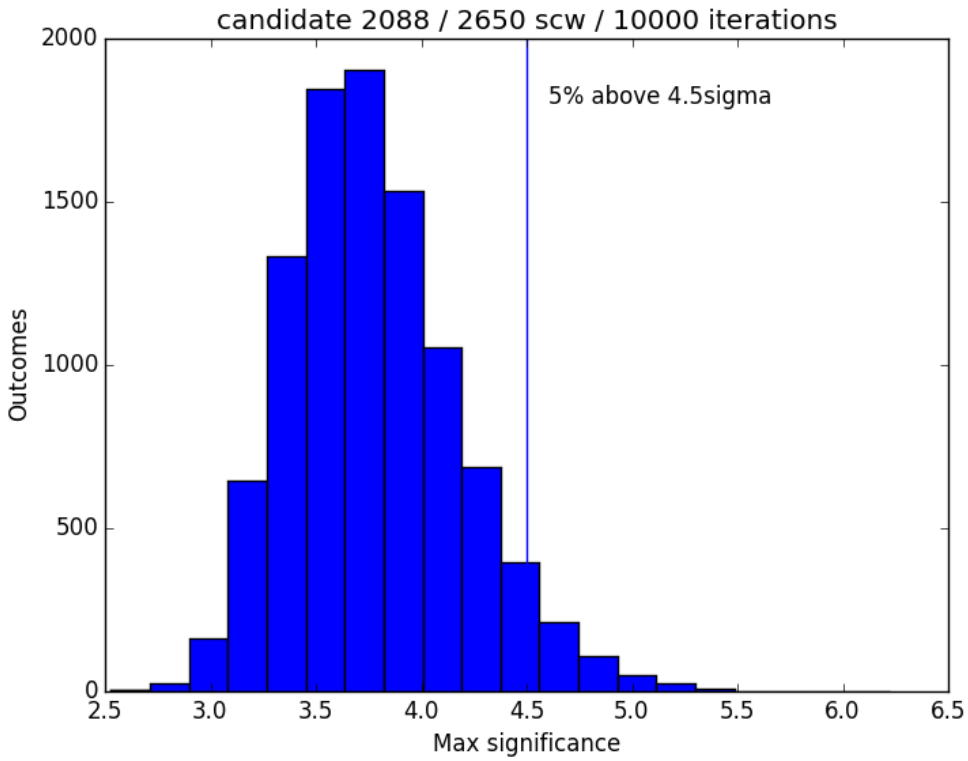

Fig. 5.— Maximum burst significances discovered in 10000 randomly generated light curves containing 2650 science windows with a realistic time structure and noise distribution.

flux distribution from coded mask deconvolution is Gaussian distributed around a mean of zero, this results in light curves with the same noise and time structure as the original light curves. These light curves will retain any systematic noise and also will maintain any longer-term noise structures (red noise) present in the originals, but should effectively contain no signal flux. Analysis of these light curves should represent a worst case scenario in terms of the derived false positive rate when compared to the purely statistical, white noise light curves made in the first approach. Using this approach, a 'burst' of greater than 4.5 sigma is seen in 12.7% of the light curve analyses, and a 'burst' of greater than 6 sigma is seen in 3.5% of the light curve analyses; this falls to 2% at the 7 sigma level.

Combining the results of these two simulation approaches, we can estimate that the mean false alarm rate above a 6 sigma threshold is between 1% (statistical best case) and 3.5% (systematic worst case) for a single light curve. Once we impose the additional requirement that the bursts are temporally aligned in more than one energy band, the statistical probability falls enormously due to the small burst duration compared to the overall light curve length. In a purely statistical sense, the probability falls to <1% even above 4.5σ as typical burst durations are <1% of the light curve duration. However, we must caution that some of the systematic effects occasionally seen (e.g. poor ghost source removal) will potentially generate noise simultaneously across all bands, so the final inspection processes are still vital to remove 'ghosts' and areas of noise in maps. We pessimistically assume a final 1% false positive rate in the overall bursticity method when requiring simultaneous bursts in more than one band. Based on these simulations and our experience from cat4, we believe the false positive probability for sources detected on short timescales (<70 days) and at low significance is higher than the overall levels, and we have again indicated this in the table with a WARN flag. See Section 4 and Figure 7 for further information.

Overall, we estimate the false positive rate in this catalog is <25% for sources detected between 4.5 and 4.8 sigma in persistent maps, <1% for sources detected above 4.8 sigma in persistent maps, and (pessimistically) 1% for sources detected via the bursticity method. Thus we anticipate ∼30 false positives in a catalog of 939 sources, i.e. 3.5%, with a roughly equal number coming from each detection method.

2.5. Galactic Center Localizations

The central $4^\circ \times 2^\circ$ region of the Galaxy represents a challenging area for the INTEGRAL/IBIS map analysis. The presence of unresolved sources (and presumably many sources below the formal detection threshold creating a non-uniform background) means that the maps in this area are dominated by systematic effects and the usual statistical limits for source discovery do not apply. As a consequence, we have been extremely conservative in this region, and in fact all the sources listed are already present in the INTEGRAL Reference Catalog. Because of the complex and unresolved source distribution, the data quality for these sources may be lower than for isolated sources away from the Galactic Centre. In the source list, we indicate this with a flag (GCFLAG) with the

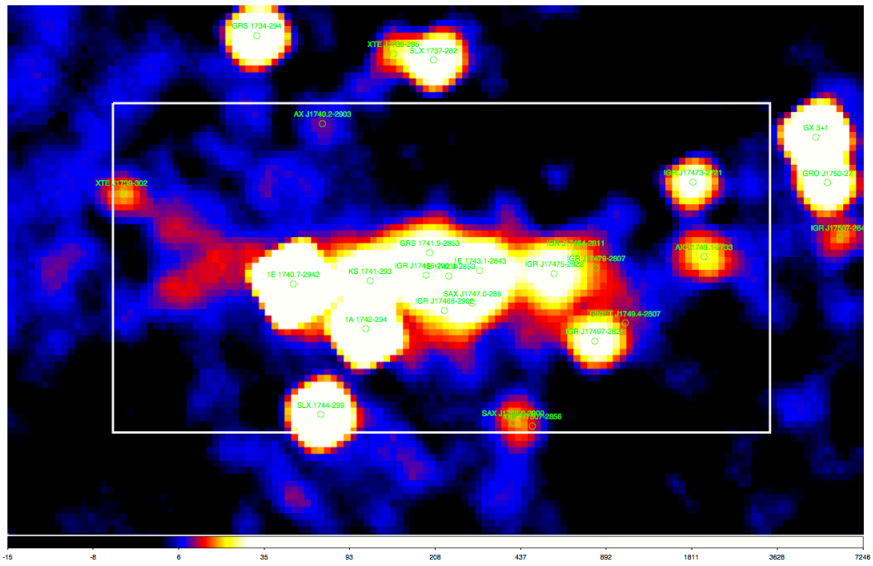

Fig. 6.— IBIS/ISGRI mosaic significance map of the Galactic Centre region and resulting sources from the analysis. The white box represents the central $4^\circ \times 2^\circ$ region.

following two values: GCFLAG=1 means that the source lies within the GC box, and is detected by our standard methods. Furthermore, the source is sufficiently resolved that we can estimate the flux and position from our maps; nevertheless we expect that the detection may be affected by nearby unresolved faint sources and the quantitative data should be treated with caution; GCFLAG=2 means that there is clear evidence of emission from the source position in one or more of our maps, but it lies within an unresolved emission region. Therefore we cannot unambiguously attribute the emission to the source, and we therefore supply the reference catalog position only. The fluxes are almost certainly contaminated by emission from nearby unresolved sources, or indeed resolved ones - in one case, two nearby sources (SAX J1750.8−2900 and IGR J17507−2856) are blended in stacked images of the region, but may be *temporally* identified as they outburst at different times, and the derived positions are unambiguously different. Nevertheless, cross-contamination of fluxes in this region is an ever-present problem. Using this approach, there are 23 sources falling within the Galactic Centre zone, of which 11 have GCFLAG=2.

We have cross-checked our results and sources in this area with the results from the bulge monitoring project[3] which provides a more regular monitoring and so regularly detects transient sources; nevertheless, we have no real contradictions with their database. The differences that do exist, apart from occasional naming differences, are in fact due either to sources detected after revolution 1000 or to our detection acceptance threshold.

[3]http://integral.esac.esa.int/BULGE/

3. The Table Data

The name of the source is given following the convention to quote wherever possible the name declared at the time of the first X-ray detection. The names are given in bold for the ∼300 sources added to the catalog since cat4.

The astrometric coordinates of the source positions were extracted from the mosaics by the barycentring routines built into *SExtractor 2.5*. In almost all cases, the position for a source was extracted from the map yielding the highest source significance. In a few cases, primarily for blended sources, other maps were chosen in order to minimise the interference of other sources. Simultaneous fitting of multiple Gaussian PSFs was used in the most difficult cases - these sources are indicated as blended in the notes accompanying the table. The point source location error of IBIS is highly dependent upon the significance of the source detected (Gros et al. 2003; Scaringi et al. 2010b). We use the formulation of Gros et al. (2003), combined with the significance of the detection used to locate the source, in order to define an error on the source position. The source localisation errors quoted are for the 90% confidence limit.

The mean fluxes quoted in the table as F_{20-40} and F_{40-100} are the time-averaged fluxes over the whole dataset derived in two energy bands (20–40 and 40–100 keV). These are provided for compatibility with past catalogs and as a general reference value. However, as previously noted, their relevance as an *average* measure diminishes as the dataset increases and the average time of activity for many of the sources is much shorter than the on-source exposure. For variable sources, we provide a variability indicator: a flag of Y indicates a bursticity > 1.1 (ie a 10% increase in significance can be obtained by selecting a single contiguous subset of the data) and a slightly variable source. A flag of YY indicates a bursticity of > 4 (ie a 400% increase in significance) indicating a strongly variable source. The significances quoted are the highest significance in any single map, since this gives the best indication of the robustness of source detection. However, it should be noted that the flux and significance values may derive from different energy bands and/or subsets of the data, and may initially appear contradictory. A brief commentary indicates the detection method for each source - here the term 'persistent' means that the source detection is optimised in a mosaic of all data, but the detection may actually derive from a number of outbursts or flares, but *no single outburst* optimises the detection. For sources detected during an outburst, the MJD and duration are indicated. Warning flags are appended to some sources to indicate their position in the Galactic Center, or to warn of detections subject to higher false positive rates due to lower significance or shorter duration (see section 2.4).

The type of the source is encoded into up to four flags, which are explained in the table footnotes. We have followed the convention of (Liu et al. 2007) wherever possible. The exposure quoted is the total effective exposure on the source after all filtering of the data has been carried out.

4. Detailed comparison with 4th IBIS/ISGRI catalog

632 of the 723 sources detected in the 4th IBIS/ISGRI catalog are listed in this new catalog, while 4 are not included because of the new methods employed to analyse the Galactic Centre, and 87 are not included because they did not pass the new acceptance thresholds.

The sources that were given in cat4, but are not detected by the cat1000 analysis have been subjected to further inspection. While we would always expect some false positives in any catalog, the number of missing cat4 sources is far in excess of the expected level quoted in cat4. In total, 87 cat4 sources are not confirmed in cat1000, and breaking this subset of sources down by detection type, there is a clear trend towards these (assumed) false positives coming from the shorter outburst detections (Figure 7, left).

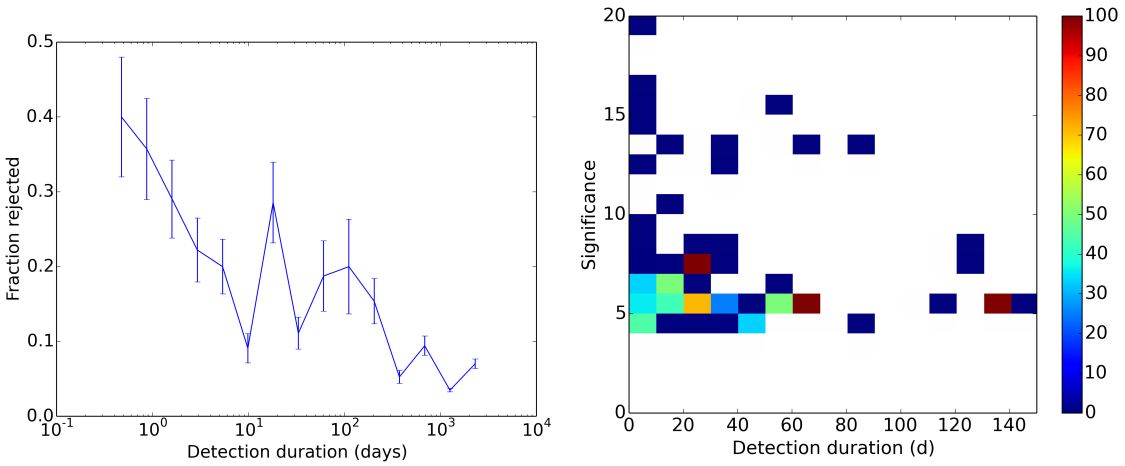

Fig. 7.— Analysis of the false positive rates for the transient detection performed in cat4. A cat4 source is rejected as potentially a false positive if it cannot be recovered by the improved and more stringent acceptance criteria used in this work. (left) the fraction of sources rejected as a function of the source detection duration shows a clear trend towards more false positives for shorter outbursts, error bars indicate statistical uncertainties due to source numbers. (right) adding the source significance as a second parameter shows that short, low-significance outbursts contribute a very high fraction of the rejected sources.

Further analysis of the 87 rejected sources shows that only 25 sources come from the stacked whole dataset maps, that are optimised for persistent source detection. Even then, many of these persistent sources derive from low exposure (less than 200 ks) areas of the maps so may be thought of as short exposure detections. Another 14 rejected sources derive from burst maps, which may be of any exposure but tend towards shorter timescales, 31 from revolution (so $\leq$ 200 ks exposure) maps, and 17 from short sequences of revolutions. The other very clear (and expected trend) is towards low significance detections; only 12 of the missing cat4 sources were originally attributed a significance greater than 6 sigma. These trends are illustrated in Figure 7 (right) that shows

the fraction of sources rejected between cat4 and cat1000 as a function of both duration and significance. We would expect a rejection rate of ∼1% based on the expected noise content of the persistent maps, but the rejection rates for sources that were detected on short timescales (<70 days) and at relatively low significance ($< 6\sigma$) were much higher than that; in the worst case for the short outbursts below 5σ, only 1 in 2 sources have been confirmed by the new analysis. Outside of the region bounded by duration <70 days and significance $< 6\sigma$ the rejection fraction falls to the expected levels. These results are consistent with, and may be explained in the context of, the simulations described in Section 2.4.

For the sources that are identified in shorter periods (bursts, revolutions, sequences) we have cross-checked the outbursts detected in cat1000 against those found in cat4. In many cases there is no time correlation, and we must conclude that these cat4 excesses were probably random bright periods in the light curve of a random point of sky, and should be considered false detections. We note here that the methods employed in cat1000 are much more robust, as all five main energy bands are searched for outbursts, and we expect time correlation between the bursts in at least two of the bands. Furthermore we have operated with a much higher significance threshold for short outburst detection. However, these improved methods used in this work still only partially protect against the other likely explanation of false short bursts in cat4. Specifically, a short sequence of science windows where the data is hard to analyse due to noise, blended sources or an incomplete catalog may give rise to strong image artefacts, and we have to assume the same conditions may persist from cat4 to cat1000. Therefore detection of a burst at the same time in cat4 and cat1000, although strongly indicative, on its own is not considered 100% confirmation of source detection.

We must assume that those few rejected sources that were originally detected in persistent maps (i.e. by compiling all observations) and with long exposures were spurious detections of artefacts induced by the previous imaging software version, and now better suppressed in *OSA 9.0*. Numerous changes were implemented in the software, instrument response models and reference catalogs between *OSA 7.0* and *OSA 9.0*. The use of a newer, improved base 'cleaning' catalog will certainly have played a part in reducing the image noise levels. Long-term source variability should *not* cause a previously known source to be rejected. Since these previously detected sources are automatically included in our analysis, they should be detected despite a declining flux - we are confident that the bursticity analysis successfully identifies them as active during the earlier mission phases.

Following removal of those sources not confirmed in this work, we can re-analyse the source type distribution for the confirmed cat4 sources. The modified source type distribution (Figure 8(left) and Table 1) shows the success of the various follow-up campaigns, in that only 16% of the confirmed cat4 sources now lack association with a specific type of object. Conversely, follow-ups on the 87 missing cat4 sources have largely failed to identify clear counterparts, with only 3 likely and 10 possible AGNs associations being reported. Some random correlation with sources is to be expected, and in the extragalactic sky this is most likely to produce correlations with the isotropic source populations (mostly AGNs and CVs). Nevertheless, this low rate of association with known

objects gives us further confidence that we have successfully identified a subset of likely false positive excesses.

5. Results

This new catalog lists 939 sources detected with a systematic analysis of all public observations collected up to the end of 2010 and consisting of eight years of INTEGRAL data. Of these sources, 881 have a significance above 5σ level and can be considered more secure detections, while the rest have a lower significance in the range 4.5 to 5 σ.

307 sources in this catalog are new entries with respect to cat4 (these are shown in bold font in the source list); some of them have been previously declared as INTEGRAL detections, or have already been included in the INTEGRAL reference catalog (Ebisawa et al. 2003). In particular, 60 sources have previously been discovered and reported in the literature with IGR designations. A further set of 127 are already listed either in other hard X-ray catalogues, mainly that of *Swift*/BAT, or previously reported elsewhere. Therefore the remaining 120 sources are reported as soft gamma-ray emitters for the first time in this work.

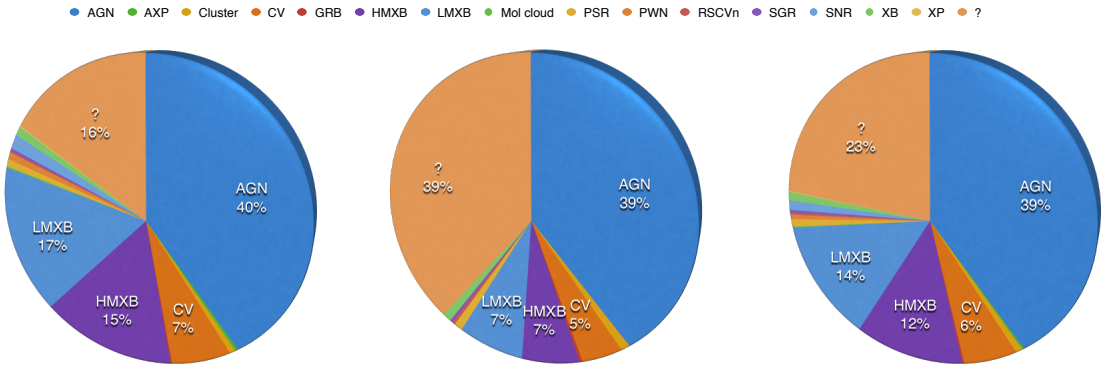

Fig. 8.— Source type distributions for (left) confirmed cat4 sources; (center) new cat1000 sources added since cat4; (right) cat 1000 overall

Table 1 shows the source distribution by class in this new catalog - as in previous catalogs the same main source classes are detected (HMXB, LMXB, CV and AGN), including a large fraction of unassociated sources (23%). The same data are presented graphically in Figure 8 (center and right)

Compared to cat4 (Figure 8 (left)), there seems to be a slight change in the type fractions, i.e. overall the fraction of Galactic sources continues to reduce following the trend seen in previous catalogs. However, if we consider only the new entries (see Figure 8 centre panel), it is evident that there is a large fraction of sources (39%) that still need to be identified and among them a

Type	cat4		cat1000 new		cat1000 overall	
	Src	%	Src	%	Src	%
AGN	250	40%	119	39%	369	39%
?	100	16%	119	39%	219	23%
LMXB	106	17%	23	7.5%	129	14%
HMXB	96	15%	20	6.5%	116	12%
CV	42	7%	14	5%	56	6%
SNR	10	2%	0	<1%	10	1%
XB	6	<1%	3	1%	9	1%
PSR	5	<1%	3	1%	8	1%
Cluster	4	<1%	3	1%	7	1%
PWN	5	<1%	0	<1%	5	1%
SGR	2	<1%	1	<1%	3	<1%
AXP	2	<1%	0	<1%	2	<1%
GRB	1	<1%	1	<1%	2	<1%
RSCVn	1	<1%	1	<1%	2	<1%
Mol cloud	1	<1%	0	<1%	1	<1%
XP	1	<1%	0	<1%	1	<1%
Total	632		307		939	

Table 1: Source type numbers for (left) confirmed cat4 sources; (center) new cat1000 sources added since cat4; (right) cat 1000 overall

significant number could eventually be of a Galactic nature.

This opens the path to a large program of follow-up work/observations as has been successfully performed in the past. The follow-up program started ten years ago with the release of the first IBIS catalog (Bird et al. 2004) and continued thereafter. Typically, the presence of a soft X-ray source in the IBIS error box has been used to reduce the soft gamma-ray positional uncertainty and hence enable optical and NIR follow-up observations. This process has been performed either by cross-checking with a number of available X-ray catalogs (e.g. with ROSAT see Stephen et al. (2005, 2006)), using IBIS itself (50%), or using additional observations with other missions such as Swift (27%), Chandra (17%), XMM (5%).

As recently reviewed by Masetti et al. (2013), teams have so far pinpointed the nature of about 240 sources which represents a large fraction of the unidentified objects listed in all previous IBIS surveys. The majority of these sources are AGN (61%) followed by X-ray binaries (25%) and Cataclysmic Variables (CVs, 12%). Most of the AGN are local Seyfert galaxies of type 1 and 2 while the largest fraction of Galactic binaries have a high mass companion.

Overall this follow-up program has highlighted the key role played by INTEGRAL in discovering new classes of high mass X-ray binaries (absorbed objects and supergiant fast X-ray transients), in detecting AGNs in the Zone of Avoidance i.e. the area of the sky that is obscured by the Milky Way (Kraan-Kortoweg et al 2000) and at high redshifts, as well as in confirming a population of magnetic CVs emitting above 20 keV. Follow-up work on unassociated sources in this new catalog has already started and hopefully will lead to further identifications.

6. Comparison with other recent soft gamma-ray catalogs

In this section we make a brief comparison between this catalog and two other soft gamma-ray surveys.

The first is that of Krivonos et al. (2012), which includes a very similar dataset (up to revolution 1013) but only considers sources in the Galactic Plane. In addition Krivonos et al. (2012) used different software methods and slightly different energy bands within their data analysis to achieve a claimed identification completeness of 0.91. As well as allowing them to perform population studies on a good statistical basis (see Lutovinov et al. 2013), this level of completeness provides a good comparison for this work. Krivonos et al. (2012) identified 392 sources above a 5σ detection threshold, and this number increases to 402 if the detection threshold is lowered to 4.8σ. Comparison with our catalog indicates that only 15 of their sources are not present in our list, and of those, 12 have a detection significance below 5σ in at least one of the three energy bands used in the Krivonos catalog. The degree of agreement is thus $\sim$99%, consistent with the statistical uncertainties associated with the two methods.

Secondly, we have also cross-correlated our source list with that of the 70 month *Swift*/BAT

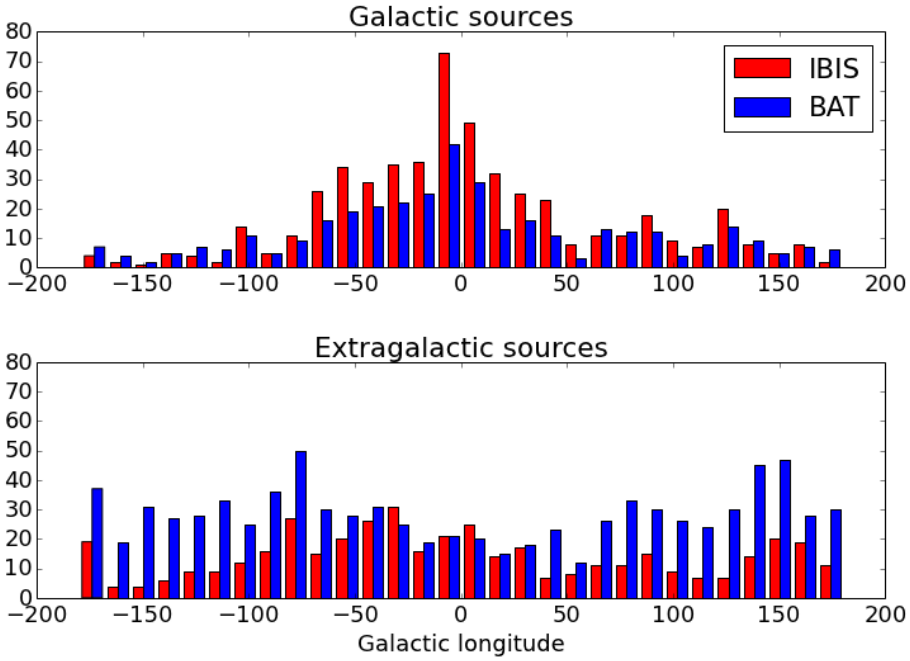

Fig. 9.— (upper) Distribution of sources detected by INTEGRAL/IBIS (red) and *Swift*/BAT (blue) as a function of Galactic longitude. (upper panel) sky region within 10° of the Galactic Plane; (lower panel) sky more than 10° from the Plane.

survey (Baumgartner et al. 2013). This catalog reports 1171 hard X-ray sources detected above a significance threshold of 4.8σ in the 14–195 keV energy band. So far this is the most sensitive and uniform survey in the soft gamma-ray band, reaching a limiting flux sensitivity of 1.34×10^{-11} erg/s/cm^2 over 90% of the sky. Due to the satellite observing strategy, the *Swift*/BAT all-sky survey is very uniform which explains why most of the reported sources (about 60%) are of extragalactic nature. Comparing the catalog of this work with that of Baumgartner et al. (2013) results in 565 correlations within a distance of $400''$. Of these 311 are of extragalactic nature, 246 are Galactic sources and the rest lack a precise association. Figure 9 shows the number of sources detected by BAT and IBIS as a function of Galactic longitude, either within 10° of the Galactic Plane (upper panel), or more than 10° from the Plane (lower panel). The differences between these two surveys is immediately apparent. It is clear that INTEGRAL has been more effective at finding soft gamma-ray emitting sources along the Galactic Plane, and particularly along the directions of the spiral arms. *Swift*/BAT, as a result of its larger FOV and more uniform all-sky exposure, is more effective on the extragalactic sky. Thus Figure 9 emphasizes the great complementarity between these two missions, and the source catalogs they produce.

6.1. Concluding comments

As predicted in the 4th IBIS catalog, with the further data available from AO6 and AO7, this latest catalog shows a large increase in the populations in the sky beyond the Galactic Plane - seen in both the AGNs class (more than 100 new sources) and CVs. As with all previous catalogs exploiting new datasets, there is a large fraction (23%) of unidentified sources that will require further study, and a robust follow-up programme is essential for the weak persistent examples. Transient detections represent a greater challenge for follow-up due to the serendipitous nature of their discovery. A characterisation of the transients based on their outburst duration, timing and spectral properties, and quiescent emission will be needed to further identify their nature(s).

Once again, the soft gamma-ray sky has shown itself to be both well populated and highly variable, as the advent of missions with survey capabilities like INTEGRAL and *Swift* have demonstrated over the last ten years, and continue to demonstrate. Both INTEGRAL and *Swift* continue their highly complementary monitoring programmes, and continue to discover new sources. Studies using long term light curves and spectral evolution are now possible and can be performed well beyond 100 keV. With the information reported in the current work and in combination with the recent results from the 11-years survey above 100 keV (Krivonos et al. 2015) one can already derive a hardness ratio in the energy bands 20–100/100–150 keV and may understand the general properties of the 108 common sources. We believe this will prove an invaluable data set to study the high energy behaviour of different classes of sources. By comparing these catalogue data with observations performed at lower (X-ray band) and higher (MeV and GeV bands) energies, it will be possible to create broadband spectra and therefore a unique and comprehensive view of many of the objects in our sky.

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Table 2. IBIS Catalog of 1000 orbits

Name[a]	RA	Dec	Error[b]	F20-40[c]	F40-100[c]	Type[d]	Vari[e]	Signif[f]	Exposure[g]
IGR J00040+7020	1.006	70.321	2.84	0.8±0.1	1.0±0.2	AGN, Sy2		9.2	3391
Detected as a persistent source in the 20-100 keV band.									
IGR J00234+6141	5.74	61.685	2.66	0.7±0.1	0.3±0.1	CV, IP		9.9	4777
Detected as a persistent source in the 17-30 keV band.									
GRB041219A	6.117	62.843	1.44	<0.1	0.3±0.1	GRB	YY	20.1	4812
IGR J00245+6251	*Detected in a 0.6 day outburst from MJD=53358.0.*								
4U 0022+63	6.321	64.159	2.21	0.7±0.1	0.8±0.1	SNR		12.2	4718
Detected as a persistent source in the 18-60 keV band.									
IGR J00256+6821	6.374	68.357	2.44	0.7±0.1	1.1±0.1	AGN, Sy2		10.9	4072
Detected as a persistent source in the 20-100 keV band.									
V709 Cas	7.204	59.289	0.61	4.4±0.1	2.7±0.1	CV, IP		60.1	4517
RX J0028.8+5917	*Detected as a persistent source in the 18-60 keV band.*								
IGR J00291+5934	7.263	59.572	0.41	2.0±0.1	2.4±0.1	LMXB, XP, T	Y	109.7	4537
Detected in a 12.3 day outburst from MJD=53337.5.									
IGR J00333+6122	8.326	61.462	2.55	0.7±0.1	0.9±0.1	AGN, Sy1.5		10.4	4697
Detected as a persistent source in the 20-100 keV band.									
SWIFT J0034.5-7904	8.579	-79.11	5.14	0.7±0.2	<0.6	AGN, Sy1		4.8	1153
1RXS J003422.2-790525	*Detected as a persistent source in the 17-30 keV band.*								
1ES 0033+595	8.969	59.835	1.50	1.4±0.1	0.9±0.1	AGN, BL Lac		19.1	4520
Detected as a persistent source in the 17-30 keV band.									
IGR J00370+6122	9.29	61.36	1.97	0.7±0.1	0.9±0.1	HMXB, XP, Sg	Y	13.9	4666
Detected in a 2.4 day outburst from MJD=53000.4.									
1RXS J004504.8+620803	11.248	62.083	3.64	0.5±0.1	0.3±0.1	AGN?		7.0	4558
Detected as a persistent source in the 20-40 keV band.									
IGR J00465-4005	11.586	-40.096	5.24	<0.7	1.9±0.7	AGN, Sy2		4.7	212
Detected as a persistent source in the 20-100 keV band.									
IGR J00486-4241	12.151	-42.719	5.42	1.0±0.4	2.2±0.7	?		4.5	214
Detected as a persistent source in the 20-100 keV band.									
Mrk 348	12.196	31.957	1.50	6.0±0.4	6.7±0.7	AGN, Sy2		19.1	228
Detected as a persistent source in the 18-60 keV band.									
IGR J00515-7328	12.996	-73.49	4.39	<0.3	<0.6	HMXB	YY	5.7	1294
Detected in a 6.6 day outburst from MJD=54989.9.									
RX J0053.8-7226	13.479	-72.446	3.12	0.5±0.2	0.9±0.3	HMXB, XP, Be, T	Y	8.3	1290
Detected in a 5.5 day outburst from MJD=52844.0.									
SWIFT J0055.4+4612	13.85	46.203	4.06	1.9±0.3	<1.0	CV, IP		6.2	507
1RXS J005528.0+461143	*Detected as a persistent source in the 20-40 keV band.*								
gam Cas	14.161	60.703	0.63	4.6±0.1	1.4±0.1	HMXB, Be		57.5	4228
Detected as a persistent source in the 17-30 keV band.									
Mrk 352	14.976	31.843	5.11	1.0±0.4	2.6±0.7	AGN, Sy1		4.8	209
SWIFT J0059.4+3150	*Detected as a persistent source in the 18-60 keV band.*								
IGR J01021+6612	15.534	66.211	4.06	0.4±0.1	0.5±0.1	?		6.2	3962
Detected as a persistent source in the 17-30 keV band.									
IGR J01054-7253	16.173	-72.901	1.86	1.5±0.2	0.8±0.3	HMXB, XP, Be	Y	14.9	1296
Detected in a 19.7 day outburst from MJD=54988.6.									
IGR J01085-4550	17.115	-45.848	5.35	<0.7	2.0±0.9	?	Y	4.6	278
Detected in a 246.5 day outburst from MJD=53679.3. Flags: WARN									

Table 2—Continued

Name[a]	RA	Dec	Error[b]	F20-40[c]	F40-100[c]	Type[d]	Vari[e]	Signif[f]	Exposure[g]
Mrk 1152	18.562	-14.844	4.86	1.4±0.5	2.0±0.9	AGN, Sy1.5		5.1	126
SWIFT J0113.8-1450	*Detected as a persistent source in the 18-60 keV band.*								
IGR J01157+6941	18.895	69.689	3.74	0.4±0.1	1.0±0.2	?		6.8	3000
	Detected as a persistent source in the 20-100 keV band.								
SMC X-1	19.271	-73.443	0.41	16.2±0.2	3.0±0.3	HMXB, XP		114.2	1304
	Detected as a persistent source in the 17-30 keV band.								
1A 0114+650	19.511	65.292	0.41	9.7±0.1	5.6±0.2	HMXB, XP		112.1	3575
	Detected as a persistent source in the 18-60 keV band.								
4U 0115+634	19.633	63.74	0.20	27.6±0.1	8.1±0.2	HMXB, XP	Y	826.6	3629
	Detected in a 14.7 day outburst from MJD=53260.4.								
RX J0119.5-7301	20.077	-73.059	5.04	<0.3	<0.6	?	Y	4.9	1300
	Detected in a 3.2 day outburst from MJD=52843.8.								
Fairall 9	20.917	-58.774	3.49	1.8±0.3	2.1±0.5	AGN, Sy1.2		7.3	528
SWIFT J0123.8-5847	*Detected as a persistent source in the 20-100 keV band.*								
NGC 526A	20.976	-35.065	3.95	2.8±0.5	3.3±0.9	AGN, Sy1.9		6.4	141
	Detected as a persistent source in the 20-100 keV band.								
IGR J01295+5011	22.364	50.183	4.61	0.5±0.2	<0.7	?	Y	5.4	948
	Detected in a 1.1 day outburst from MJD=53003.2. Flags: WARN								
IGR J01363+6610	23.956	66.212	3.62	<0.2	<0.4	HMXB, Be, T	YY	7.0	2976
	Detected in a 25.5 day outburst from MJD=53101.3.								
ESO 297-G18	24.655	-40.011	3.46	2.7±0.4	3.2±0.7	AGN, Sy2		7.4	242
	Detected as a persistent source in the 20-100 keV band.								
4U 0142+614	26.593	61.751	1.06	1.7±0.1	4.4±0.2	AXP		28.9	2651
	Detected as a persistent source in the 20-100 keV band.								
RX J0146.9+6121	26.751	61.357	1.91	1.1±0.1	0.6±0.2	HMXB, XP, Be, T	Y	14.4	2612
V831 Cas	*Detected in a 812.9 day outburst from MJD=52636.5.*								
IGR J01529-3531	28.2	-35.495	4.78	1.8±0.6	<2.0	?		5.2	136
	Detected as a persistent source in the 17-30 keV band.								
IGR J01528-0326	28.204	-3.447	2.72	1.2±0.1	1.4±0.3	AGN, Sy2		9.7	1474
	Detected as a persistent source in the 18-60 keV band.								
IGR J01528-0845	28.234	-8.769	5.28	0.5±0.1	<0.5	AGN?		4.7	1431
	Detected as a persistent source in the 18-60 keV band.								
IGR J01545+6437	28.605	64.62	3.74	0.5±0.1	<0.4	AGN, Sy2		6.8	2491
	Detected as a persistent source in the 17-30 keV band.								
IGR J01572-7259	29.318	-72.976	3.02	1.0±0.2	1.0±0.3	HMXB, XP, Be?	Y	8.6	1303
IGR J015712-7259	*Detected in a 676.8 day outburst from MJD=54806.9.*								
IGR J01583+6713	29.576	67.224	1.99	0.3±0.1	<0.4	HMXB, XP?, Be, T	Y	13.8	2315
	Detected in a 4.1 day outburst from MJD=53709.3.								
Mrk 584	30.099	2.711	4.25	0.5±0.2	1.5±0.3	AGN, Sy1.8		5.9	1093
	Detected as a persistent source in the 20-100 keV band.								
NGC 788	30.277	-6.816	0.99	3.6±0.1	4.1±0.2	AGN, Sy2		31.6	1706
	Detected as a persistent source in the 18-60 keV band.								
Mrk 1018	31.534	-0.284	3.09	1.1±0.1	1.3±0.2	AGN, Sy1		8.4	1550
	Detected as a persistent source in the 18-60 keV band.								
IGR J02086-1742	32.145	-17.659	3.55	1.4±0.2	0.9±0.4	AGN, Sy1.2		7.2	768
	Detected as a persistent source in the 18-60 keV band.								

Table 2—Continued

Name[a]	RA	Dec	Error[b]	F20-40[c]	F40-100[c]	Type[d]	Vari[e]	Signif[f]	Exposure[g]
IGR J02097+5222	32.407	52.445	2.39	1.7±0.2	1.9±0.3	AGN, Sy1		11.2	913
	Detected as a persistent source in the 18-60 keV band.								
Mrk 590	33.625	-0.811	3.88	0.6±0.1	0.7±0.2	AGN, Sy1		6.5	1662
	Detected as a persistent source in the 18-60 keV band.								
SWIFT J0216.3+5128	34.113	51.424	3.79	1.0±0.2	1.2±0.4	AGN, Sy2?		6.7	780
	Detected as a persistent source in the 18-60 keV band.								
SWIFT J0218.0+7348	34.398	73.833	3.15	1.2±0.2	2.0±0.4	AGN, QSO, Blazar		8.2	1009
	Detected as a persistent source in the 20-100 keV band.								
IGR J02242+2356	36.068	23.939	4.25	1.4±0.5	3.4±0.9	?	Y	5.9	164
	Detected in a 621.3 day outburst from MJD=54834.2.								
IGR J02252+3748	36.314	37.802	4.64	1.3±0.3	<0.9	?		5.4	366
	Detected as a persistent source in the 18-60 keV band.								
Mrk 1040	37.061	31.311	2.79	2.7±0.3	2.3±0.5	AGN, Sy1.5		9.4	354
	Detected as a persistent source in the 18-60 keV band.								
IGR J02341+0228	38.525	2.464	3.39	0.8±0.2	1.0±0.3	AGN, QSO		7.6	1288
QSO B0231+022	*Detected as a persistent source in the 30-60 keV band.*								
IGR J02343+3229	38.583	32.506	2.74	2.1±0.3	2.4±0.4	AGN, Sy2, Liner		9.6	492
	Detected as a persistent source in the 18-60 keV band.								
NGC 985	38.657	-8.788	2.18	1.2±0.1	1.9±0.2	AGN, Sy1.5		12.4	1412
	Detected as a persistent source in the 18-60 keV band.								
LS I+61 303	40.132	61.229	2.08	1.6±0.1	2.3±0.3	HMXB, M		13.1	1476
GT 0236+610	*Detected as a persistent source in the 18-60 keV band.*								
NGC 1052	40.27	-8.256	2.87	1.1±0.1	1.4±0.3	AGN, Sy2, Liner		9.1	1380
	Detected as a persistent source in the 18-60 keV band.								
RBS 345	40.567	5.53	4.78	0.8±0.2	1.3±0.4	AGN, Sy1		5.2	828
	Detected as a persistent source in the 18-60 keV band.								
NGC 1068	40.67	-0.013	2.43	1.6±0.2	1.4±0.3	AGN, Sy2		11.0	1263
	Detected as a persistent source in the 18-60 keV band.								
IGR J02447+7046	41.178	70.775	4.78	<0.4	<0.7	AGN	YY	5.2	1128
	Detected in a 3.4 day outburst from MJD=52955.7.								
QSO B0241+62	41.233	62.463	1.25	2.9±0.2	3.9±0.3	AGN, Sy1.2		23.7	1422
	Detected as a persistent source in the 18-60 keV band.								
SWIFT J0249.1+2627	42.259	26.509	3.79	0.9±0.3	1.3±0.4	AGN, Sy2	Y	6.7	571
	Detected in a 1579.3 day outburst from MJD=53821.7.								
IGR J02504+5443	42.674	54.704	3.34	1.1±0.2	1.5±0.3	AGN, Sy2		7.7	1032
	Detected as a persistent source in the 20-100 keV band.								
MCG-02-08-014	43.097	-8.511	4.54	0.8±0.2	0.6±0.3	AGN, Sy2?		5.5	1074
	Detected as a persistent source in the 18-60 keV band.								
NGC 1142	43.801	-0.184	1.42	3.3±0.2	4.0±0.3	AGN, Sy2		20.4	815
	Detected as a persistent source in the 18-60 keV band.								
XY Ari	44.017	19.44	3.73	2.1±0.3	1.4±0.6	CV, IP		6.8	416
H 0253+193	*Detected as a persistent source in the 18-60 keV band.*								
IGR J02564-5232	44.126	-52.533	4.78	1.7±0.3	1.6±0.6	?		5.2	334
	Detected as a persistent source in the 20-100 keV band.								
MCG -02-08-038	44.937	-10.77	4.86	0.9±0.2	1.2±0.4	AGN, Sy1		5.1	778
SWIFT J0300.0-1048	*Detected as a persistent source in the 20-100 keV band.*								

Table 2—Continued

Name[a]	RA	Dec	Error[b]	F20-40[c]	F40-100[c]	Type[d]	Vari[e]	Signif[f]	Exposure[g]
NGC 1194	45.942	-1.147	4.18	1.0±0.2	1.7±0.4	AGN, Sy2		6.0	581
	Detected as a persistent source in the 20-100 keV band.								
XMMSL1 J030715.5-545536	46.73	-54.908	5.04	1.2±0.4	<1.4	?		4.9	255
	Detected as a persistent source in the 18-60 keV band.								
PKS 0312-770	47.843	-76.819	4.95	0.6±0.2	0.8±0.3	AGN, Sy1/QSO		5.0	1373
SWIFT J0311.8-7653	*Detected as a persistent source in the 18-60 keV band.*								
B3 0309+411B	48.258	41.334	4.46	0.5±0.2	<0.6	AGN, Sy1	Y	5.6	952
	Detected in a 1.1 day outburst from MJD=53218.7.								
SWIFT J0318.7+6828	49.76	68.43	4.61	1.0±0.2	<0.8	AGN, Sy1.9	Y	5.4	841
	Detected in a 1404.5 day outburst from MJD=52636.5.								
NGC 1275	49.951	41.512	1.28	3.1±0.2	1.4±0.3	AGN, Sy1.5, Liner		23.1	1034
	Detected as a persistent source in the 18-60 keV band.								
IGR J03199+7402	49.964	74.043	4.86	1.3±0.3	1.7±0.6	?		5.1	479
	Detected as a persistent source in the 20-100 keV band.								
1H 0323+342	51.172	34.179	3.59	0.9±0.1	0.9±0.3	AGN, NLS1		7.1	1410
	Detected as a persistent source in the 20-100 keV band.								
IGR J03248-0223	51.233	-2.403	4.86	2.9±0.6	<2.1	?		5.1	114
	Detected as a persistent source in the 17-30 keV band.								
GK Per	52.799	43.905	1.93	2.2±0.2	0.9±0.3	CV, IP		14.3	1084
	Detected as a persistent source in the 20-40 keV band.								
IGR J03334+3718	53.328	37.303	2.96	1.2±0.1	1.1±0.2	AGN, Sy1.5		8.8	1466
	Detected as a persistent source in the 18-60 keV band.								
NGC 1365	53.402	-36.138	4.44	2.6±0.5	<2.0	AGN, Sy1.9		5.6	117
	Detected as a persistent source in the 18-60 keV band.								
EXO 0331+530	53.75	53.173	0.18	147.9±0.2	24.9±0.3	HMXB, XP, Be, T	Y	1794.1	1004
	Detected in a 50.1 day outburst from MJD=53364.9.								
NRAO 140	54.112	32.308	2.25	1.5±0.1	1.4±0.3	AGN, QSO, Blazar		12.0	1493
	Detected as a persistent source in the 18-60 keV band.								
ESO 548-G081	55.478	-21.258	4.13	1.7±0.5	4.7±1.0	AGN, Sy1	Y	6.1	101
	Detected in a 1.3 day outburst from MJD=53931.3.								
IGR J03532-6829	58.239	-68.522	3.30	0.8±0.1	1.0±0.2	AGN, BL Lac	Y	7.8	1764
	Detected in a 2424.9 day outburst from MJD=52641.4.								
SWIFT J0353.7+3711	58.34	37.136	5.01	0.3±0.1	0.7±0.2	AGN, Liner	Y	4.9	1654
	Detected in a 0.6 day outburst from MJD=54494.0.								
X Per	58.846	31.046	0.29	28.5±0.2	34.0±0.3	HMXB, XP, Be		227.6	1442
4U 0352+309	*Detected as a persistent source in the 18-60 keV band.*								
4C +62.08	59.099	62.714	4.95	<0.6	<0.9	AGN, Sy1, QSO	Y	5.0	532
IGR J03564+6242	*Detected in a 947.5 day outburst from MJD=53394.6.*								
SWIFT J0357.6+4153	59.461	41.9	3.73	0.8±0.1	1.0±0.3	AGN		6.8	1598
	Detected as a persistent source in the 20-100 keV band.								
3C 098	59.686	10.42	4.01	1.6±0.3	2.6±0.6	AGN, Sy2		6.3	265
	Detected as a persistent source in the 20-100 keV band.								
IGR J03599+5043	59.973	50.728	4.01	0.7±0.2	1.2±0.3	?	Y	6.3	1331
	Detected in a 2303.8 day outburst from MJD=52816.5.								
IGR J04069+5042	61.73	50.702	4.25	<0.3	<0.6	?	Y	5.9	1389
	Detected in a 535.8 day outburst from MJD=52888.9.								

Table 2—Continued

Name[a]	RA	Dec	Error[b]	F20-40[c]	F40-100[c]	Type[d]	Vari[e]	Signif[f]	Exposure[g]
4C 03.8	61.856	3.702	3.55	1.5±0.3	2.5±0.5	AGN, Sy2		7.2	317
	Detected as a persistent source in the 20-100 keV band.								
3C 111	64.589	38.027	0.93	4.2±0.2	5.4±0.3	AGN, Sy1		34.2	1606
	Detected as a persistent source in the 18-60 keV band.								
IGR J04221+4856	65.53	48.95	4.46	0.7±0.2	<0.5	AGN, Sy1		5.6	1569
	Detected as a persistent source in the 18-60 keV band.								
LEDA 15023	65.951	4.145	3.47	1.3±0.2	1.1±0.4	AGN, Sy2		7.4	667
	Detected as a persistent source in the 18-60 keV band.								
3C 120	68.296	5.354	1.20	3.8±0.2	4.3±0.3	AGN, Sy1.5		25.0	927
	Detected as a persistent source in the 18-60 keV band.								
RX J0440.9+4431	70.247	44.53	0.55	3.4±0.1	2.7±0.3	HMXB, Be	Y	70.5	1639
	Detected in a 3.2 day outburst from MJD=55442.2.								
UGC 3142	70.945	28.972	2.01	1.8±0.3	2.3±0.4	AGN, Sy1		13.6	705
	Detected as a persistent source in the 20-100 keV band.								
SWIFT J0444.1+2813	71.04	28.172	3.50	0.6±0.2	1.1±0.3	AGN, Sy2	Y	7.3	734
	Detected in a 1611.8 day outburst from MJD=52919.0.								
SWIFT J0451.5-6949	72.778	-69.801	2.08	0.8±0.1	<0.4	HMXB, XP	Y	13.1	2250
SWIFT J045106.8-694803	*Detected in a 1403.3 day outburst from MJD=54185.0.*								
SWIFT J0450.7-5813	72.843	-58.163	4.46	0.7±0.2	1.4±0.3	AGN, Sy1.5		5.6	1030
	Detected as a persistent source in the 20-100 keV band.								
MCG -01-13-025	72.897	-3.697	4.19	0.7±0.2	1.0±0.3	AGN, Sy1.2		6.0	1228
SWIFT J0451.4-0346	*Detected as a persistent source in the 18-60 keV band.*								
LEDA 168563	73.02	49.546	1.96	1.7±0.2	1.9±0.3	AGN, Sy1		14.0	1499
	Detected as a persistent source in the 18-60 keV band.								
SWIFT J0453.4+0404	73.379	4.034	2.64	1.2±0.1	0.7±0.3	AGN, Sy2		10.0	1509
	Detected as a persistent source in the 18-60 keV band.								
IGR J04539+4502	73.46	45.038	4.69	0.6±0.1	0.5±0.3	?		5.3	1584
	Detected as a persistent source in the 18-60 keV band.								
ESO 33-G02	73.998	-75.541	1.60	1.9±0.1	1.8±0.2	AGN, Sy2		17.7	1919
	Detected as a persistent source in the 18-60 keV band.								
IGR J04571+4527	74.281	45.464	3.30	1.0±0.1	<0.5	CV, IP?, DM		7.8	1566
	Detected as a persistent source in the 17-30 keV band.								
IGR J05007-7047	75.192	-70.743	2.64	0.8±0.1	0.8±0.2	HMXB, Be, T	Y	10.0	2286
	Detected in a 52.7 day outburst from MJD=55378.3.								
SGR 0501+4516	75.278	45.276	4.32	<0.3	<0.5	SGR, T	Y	5.8	1521
	Detected in a 9.7 day outburst from MJD=54697.2.								
LEDA 075258	75.541	3.518	3.79	0.6±0.1	0.9±0.2	AGN, Sy1		6.7	1675
	Detected as a persistent source in the 18-60 keV band.								
V1062 Tau	75.615	24.756	2.02	1.6±0.2	1.1±0.3	CV, IP		13.5	1045
	Detected as a persistent source in the 20-100 keV band.								
SWIFT J0505.8-2351	76.44	-23.854	2.28	2.9±0.3	3.5±0.5	AGN, Sy2		11.8	400
	Detected as a persistent source in the 18-60 keV band.								
IGR J05081+1722	77.036	17.345	3.55	0.9±0.2	0.6±0.2	AGN, Sy2	Y	7.2	1275
SWIFT J0508.1+1727	*Detected in a 1119.3 day outburst from MJD=52733.2.*								
4U 0517+17	77.69	16.499	1.05	3.4±0.2	3.4±0.2	AGN, Sy1.5		29.4	1270
	Detected as a persistent source in the 18-60 keV band.								

Table 2—Continued

Name[a]	RA	Dec	Error[b]	F20-40[c]	F40-100[c]	Type[d]	Vari[e]	Signif[f]	Exposure[g]
4U 0513-40	78.527	-40.044	2.82	2.8±0.3	1.9±0.6	LMXB, B, G		9.3	290
Detected as a persistent source in the 18-60 keV band.									
SWIFT J0515.3+1854	78.845	18.95	2.82	0.9±0.2	1.2±0.2	AGN, Sy2	Y	9.3	1357
Detected in a 932.8 day outburst from MJD=54402.8.									
IGR J05157+1238	78.908	12.673	4.04	<0.3	<0.5	?	YY	6.2	1327
Detected in a 1.6 day outburst from MJD=55258.7.									
Ark 120	79.048	-0.15	1.14	2.9±0.1	3.1±0.2	AGN, Sy1		26.6	1862
Detected as a persistent source in the 18-60 keV band.									
SWIFT J0516.3+1928	79.094	19.483	3.23	0.9±0.2	0.9±0.2	AGN, Sy2		8.0	1254
Detected as a persistent source in the 20-100 keV band.									
SWIFT J0519.5-3140	79.899	-32.657	2.12	2.4±0.2	3.0±0.4	AGN, Sy1.5		12.8	576
Detected as a persistent source in the 18-60 keV band.									
PICTOR A	79.957	-45.779	4.25	2.7±0.5	<1.7	AGN, Sy1, Liner		5.9	144
Detected as a persistent source in the 20-40 keV band.									
LMC X-2	80.155	-71.982	3.23	0.5±0.1	0.5±0.2	LMXB, Z		8.0	2284
Detected as a persistent source in the 17-30 keV band.									
PKS 0521-36	80.71	-36.468	4.86	0.7±0.2	1.6±0.5	AGN, Sy1		5.1	481
Detected as a persistent source in the 18-60 keV band.									
RX J0525.3+2413	81.344	24.226	2.99	1.6±0.2	<0.4	CV, IP		8.7	1333
Detected as a persistent source in the 20-40 keV band.									
IGR J05288-6840	82.289	-68.718	4.78	0.4±0.1	<0.4	?	Y	5.2	2363
Detected in a 157.4 day outburst from MJD=55333.3.									
3A 0527-329	82.35	-32.811	1.58	3.7±0.2	1.6±0.4	CV, IP		18.0	606
TV Col	*Detected as a persistent source in the 17-30 keV band.*								
IGR J05305-6559	82.637	-65.984	2.69	2.0±0.1	1.2±0.2	HMXB		9.8	2292
Detected as a persistent source in the 18-60 keV band.									
PKS 0528+134	82.735	13.532	3.09	0.8±0.2	0.7±0.2	AGN, QSO, Blazar	Y	8.4	1383
Detected in a 2333.9 day outburst from MJD=52910.6.									
EXO 053109-6609.2	82.805	-66.118	1.35	2.0±0.1	1.2±0.2	HMXB, Be, T	Y	21.7	2292
Detected in a 63.2 day outburst from MJD=55356.2.									
LMC X-4	83.207	-66.37	0.29	23.6±0.1	7.4±0.2	HMXB, XP		223.5	2306
Detected as a persistent source in the 20-40 keV band.									
Crab	83.633	22.014	0.16	1000.5±0.1	1000.1±0.2	PWN, PSR		10011.7	2398
4U 0531+21	*Detected as a persistent source in the 18-60 keV band.*								
IGR J05346-5759	83.71	-58.028	4.13	1.1±0.2	<0.6	CV, Nova-like		6.1	1103
TW Pic	*Detected as a persistent source in the 17-30 keV band.*								
1A 0535+262	84.727	26.316	0.18	63.2±0.1	35.5±0.2	HMXB, XP, Be, T	Y	1316.7	1469
Detected in a 5.7 day outburst from MJD=55289.5.									
LMC X-1	84.911	-69.743	1.00	2.4±0.1	1.6±0.2	HMXB, BH	Y	31.4	2353
Detected in a 75.9 day outburst from MJD=52641.4.									
QSO J0539-2839	84.967	-28.611	3.84	0.8±0.2	1.5±0.4	AGN, QSO, Blazar		6.6	646
Detected as a persistent source in the 20-100 keV band.									
PSR B0540-69.3	85.032	-69.335	1.31	1.9±0.1	1.8±0.2	PWN, PSR		22.4	2380
Detected as a persistent source in the 18-60 keV band.									
IGR J05414-6858	85.361	-69.024	2.55	<0.2	<0.4	HMXB, Be, T	Y	10.4	2344
Detected in a 52.7 day outburst from MJD=55333.5.									

Table 2—Continued

Name[a]	RA	Dec	Error[b]	F20-40[c]	F40-100[c]	Type[d]	Vari[e]	Signif[f]	Exposure[g]
BY Cam	85.704	60.859	4.01	1.7±0.3	1.5±0.5	CV, P		6.3	461
4U 0541+60	*Detected as a persistent source in the 18-60 keV band.*								
SWIFT J0544.4+5909	86.086	59.141	4.69	1.4±0.3	<1.0	AGN, Sy2		5.3	520
	Detected as a persistent source in the 20-40 keV band.								
IGR J05470+5034	86.812	50.64	4.54	0.7±0.2	<0.7	AGN, Sy2	Y	5.5	919
SWIFT J0547.3+5042	*Detected in a 59.6 day outburst from MJD=55062.0.*								
IGR J05511-1218	87.776	-12.322	4.86	1.2±0.2	<0.9	?		5.1	675
	Detected as a persistent source in the 18-60 keV band.								
NGC 2110	88.047	-7.456	0.58	10.1±0.2	13.1±0.3	AGN, Sy2		64.2	1040
	Detected as a persistent source in the 18-60 keV band.								
IGR J05549+6318	88.683	63.314	4.61	<0.6	1.2±0.5	?		5.4	478
	Detected as a persistent source in the 30-60 keV band.								
MCG+08-11-011	88.723	46.439	0.85	7.5±0.2	8.1±0.4	AGN, Sy1.5		38.5	752
	Detected as a persistent source in the 18-60 keV band.								
4U 0557-385	89.508	-38.334	4.54	1.2±0.3	<1.0	AGN, Sy1.2	Y	5.5	423
	Detected in a 252.9 day outburst from MJD=53956.7.								
SWIFT J0558.0+5352	89.531	53.912	3.18	1.7±0.3	1.7±0.4	CV, IP, DQ?		8.1	696
RX J0558.0+5353	*Detected as a persistent source in the 18-60 keV band.*								
IRAS 05589+2828	90.54	28.471	1.29	2.8±0.2	2.9±0.3	AGN, Sy1		22.8	1011
	Detected as a persistent source in the 20-100 keV band.								
SWIFT J0601.9-8636	91.413	-86.631	3.84	1.3±0.3	1.3±0.5	AGN, Sy2	Y	6.6	492
ESO 005-G004	*Detected in a 36.5 day outburst from MJD=52843.8.*								
IGR J06058-2755	91.45	-27.911	5.38	1.0±0.2	<0.9	AGN, Sy1.5		4.6	534
	Detected as a persistent source in the 18-60 keV band.								
IGR J06123+3713	93.073	37.236	4.25	1.2±0.4	1.1±0.6	?	Y	5.9	337
	Detected in a 0.9 day outburst from MJD=54706.1. Flags: WARN								
Mrk 3	93.901	71.037	1.13	4.7±0.2	6.5±0.4	AGN, Sy2		26.8	649
	Detected as a persistent source in the 20-100 keV band.								
4U 0614+091	94.28	9.137	0.45	22.2±0.3	14.8±0.5	LMXB, B, A		97.2	422
	Detected as a persistent source in the 18-60 keV band.								
IGR J06212+5443	95.314	54.675	4.86	1.0±0.3	1.4±0.5	?	Y	5.1	488
	Detected in a 1.6 day outburst from MJD=55064.5. Flags: WARN								
IGR J06239-6052	95.94	-60.979	2.75	1.1±0.2	1.2±0.3	AGN, Sy2		9.6	1347
	Detected as a persistent source in the 18-60 keV band.								
SWIFT J0623.8-3215	95.979	-32.185	5.04	1.2±0.3	<1.1	AGN, Sy2		4.9	339
	Detected as a persistent source in the 20-40 keV band.								
IGR J06253+7334	96.342	73.602	4.27	1.2±0.2	<0.8	CV, IP		5.9	701
MU Cam	*Detected as a persistent source in the 17-30 keV band.*								
IGR J06293-1359	97.327	-13.998	4.86	0.8±0.2	<0.8	?	Y	5.1	857
	Detected in a 1611.4 day outburst from MJD=52875.3.								
IGR J06323+1048	98.073	10.803	3.95	<0.6	<1.0	?	YY	6.4	315
	Detected in a 6.9 day outburst from MJD=52930.2.								
PKS 0637-752	98.944	-75.271	3.59	0.7±0.1	1.2±0.2	AGN, QSO, Blazar		7.1	1792
SWIFT J0635.9-7515	*Detected as a persistent source in the 18-60 keV band.*								
SWIFT J0640.4-2554	100.045	-25.83	3.95	2.1±0.4	1.8±0.6	AGN, Sy1.2		6.4	361
ESO 490-IG026	*Detected as a persistent source in the 20-40 keV band.*								

Table 2—Continued

Name[a]	RA	Dec	Error[b]	F20-40[c]	F40-100[c]	Type[d]	Vari[e]	Signif[f]	Exposure[g]
IGR J06415+3251	100.368	32.861	2.79	2.0±0.3	1.8±0.5	AGN, Sy2		9.4	222
Detected as a persistent source in the 18-60 keV band.									
IGR J06414-4329	100.375	-43.501	5.38	2.0±0.7	<2.4	?	Y	4.6	92
Detected in a 1155.2 day outburst from MJD=53137.5.									
IGR J06421-5305	100.603	-53.081	4.86	1.4±0.6	<2.0	?	Y	5.1	177
Detected in a 40.9 day outburst from MJD=55362.6. Flags: WARN									
Mrk 6	103.051	74.427	1.84	2.5±0.2	2.6±0.3	AGN, Sy1.5		15.1	831
Detected as a persistent source in the 18-60 keV band.									
IGR J06552-1146	103.792	-11.77	4.78	<0.3	<0.6	?	Y	5.2	1378
Detected in a 1611.4 day outburst from MJD=52875.4.									
3A 0656-072	104.57	-7.21	0.74	3.3±0.2	1.1±0.3	HMXB, XP, Be, T	Y	46.0	1422
Detected in a 3.3 day outburst from MJD=54414.2.									
IGR J07072-1227	106.801	-12.427	4.86	0.5±0.1	0.8±0.3	?		5.1	1523
Detected as a persistent source in the 18-60 keV band.									
SWIFT J0709.3-1527	107.287	-15.509	4.32	0.9±0.2	<0.6	AGN		5.8	1380
PKS0706-15	*Detected as a persistent source in the 18-60 keV band.*								
IGR J07096-7150	107.624	-71.858	4.06	<0.3	<0.5	?	Y	6.2	1589
Detected in a 157.4 day outburst from MJD=55341.2.									
IGR J07202+0009	110.063	0.127	4.25	<0.4	<0.7	?	Y	5.9	829
Detected in a 1.3 day outburst from MJD=55321.7. Flags: WARN									
IGR J07225-3810	110.621	-38.168	5.20	1.5±0.3	<1.0	AGN, Blazar		4.7	430
Detected as a persistent source in the 17-30 keV band.									
PKS 0723-008	111.492	-0.955	3.74	0.6±0.2	1.2±0.4	AGN, BL Lac		6.8	863
SWIFT J0725.7-0055	*Detected as a persistent source in the 30-60 keV band.*								
3A 0726-260	112.209	-26.099	4.39	1.2±0.3	<0.9	HMXB, XP		5.7	542
Detected as a persistent source in the 17-30 keV band.									
IGR J07304-7212	112.641	-72.233	3.89	0.6±0.2	<0.5	?	Y	6.5	1269
Detected in a 43.9 day outburst from MJD=55357.0.									
SWIFT J0732.5-1331	113.156	-13.518	2.66	1.5±0.2	0.8±0.3	CV, IP		9.9	1377
V667 Pup	*Detected as a persistent source in the 18-60 keV band.*								
IGR J07361-4537	114.034	-45.618	5.45	<0.3	<0.5	?	YY	4.5	1485
Detected in a 10.1 day outburst from MJD=53359.9. Flags: WARN									
Mrk 79	115.769	49.812	4.21	3.1±0.8	<2.7	AGN, Sy1.2		6.0	74
SWIFT J0742.5+4948	*Detected as a persistent source in the 18-60 keV band.*								
IGR J07437-5137	115.921	-51.617	4.32	0.7±0.2	<0.5	?		5.8	1589
Detected as a persistent source in the 18-60 keV band.									
SWIFT J0746.3-1608	116.597	-16.228	4.25	1.1±0.2	<0.7	CV, IP?		5.9	1013
Detected as a persistent source in the 20-40 keV band.									
IGR J07480-8329	117.049	-83.496	5.41	1.2±0.3	<0.9	?	Y	4.5	546
Detected in a 12.2 day outburst from MJD=52648.2. Flags: WARN									
EXO 0748-676	117.141	-67.753	0.42	14.9±0.2	12.8±0.3	LMXB, B, D, T	Y	108.7	935
Detected in a 1683.9 day outburst from MJD=52641.4.									
IGR J07506-1547	117.646	-15.788	4.69	<0.4	0.8±0.4	?	Y	5.3	914
Detected in a 449.7 day outburst from MJD=52714.2.									
IGR J07541-3500	118.547	-35.008	5.23	0.6±0.2	<0.6	?		4.7	916
Detected as a persistent source in the 18-60 keV band. Flags: WARN									

Table 2—Continued

Name[a]	RA	Dec	Error[b]	F20-40[c]	F40-100[c]	Type[d]	Vari[e]	Signif[f]	Exposure[g]
IGR J07565-4139	119.082	-41.628	3.19	0.8±0.1	0.8±0.2	AGN, Sy2	Y	8.1	2133
Detected in a 808.7 day outburst from MJD=52893.1.									
IGR J07597-3842	119.924	-38.733	1.36	2.6±0.1	1.9±0.2	AGN, Sy1.2		21.4	1820
Detected as a persistent source in the 18-60 keV band.									
SWIFT J0800.7-4309	120.092	-43.166	4.86	0.5±0.1	<0.4	?		5.1	2445
Detected as a persistent source in the 18-60 keV band.									
1RXS J080114.6-462324	120.284	-46.379	3.26	0.4±0.1	0.6±0.2	CV, IP	Y	7.9	2679
Detected in a 2.8 day outburst from MJD=53687.1.									
ESO 209-G12	120.49	-49.778	1.99	1.2±0.1	1.5±0.2	AGN, Sy1.5		13.8	2568
Detected as a persistent source in the 20-100 keV band.									
IGR J08030-6853	120.765	-68.892	4.25	<0.4	1.0±0.4	?	Y	5.9	776
Detected in a 4.9 day outburst from MJD=55353.9. Flags: WARN									
Mrk 1210	121.021	5.153	3.55	2.9±0.6	4.0±1.0	AGN, Sy2		7.2	142
SWIFT J0804.2+0506	*Detected as a persistent source in the 20-100 keV band.*								
IGR J08062+4159	121.566	41.99	4.46	3.3±0.7	<2.3	?	Y	5.6	56
Detected in a 4.4 day outburst from MJD=53500.6. Flags: WARN									
PG 0804+761	122.744	76.045	4.06	1.0±0.2	0.8±0.3	AGN, Sy1		6.2	1158
Detected as a persistent source in the 20-40 keV band.									
IGR J08190-3835	124.759	-38.583	3.55	0.7±0.1	0.6±0.2	AGN, Sy2		7.2	2720
Detected as a persistent source in the 20-100 keV band.									
IGR J08262+4051	126.556	40.855	4.86	1.2±0.5	<1.7	?	Y	5.1	100
Detected in a 2.3 day outburst from MJD=53500.6.									
IGR J08262-3736	126.558	-37.62	4.01	0.6±0.1	0.7±0.2	HMXB, Sg		6.3	2719
Detected as a persistent source in the 20-100 keV band.									
Vela Pulsar	128.836	-45.176	0.44	6.8±0.1	7.4±0.1	PWN, PSR		99.7	3880
Detected as a persistent source in the 18-60 keV band.									
4U 0836-429	129.348	-42.901	0.23	13.4±0.1	12.0±0.1	LMXB, B, T	Y	428.2	3814
GS 0836-429	*Detected in a 188.5 day outburst from MJD=52955.4.*								
FRL 1146	129.628	-35.993	2.09	1.3±0.1	1.4±0.2	AGN, Sy1.5		13.0	2480
Detected as a persistent source in the 18-60 keV band.									
IGR J08390-4833	129.704	-48.524	2.93	0.6±0.1	<0.3	CV, IP		8.9	3847
Detected as a persistent source in the 18-60 keV band.									
IGR J08408-4503	130.196	-45.059	3.26	<0.2	<0.3	HMXB, SFXT	Y	7.9	4031
Detected in a 0.6 day outburst from MJD=52821.7.									
QSO B0836+710	130.352	70.895	1.39	2.3±0.2	4.1±0.3	AGN, QSO, Blazar		20.9	1398
Detected as a persistent source in the 20-100 keV band.									
SWIFT J0845.0-3531	131.31	-35.495	4.61	0.6±0.1	0.7±0.2	AGN, Sy1.2		5.4	2247
1RXS J084521.7-353048	*Detected as a persistent source in the 18-60 keV band.*								
IGR J08447+6610	131.356	66.144	4.95	0.4±0.2	0.9±0.3	?		5.0	1257
Detected as a persistent source in the 20-100 keV band.									
IGR J08507+1503	132.669	15.054	5.04	1.8±0.4	<1.5	?		4.9	176
Detected as a persistent source in the 20-40 keV band.									
IGR J08517-1827	132.931	-18.452	4.25	2.3±0.6	<2.0	?	Y	5.9	118
Detected in a 2.8 day outburst from MJD=53496.7. Flags: WARN									
IGR J08557+6420	133.942	64.349	4.42	0.8±0.2	0.9±0.3	AGN, Sy2?		5.7	1139
Detected as a persistent source in the 18-60 keV band.									

Table 2—Continued

Name[a]	RA	Dec	Error[b]	F20-40[c]	F40-100[c]	Type[d]	Vari[e]	Signif[f]	Exposure[g]
IGR J08558+0814	133.957	8.248	5.14	2.6±0.5	<1.9	AGN, Sy1		4.8	121
	Detected as a persistent source in the 17-30 keV band.								
Mrk 18	135.416	60.15	4.01	1.1±0.3	1.9±0.4	AGN, Sy2		6.3	707
SWIFT J0902.0+6007	*Detected as a persistent source in the 18-60 keV band.*								
Vela X-1	135.529	-40.555	0.17	223.2±0.1	55.0±0.2	HMXB, XP		2401.3	3727
	Detected as a persistent source in the 20-40 keV band.								
IGR J09026-4812	135.656	-48.226	1.67	1.2±0.1	1.1±0.1	AGN, Sy1		16.8	3885
	Detected as a persistent source in the 18-60 keV band.								
IGR J09025-6814	135.664	-68.227	4.69	0.7±0.2	1.4±0.4	AGN, XBONG	Y	5.3	806
	Detected in a 225.9 day outburst from MJD=52955.6.								
IGR J09034+5329	135.833	53.506	4.89	1.7±0.6	<2.1	?		5.1	123
1RXS J090320.0+53302	*Detected as a persistent source in the 17-30 keV band.*								
1RXS J090431.1-382920	136.128	-38.49	3.79	0.6±0.1	0.5±0.2	AGN, Sy1		6.7	2855
	Detected as a persistent source in the 20-100 keV band.								
IGR J09058+7747	136.48	77.813	3.59	<0.4	<0.7	?	Y	7.1	1083
	Detected in a 0.7 day outburst from MJD=55134.5.								
SWIFT J0917.2-6221	139.039	-62.325	2.53	1.4±0.1	0.8±0.2	AGN, Sy1		10.5	1817
	Detected as a persistent source in the 18-60 keV band.								
IGR J09189-4418	139.744	-44.31	5.24	0.2±0.1	0.4±0.2	AGN	Y	4.7	3548
	Detected in a 1140.5 day outburst from MJD=52758.5.								
MCG-01-24-012	140.193	-8.056	4.32	1.7±0.4	3.0±0.8	AGN, Sy2		5.8	166
	Detected as a persistent source in the 20-100 keV band.								
4U 0918-549	140.217	-55.216	0.89	4.0±0.1	3.1±0.2	LMXB, B		36.5	2882
	Detected as a persistent source in the 18-60 keV band.								
SWIFT J0924.2-3141	140.969	-31.706	4.32	1.0±0.2	1.6±0.4	?		5.8	732
CXO J092418.2-314217	*Detected as a persistent source in the 20-100 keV band. Flags: BLEND*								
Mrk 110	141.304	52.286	4.19	3.7±0.7	3.0±1.1	AGN, NLS1		6.0	85
	Detected as a persistent source in the 18-60 keV band.								
IGR J09253+6929	141.448	69.464	4.30	0.7±0.2	0.6±0.3	AGN, Sy1.5		5.8	1369
	Detected as a persistent source in the 17-30 keV band.								
SWIFT J0929.7+6232	142.428	62.522	3.38	1.1±0.2	1.3±0.4	AGN, Sy2		7.6	955
	Detected as a persistent source in the 18-60 keV band.								
IGR J09446-2636	146.152	-26.565	5.45	<0.6	<1.1	AGN, Sy1.5	Y	4.5	346
	Detected in a 0.6 day outburst from MJD=53496.8.								
IGR J09453-2600	146.327	-26.049	4.95	<0.6	<1.1	?	Y	5.0	358
	Detected in a 5.4 day outburst from MJD=53493.5.								
NGC 2992	146.425	-14.326	1.96	3.5±0.3	4.4±0.5	AGN, Sy2		14.0	279
	Detected as a persistent source in the 18-60 keV band.								
MCG-05-23-16	146.917	-30.948	0.92	8.6±0.3	8.6±0.5	AGN, Sy2		34.5	400
	Detected as a persistent source in the 18-60 keV band.								
4C 73.08	147.505	73.257	4.69	0.8±0.2	<0.6	AGN, Sy2		5.3	1292
SWIFT J0950.5+7318	*Detected as a persistent source in the 20-40 keV band.*								
IGR J09523-6231	148.085	-62.543	2.93	0.8±0.1	0.6±0.2	AGN, Sy1.9		8.9	2264
	Detected as a persistent source in the 18-60 keV band.								
M81	148.951	69.06	4.69	0.6±0.2	0.7±0.3	AGN, Sy1.8, Liner		5.3	1287
	Detected as a persistent source in the 18-60 keV band.								

Table 2—Continued

Name[a]	RA	Dec	Error[b]	F20-40[c]	F40-100[c]	Type[d]	Vari[e]	Signif[f]	Exposure[g]
SWIFT J0958.0-4208	149.461	-42.144	3.84	0.9±0.2	<0.5	CV, IP?		6.6	1456
	Detected as a persistent source in the 20-40 keV band.								
NGC 3081	149.873	-22.826	2.06	3.2±0.3	4.1±0.5	AGN, Sy2		13.2	354
	Detected as a persistent source in the 18-60 keV band.								
SWIFT J0959.7-3112	149.958	-31.223	4.19	1.3±0.3	1.3±0.5	AGN, Sy1		6.0	385
1RXS J095942.1-311300	*Detected as a persistent source in the 18-60 keV band.*								
NGC 3079	150.449	55.747	4.46	1.8±0.4	2.5±0.8	AGN, Sy2		5.6	254
SWIFT J1001.7+5543	*Detected as a persistent source in the 18-60 keV band.*								
GRO J1008-57	152.442	-58.292	0.42	4.8±0.1	2.3±0.2	HMXB, XP, Be, T	Y	105.9	2775
	Detected in a 11.9 day outburst from MJD=54913.2.								
SWIFT J1009.3-4250	152.451	-42.812	2.49	1.6±0.2	1.7±0.3	AGN, Sy2		10.7	1221
ESO 263-G013	*Detected as a persistent source in the 18-60 keV band.*								
IGR J10101-5654	152.549	-56.926	2.20	0.9±0.1	0.5±0.2	HMXB, Be	Y	12.3	2711
	Detected in a 220.6 day outburst from MJD=52937.2.								
IGR J10109-5746	152.762	-57.804	1.97	1.2±0.1	0.5±0.2	CV, Symb		13.9	2822
V648 Cor	*Detected as a persistent source in the 18-60 keV band.*								
IGR J10147-6354	153.563	-63.864	5.35	<0.2	0.4±0.2	AGN, Sy1.2	Y	4.6	2572
	Detected in a 837.7 day outburst from MJD=52692.4.								
IGR J10163-5028	154.071	-50.481	5.24	<0.3	<0.4	?	Y	4.7	2067
	Detected in a 14.3 day outburst from MJD=53742.8. Flags: WARN								
IGR J10200-1436	155.007	-14.611	4.94	1.9±0.4	<1.4	?		5.0	173
	Detected as a persistent source in the 20-40 keV band.								
NGC 3227	155.878	19.865	1.73	6.3±0.5	6.3±0.8	AGN, Sy1.5		16.2	122
	Detected as a persistent source in the 18-60 keV band.								
IGR J10252-6829	156.252	-68.458	5.45	<0.3	0.8±0.2	?	Y	4.5	1682
	Detected in a 0.6 day outburst from MJD=54143.1.								
NGC 3281	157.967	-34.854	2.31	3.2±0.3	3.2±0.6	AGN, Sy2		11.6	263
	Detected as a persistent source in the 18-60 keV band.								
IGR J10344+1401	158.604	14.017	4.39	2.0±0.8	<2.7	?	Y	5.7	51
	Detected in a 634.2 day outburst from MJD=52806.3.								
4U 1036-56	159.391	-56.799	1.17	1.2±0.1	<0.3	HMXB, Be, T	Y	25.8	2853
	Detected in a 33.3 day outburst from MJD=54113.2.								
SWIFT J1038.8-4942	159.688	-49.782	3.09	0.8±0.1	1.4±0.2	AGN, Sy1.5		8.4	1673
	Detected as a persistent source in the 20-100 keV band.								
IGR J10404-4625	160.093	-46.424	2.51	1.7±0.2	2.4±0.3	AGN, Sy2		10.6	1004
	Detected as a persistent source in the 20-100 keV band.								
IGR J10432-6300	160.802	-63.013	5.45	<0.2	<0.3	?	Y	4.5	2980
	Detected in a 5.6 day outburst from MJD=53529.7. Flags: WARN								
IGR J10432-4446	160.805	-44.779	4.46	<0.5	1.0±0.4	?	Y	5.6	696
	Detected in a 22.3 day outburst from MJD=52805.4. Flags: WARN								
IGR J10447-6027	161.15	-60.431	3.34	0.7±0.1	0.9±0.2	?		7.7	3097
	Detected as a persistent source in the 18-60 keV band.								
Eta Carinae	161.196	-59.755	3.89	0.3±0.1	0.6±0.2	XB		6.5	3090
4U 1053-58	*Detected as a persistent source in the 18-60 keV band.*								
MCG+04-26-006	161.722	25.903	5.04	0.9±0.3	1.9±0.6	AGN, Liner		4.9	274
	Detected as a persistent source in the 20-100 keV band.								

Table 2—Continued

Name[a]	RA	Dec	Error[b]	F20-40[c]	F40-100[c]	Type[d]	Vari[e]	Signif[f]	Exposure[g]
IGR J11014-6103	165.443	-61.022	4.46	0.2±0.1	0.7±0.2	PWN, PSR		5.6	3237
Detected as a persistent source in the 20-100 keV band.									
Mrk 421	166.114	38.209	0.35	17.5±0.2	12.1±0.3	AGN, BL Lac	Y	149.0	670
Detected in a 48.0 day outburst from MJD=53870.1.									
NGC 3516	166.698	72.569	1.40	3.5±0.2	4.4±0.3	AGN, Sy1.5		20.8	972
Detected as a persistent source in the 20-100 keV band.									
IGR J11098-6457	167.36	-65.04	4.25	0.5±0.1	0.6±0.2	CV, Symb		5.9	2995
Detected as a persistent source in the 20-100 keV band.									
IGR J11187-5438	169.588	-54.626	3.46	0.6±0.1	0.8±0.2	LMXB?		7.4	2731
Detected as a persistent source in the 20-100 keV band.									
1A 1118-615	170.238	-61.916	0.36	3.4±0.1	1.6±0.2	HMXB, XP, Be, T	Y	139.2	3307
Detected in a 34.9 day outburst from MJD=54864.6.									
Cen X-3	170.316	-60.623	0.20	55.8±0.1	5.8±0.2	HMXB, XP		751.1	3397
Detected as a persistent source in the 17-30 keV band.									
IGR J11215-5952	170.445	-59.863	1.46	0.3±0.1	<0.3	HMXB, SFXT	Y	19.7	3313
Detected in a 0.5 day outburst from MJD=52823.6.									
1RXS J112955.1-655542	172.487	-65.906	4.54	0.5±0.1	0.6±0.2	AGN?		5.5	3089
Detected as a persistent source in the 17-30 keV band.									
IGR J11305-6256	172.779	-62.947	0.92	2.6±0.1	1.3±0.2	HMXB	Y	34.9	3415
Detected in a 447.9 day outburst from MJD=53098.6.									
IGR J11321-5311	173.067	-53.195	3.55	<0.2	<0.4	AXP?	YY	7.2	2416
Detected in a 0.5 day outburst from MJD=53548.9.									
IGR J11366-6002	174.175	-60.052	3.59	0.7±0.1	0.5±0.2	AGN, Sy2, Liner		7.1	3374
Detected as a persistent source in the 20-100 keV band.									
NGC 3783	174.757	-37.739	2.96	8.6±1.1	5.5±1.8	AGN, Sy1.5		8.8	46
Detected as a persistent source in the 18-60 keV band.									
GT Mus	174.873	-65.398	1.39	0.6±0.1	<0.3	RSCVn	Y	20.9	3208
IGR J11395-6520	*Detected in a 0.8 day outburst from MJD=52824.2.*								
IGR J11435-6109	176.001	-61.127	0.68	3.2±0.1	2.1±0.2	HMXB, XP, Be, T	Y	51.9	3453
Detected in a 9.7 day outburst from MJD=53537.8.									
SWIFT J1143.7+7942	176.306	79.626	4.69	1.3±0.3	1.3±0.5	AGN, Sy1.2		5.3	556
Detected as a persistent source in the 18-60 keV band.									
H 1143-182	176.419	-18.454	4.19	4.0±0.7	3.6±1.2	AGN, Sy1.5		6.0	94
Detected as a persistent source in the 20-40 keV band.									
PKS 1143-696	176.449	-69.894	3.46	0.8±0.1	1.1±0.2	AGN, Sy1.2		7.4	2126
Detected as a persistent source in the 20-100 keV band.									
GRB080723B	176.795	-60.231	2.49	<0.2	<0.3	GRB	YY	10.7	3316
IGR J11470-6015	*Detected in a 0.5 day outburst from MJD=54670.0.*								
1E 1145.1-6141	176.869	-61.954	0.29	20.5±0.1	12.1±0.2	HMXB, XP, T		225.6	3454
Detected as a persistent source in the 18-60 keV band.									
B2 1144+35B	176.885	35.108	3.95	0.6±0.1	0.8±0.3	AGN, Sy2	Y	6.4	1163
Detected in a 1321.5 day outburst from MJD=54122.4.									
2E 1145.5-6155	177.0	-62.207	0.88	2.1±0.1	1.4±0.2	HMXB, XP, T	Y	36.7	3492
H 1145-619	*Detected in a 1.9 day outburst from MJD=52789.1.*								
IGR J11486-0505	177.16	-5.098	4.58	1.2±0.2	<0.7	?		5.4	829
Detected as a persistent source in the 20-40 keV band. Flags: WARN									

Table 2—Continued

Name[a]	RA	Dec	Error[b]	F20-40[c]	F40-100[c]	Type[d]	Vari[e]	Signif[f]	Exposure[g]
IGR J11502-5427	177.542	-54.463	5.24	<0.2	<0.4	?	YY	4.7	2606
	Detected in a 1.1 day outburst from MJD=53165.3. Flags: WARN								
IGR J11592+1437	179.809	14.621	4.86	<0.3	<0.5	?	Y	5.1	1705
	Detected in a 1.0 day outburst from MJD=53560.6. Flags: WARN								
IGR J11597-6324	179.92	-63.408	4.01	<0.2	<0.3	?	Y	6.3	3348
	Detected in a 1.1 day outburst from MJD=54294.7.								
SWIFT J1200.8+0650	180.241	6.806	2.74	0.9±0.1	1.2±0.2	AGN, Sy2		9.6	2477
	Detected as a persistent source in the 18-60 keV band.								
IGR J12026-5349	180.698	-53.835	1.32	2.4±0.1	2.2±0.2	AGN, Sy2		22.3	2307
	Detected as a persistent source in the 18-60 keV band.								
NGC 4051	180.79	44.531	1.82	2.0±0.1	1.4±0.3	AGN, NLS1		15.3	1232
	Detected as a persistent source in the 20-40 keV band.								
NGC 4074	181.136	20.249	3.20	1.1±0.2	1.1±0.3	AGN, Sy2		8.1	1341
	Detected as a persistent source in the 18-60 keV band.								
IGR J12077-6547	181.925	-65.789	4.54	<0.2	<0.3	?	Y	5.5	3349
	Detected in a 16.8 day outburst from MJD=54114.5. Flags: WARN								
Mrk 198	182.292	47.107	5.00	0.7±0.2	<0.6	AGN, Sy2		5.0	949
SWIFT J1209.5+4702	*Detected as a persistent source in the 18-60 keV band.*								
NGC 4138	182.374	43.685	2.46	0.9±0.1	1.5±0.2	AGN, Sy1.9		10.8	1240
	Detected as a persistent source in the 18-60 keV band.								
NGC 4151	182.636	39.405	0.29	23.1±0.1	27.4±0.2	AGN, Sy1.5		216.9	1311
	Detected as a persistent source in the 18-60 keV band.								
IGR J12107+0525	182.677	5.416	4.19	0.5±0.1	0.6±0.2	?	Y	6.0	3057
	Detected in a 0.5 day outburst from MJD=52644.6.								
IGR J12107+3822	182.681	38.381	4.76	0.5±0.1	0.5±0.2	AGN, Sy1.5	Y	5.2	1307
	Detected in a 1321.5 day outburst from MJD=53725.9.								
IGR J12123-5802	183.108	-58.006	4.05	0.5±0.1	<0.3	CV, IP		6.2	3056
	Detected as a persistent source in the 17-30 keV band.								
IGR J12131+0700	183.207	6.996	3.84	0.5±0.1	0.9±0.2	AGN, Sy1.5-Sy1.8	Y	6.6	3190
	Detected in a 2417.3 day outburst from MJD=52765.4.								
EXMS B1210-645	183.272	-64.897	2.51	1.0±0.1	0.6±0.2	HMXB, Be, T		10.6	3422
	Detected as a persistent source in the 17-30 keV band.								
IGR J12134-6015	183.35	-60.254	4.01	0.5±0.1	0.4±0.2	?	Y	6.3	3408
	Detected in a 1605.1 day outburst from MJD=53292.6.								
NGC 4235	184.288	7.159	2.08	1.0±0.1	1.0±0.2	AGN, Sy1.2		13.1	3387
	Detected as a persistent source in the 18-60 keV band.								
Mrk 766	184.611	29.813	2.93	1.2±0.1	0.9±0.2	AGN, NLS1		8.9	1360
	Detected as a persistent source in the 20-100 keV band.								
NGC 4258	184.74	47.304	3.79	1.0±0.2	1.1±0.3	AGN, Sy2		6.7	881
	Detected as a persistent source in the 20-40 keV band.								
PKS 1217+02	185.083	2.057	3.50	0.6±0.1	0.6±0.2	AGN, Sy1.2		7.3	3291
1RXS J122011.9+020342	*Detected as a persistent source in the 18-60 keV band.*								
IGR J12207+1517	185.193	15.287	4.01	<0.2	1.0±0.2	?	Y	6.3	2448
	Detected in a 1398.9 day outburst from MJD=53623.8.								
PG 1218+305	185.343	30.136	3.46	0.6±0.1	0.5±0.2	AGN, BL Lac	Y	7.4	1387
SWIFT J1221.3+3012	*Detected in a 368.8 day outburst from MJD=54439.1.*								

Table 2—Continued

Name[a]	RA	Dec	Error[b]	F20-40[c]	F40-100[c]	Type[d]	Vari[e]	Signif[f]	Exposure[g]
4C 04.42	185.594	4.221	2.20	0.8±0.1	1.6±0.2	AGN, QSO, Blazar		12.3	3573
Detected as a persistent source in the 20-100 keV band.									
Mrk 50	185.851	2.679	2.79	0.9±0.1	0.6±0.2	AGN, Sy1		9.4	3472
Detected as a persistent source in the 18-60 keV band.									
PG 1222+216	186.226	21.366	3.38	0.8±0.1	1.1±0.2	AGN, QSO, Blazar		7.6	1807
SWIFT J1224.9+2122	*Detected as a persistent source in the 20-100 keV band.*								
NGC 4388	186.446	12.662	0.38	10.0±0.1	12.5±0.2	AGN, Sy2		125.9	2967
Detected as a persistent source in the 18-60 keV band.									
NGC 4395	186.454	33.547	2.49	1.0±0.1	1.3±0.2	AGN, Sy2		10.7	1468
Detected as a persistent source in the 18-60 keV band.									
GX 301-2	186.657	-62.771	0.18	192.3±0.1	20.6±0.2	HMXB, XP, T		2074.5	3702
Detected as a persistent source in the 17-30 keV band.									
XSS J12270-4859	187.008	-48.893	2.30	1.6±0.2	1.5±0.3	LMXB, MSP		11.7	1313
1RX J122758.8-485348	*Detected as a persistent source in the 18-60 keV band.*								
3C 273	187.278	2.052	0.32	13.2±0.1	17.0±0.2	AGN, Sy1, QSO		173.8	3589
Detected as a persistent source in the 18-60 keV band.									
IGR J12319-0749	187.977	-7.816	3.97	0.8±0.1	<0.4	AGN, QSO, Blazar		6.4	2004
Detected as a persistent source in the 18-60 keV band.									
Mrk 771	188.039	20.125	4.01	0.6±0.1	<0.4	AGN, Sy1	Y	6.3	2072
SWIFT J1232.1+2009	*Detected in a 468.4 day outburst from MJD=55010.4.*								
XSS J12303-4232	188.054	-42.295	4.86	0.8±0.2	<0.8	AGN, Sy1.5		5.1	756
SWIFT J1232.0-4219	*Detected as a persistent source in the 18-60 keV band.*								
IGR J12341-6143	188.467	-61.796	3.98	<0.2	<0.3	?	Y	6.3	3470
Detected in a 0.9 day outburst from MJD=54649.9.									
RT Cru	188.728	-64.566	0.76	4.1±0.1	2.5±0.2	XB, Symb		44.3	3395
IGR J12349-6434	*Detected as a persistent source in the 18-60 keV band.*								
NGC 4507	188.902	-39.909	0.80	7.8±0.2	10.4±0.4	AGN, Sy2		41.8	682
Detected as a persistent source in the 18-60 keV band.									
SWIFT J1238.6+0928	189.642	9.488	4.54	0.4±0.1	<0.3	AGN, Sy2		5.5	3387
2MASX J12384342+0927362	*Detected as a persistent source in the 18-60 keV band.*								
ESO 506-G27	189.727	-27.308	2.84	4.0±0.5	5.3±0.9	AGN, Sy2		9.2	159
Detected as a persistent source in the 20-100 keV band.									
LEDA 170194	189.776	-16.18	2.46	1.7±0.2	2.2±0.4	AGN, Sy2		10.8	666
Detected as a persistent source in the 18-60 keV band.									
NGC 4593	189.914	-5.344	0.81	3.7±0.1	4.3±0.2	AGN, Sy1		40.8	2561
Detected as a persistent source in the 18-60 keV band.									
IGR J12415-5750	190.356	-57.834	1.83	1.4±0.1	1.4±0.2	AGN, Sy1.5		15.2	2979
Detected as a persistent source in the 18-60 keV band.									
1H 1249-637	190.709	-63.059	3.46	0.6±0.1	<0.3	HMXB, Be		7.4	3374
Detected as a persistent source in the 17-30 keV band.									
IGR J12482-5828	191.991	-58.5	3.23	0.6±0.1	0.8±0.2	AGN, Sy1.9	Y	8.0	3214
Detected in a 1602.9 day outburst from MJD=52650.6.									
IGR J12489-6243	192.223	-62.718	4.86	<0.2	<0.3	?	Y	5.1	3415
Detected in a 774.0 day outburst from MJD=52650.6.									
4U 1246-588	192.415	-59.087	0.82	3.4±0.1	3.0±0.2	LMXB, T		40.0	3251
Detected as a persistent source in the 18-60 keV band.									

Table 2—Continued

Name[a]	RA	Dec	Error[b]	F20-40[c]	F40-100[c]	Type[d]	Vari[e]	Signif[f]	Exposure[g]
NGC 4748	193.05	-13.43	4.95	0.6±0.2	0.7±0.3	AGN, NLS1		5.0	1094
Detected as a persistent source in the 18-60 keV band.									
EX Hya	193.071	-29.296	4.54	1.4±0.3	<1.1	CV, IP, DQ?		5.5	349
4U 1228-29	*Detected as a persistent source in the 18-60 keV band.*								
ESO 323-G32	193.335	-41.637	3.69	0.8±0.2	0.9±0.3	AGN, Sy2		6.9	1148
Detected as a persistent source in the 18-60 keV band.									
3C 279	194.047	-5.789	2.90	0.9±0.1	1.4±0.2	AGN, QSO, Blazar		9.0	2093
Detected as a persistent source in the 20-100 keV band.									
IGR J12562+2554	194.051	25.905	4.71	0.5±0.1	0.6±0.2	Cluster?		5.3	1848
Detected as a persistent source in the 18-60 keV band.									
1H 1254-690	194.405	-69.289	1.01	2.5±0.1	<0.4	LMXB, B, D		30.7	2673
Detected as a persistent source in the 17-30 keV band.									
IGR J12579-0633	194.519	-6.521	4.13	<0.3	<0.5	?	YY	6.1	1935
Detected in a 21.1 day outburst from MJD=55000.7.									
IGR J12585-6045	194.634	-60.765	5.24	<0.2	<0.3	?	Y	4.7	3501
Detected in a 24.2 day outburst from MJD=54103.7. Flags: WARN									
Coma Cluster	194.953	27.981	1.87	1.4±0.1	<0.4	Cluster		14.8	1849
Detected as a persistent source in the 17-30 keV band.									
GX 304-1	195.322	-61.602	1.33	1.6±0.1	0.7±0.2	HMXB, XP, T	Y	22.1	3564
Detected in a 1335.8 day outburst from MJD=53652.5.									
IGR J13020-6359	195.497	-63.968	1.46	1.8±0.1	1.3±0.2	HMXB, XP, Be		19.8	3463
Detected as a persistent source in the 18-60 keV band. Flags: BLEND									
Mrk 783	195.745	16.408	3.09	0.9±0.1	1.3±0.2	AGN, NLS1		8.4	2131
Detected as a persistent source in the 20-100 keV band.									
PSR B1259-63	195.75	-63.833	2.69	0.9±0.1	1.2±0.2	PSR, Be		9.8	3518
Detected as a persistent source in the 20-100 keV band. Flags: BLEND									
IGR J13038+5348	195.951	53.798	4.61	1.1±0.3	2.3±0.5	AGN, Sy1.2		5.4	299
Detected as a persistent source in the 20-100 keV band.									
NGC 4941	196.055	-5.552	4.18	0.6±0.1	0.7±0.2	AGN, Sy2		6.0	1785
Detected as a persistent source in the 18-60 keV band.									
IGR J13042-1020	196.06	-10.34	3.50	0.9±0.2	1.4±0.3	AGN, Sy2		7.3	1254
NGC 4939	*Detected as a persistent source in the 20-100 keV band.*								
IGR J13045-5630	196.131	-56.515	3.64	0.8±0.1	0.4±0.2	?		7.0	3076
Detected as a persistent source in the 20-40 keV band.									
NGC 4945	196.359	-49.471	0.42	11.3±0.1	17.0±0.2	AGN, Sy2		109.1	2021
Detected as a persistent source in the 20-100 keV band.									
ESO 323-G77	196.611	-40.414	2.04	1.8±0.1	1.3±0.3	AGN, Sy1.2		13.4	1330
Detected as a persistent source in the 18-60 keV band.									
IGR J13091+1137	197.273	11.634	1.73	1.6±0.1	2.6±0.2	AGN, XBONG		16.2	2165
Detected as a persistent source in the 20-100 keV band.									
IGR J13107-5626	197.655	-56.449	3.64	0.6±0.1	0.6±0.2	AGN, RG	Y	7.0	3078
Detected in a 883.6 day outburst from MJD=53799.3.									
IGR J13109-5552	197.68	-55.87	1.90	1.2±0.1	1.9±0.2	AGN, Sy1		14.5	3056
Detected as a persistent source in the 20-100 keV band.									
IGR J13133-1109	198.321	-11.143	5.12	0.9±0.2	<0.7	AGN, Sy1		4.8	920
1RXS J131305.9-110731	*Detected as a persistent source in the 20-40 keV band.*								

Table 2—Continued

Name[a]	RA	Dec	Error[b]	F20-40[c]	F40-100[c]	Type[d]	Vari[e]	Signif[f]	Exposure[g]
IGR J13149+4422	198.822	44.407	4.39	1.0±0.2	0.7±0.4	AGN, Sy2, Liner		5.7	815
Detected as a persistent source in the 18-60 keV band.									
IGR J13166+2340	199.132	23.66	4.60	0.7±0.1	<0.5	?		5.4	1720
Detected as a persistent source in the 20-40 keV band.									
IGR J13168-7157	199.226	-71.923	3.69	0.6±0.1	0.9±0.2	AGN, Sy1.5		6.9	1924
Detected as a persistent source in the 18-60 keV band.									
IGR J13186-6257	199.605	-62.971	3.26	0.6±0.1	<0.3	HMXB?, Be?		7.9	3526
Detected as a persistent source in the 18-60 keV band.									
IGR J13191+2307	199.787	23.119	4.69	0.6±0.1	<0.5	?	Y	5.3	1685
Detected in a 2283.9 day outburst from MJD=53239.7.									
NGC 5100	200.219	8.915	4.06	0.7±0.1	0.9±0.3	AGN, Liner		6.2	1916
Detected as a persistent source in the 18-60 keV band.									
IGR J13216-5947	200.447	-59.766	4.39	0.4±0.1	<0.3	?		5.7	3496
Detected as a persistent source in the 18-60 keV band.									
MCG-03-34-064	200.602	-16.729	4.34	1.6±0.3	1.4±0.5	AGN, Sy2		5.8	434
IGR J13225-1645	*Detected as a persistent source in the 20-40 keV band.*								
SAX J1324.3-6313	201.161	-63.228	4.25	0.3±0.1	0.4±0.2	LMXB, B, T	Y	5.9	3501
Detected in a 57.4 day outburst from MJD=52667.8.									
CEN A	201.365	-43.019	0.23	44.3±0.1	54.6±0.2	AGN, Sy2		408.3	1780
Detected as a persistent source in the 18-60 keV band.									
4U 1323-62	201.65	-62.136	0.41	9.0±0.1	6.7±0.2	LMXB, B, D		110.3	3581
Detected as a persistent source in the 18-60 keV band.									
IGR J13290-6323	202.267	-63.392	3.89	0.3±0.1	0.3±0.2	?	Y	6.5	3544
Detected in a 3.1 day outburst from MJD=52836.4.									
IGR J13307-6038	202.671	-60.633	4.39	<0.2	<0.3	?	Y	5.7	3565
Detected in a 9.3 day outburst from MJD=53085.7. Flags: WARN									
ESO 383-G18	203.36	-34.016	3.84	0.9±0.2	0.7±0.3	AGN, Sy2		6.6	1153
Detected as a persistent source in the 18-60 keV band.									
BH CVn	203.699	37.182	4.19	0.7±0.2	<0.7	RSCVn	Y	6.0	810
1RX J133447.5+37110	*Detected in a 11.5 day outburst from MJD=52773.9.*								
MCG-6-30-15	203.974	-34.296	1.31	3.1±0.1	2.1±0.3	AGN, Sy1.2		22.5	1192
Detected as a persistent source in the 18-60 keV band.									
NGC 5252	204.567	4.542	0.84	4.9±0.2	6.1±0.3	AGN, Sy1.9		38.8	1470
Detected as a persistent source in the 18-60 keV band.									
IGR J13396-3306	204.892	-33.101	5.14	<0.3	<0.6	?	Y	4.8	1056
Detected in a 1550.4 day outburst from MJD=52650.8.									
IGR J13402-6428	205.05	-64.48	3.64	0.4±0.1	<0.3	?	Y	7.0	3521
Detected in a 613.6 day outburst from MJD=52926.8.									
IGR J13408-6836	205.191	-68.615	5.14	<0.2	<0.4	?	YY	4.8	2889
Detected in a 41.9 day outburst from MJD=53802.2. Flags: WARN									
IGR J13415+3033	205.296	30.378	2.84	1.2±0.2	1.2±0.3	AGN, Sy2		9.2	1158
Mrk 268	*Detected as a persistent source in the 18-60 keV band.*								
SWIFT J1344.7+1934	206.139	19.596	4.69	0.5±0.2	1.7±0.3	AGN, Sy2, Liner		5.3	1146
Detected as a persistent source in the 20-100 keV band.									
IGR J13466+1921	206.619	19.386	5.09	0.8±0.2	<0.7	AGN, Sy1.2	Y	4.8	1091
Detected in a 1903.3 day outburst from MJD=53144.6.									

Table 2—Continued

Name[a]	RA	Dec	Error[b]	F20-40[c]	F40-100[c]	Type[d]	Vari[e]	Signif[f]	Exposure[g]
CEN B	206.704	-60.391	2.17	1.1±0.1	1.5±0.2	AGN, RG/Type, 2		12.5	3576
	Detected as a persistent source in the 20-100 keV band. Flags: BLEND								
4U 1344-60	206.883	-60.61	0.66	4.5±0.1	4.7±0.2	AGN, Sy1.5		54.5	3577
	Detected as a persistent source in the 18-60 keV band.								
IGR J13477-4210	206.998	-42.185	5.15	0.6±0.1	<0.4	AGN, Sy2		4.8	2101
	Detected as a persistent source in the 20-40 keV band.								
IC 4329A	207.33	-30.31	0.52	11.4±0.2	12.8±0.3	AGN, Sy1.2		75.7	792
	Detected as a persistent source in the 18-60 keV band.								
IGR J13499-4832	207.468	-48.543	4.69	<0.2	<0.4	?	YY	5.3	2485
	Detected in a 1.2 day outburst from MJD=54472.6. Flags: WARN								
1AXG J135417-3746	208.564	-37.776	3.26	0.9±0.1	0.7±0.2	AGN, Sy1.9		7.9	1812
Tol 1351-375	*Detected as a persistent source in the 18-60 keV band.*								
IGR J13550-7218	208.805	-72.32	4.46	0.5±0.1	0.8±0.2	AGN, Sy2	Y	5.6	1945
	Detected in a 909.5 day outburst from MJD=53287.3.								
PKS 1355-416	209.719	-41.827	4.78	0.5±0.1	<0.4	AGN, Sy1	Y	5.2	2275
1RXS J135859.0-415259	*Detected in a 1.1 day outburst from MJD=52871.6.*								
IGR J13595-3454	209.912	-34.904	4.69	0.4±0.1	<0.5	?	Y	5.3	1509
	Detected in a 0.8 day outburst from MJD=54882.3. Flags: WARN								
IGR J14003-6326	210.19	-63.429	2.64	0.8±0.1	0.9±0.2	SNR, PSR, PWN		10.0	3381
	Detected as a persistent source in the 20-100 keV band.								
IGR J14018-4051	210.526	-40.831	4.95	<0.2	<0.4	?	Y	5.0	2243
	Detected in a 40.4 day outburst from MJD=54103.6. Flags: WARN								
IGR J14043-6148	211.123	-61.789	3.42	0.6±0.1	0.7±0.2	?		7.5	3513
	Detected as a persistent source in the 20-100 keV band.								
IGR J14059-6116	211.485	-61.275	4.13	0.4±0.1	0.5±0.2	?	Y	6.1	3548
	Detected in a 2198.6 day outburst from MJD=52980.4.								
IGR J14080-3023	212.027	-30.398	4.13	0.7±0.2	0.8±0.3	AGN, Sy1.5		6.1	1029
	Detected as a persistent source in the 18-60 keV band.								
V834 Cen	212.281	-45.288	4.27	0.8±0.1	<0.4	CV, P		5.9	2544
1E 1405-45	*Detected as a persistent source in the 17-30 keV band.*								
IGR J14102+0722	212.549	7.377	4.95	<0.3	<0.6	?	YY	5.0	1343
	Detected in a 0.6 day outburst from MJD=54487.1. Flags: WARN								
SWIFT J1410.9-4229	212.665	-42.498	4.86	0.6±0.1	0.6±0.2	AGN, Sy2		5.1	2477
	Detected as a persistent source in the 20-40 keV band.								
Circinus Galaxy	213.287	-65.341	0.35	13.5±0.1	10.9±0.2	AGN, Sy2		151.7	3274
	Detected as a persistent source in the 18-60 keV band.								
NGC 5506	213.312	-3.207	0.63	10.8±0.2	9.6±0.4	AGN, Sy2		57.4	777
	Detected as a persistent source in the 18-60 keV band.								
IGR J14175-4641	214.266	-46.694	2.44	1.1±0.1	1.2±0.2	AGN, Sy2		10.9	2628
	Detected as a persistent source in the 18-60 keV band.								
SWIFT J1417.7+2539	214.476	25.679	4.78	1.5±0.3	<1.1	AGN, BL Lac		5.2	390
1RXS J141756.8+254329	*Detected as a persistent source in the 20-40 keV band.*								
NGC 5548	214.499	25.137	2.39	2.5±0.3	2.6±0.5	AGN, Sy1.5		11.2	399
	Detected as a persistent source in the 18-60 keV band.								
IGR J14193-6048	214.821	-60.801	4.54	0.4±0.1	0.4±0.2	PSR, PWN		5.5	3498
	Detected as a persistent source in the 18-60 keV band.								

Table 2—Continued

Name[a]	RA	Dec	Error[b]	F20-40[c]	F40-100[c]	Type[d]	Vari[e]	Signif[f]	Exposure[g]
ESO 511-G030	214.842	-26.645	2.55	2.0±0.2	2.4±0.4	AGN, Sy1		10.4	758
	Detected as a persistent source in the 18-60 keV band.								
H 1417-624	215.303	-62.698	1.40	0.7±0.1	0.4±0.2	HMXB, XP, Be?, T	Y	20.8	3438
	Detected in a 11.1 day outburst from MJD=54651.4.								
H 1419+480	215.373	47.791	5.40	1.1±0.3	<0.9	AGN, Sy1.5		4.5	394
QSO B1419+480	*Detected as a persistent source in the 18-60 keV band.*								
IGR J14227-2931	215.683	-29.519	4.61	0.7±0.2	<0.6	?	Y	5.4	1183
	Detected in a 1246.6 day outburst from MJD=52650.8.								
IGR J14229-3347	215.728	-33.792	3.95	<0.3	<0.5	?	Y	6.4	1809
	Detected in a 2.1 day outburst from MJD=54154.6.								
IGR J14235-1547	215.87	-15.779	4.13	1.2±0.3	1.9±0.6	?		6.1	371
	Detected as a persistent source in the 18-60 keV band.								
IGR J14257-6117	216.282	-61.316	4.85	0.4±0.1	0.4±0.2	CV, IP?		5.1	3490
	Detected as a persistent source in the 20-100 keV band.								
H 1426+428	217.136	42.675	5.04	1.0±0.3	1.2±0.5	AGN, BL Lac		4.9	372
	Detected as a persistent source in the 18-60 keV band.								
IGR J14297-5623	217.415	-56.396	4.01	<0.2	<0.3	?	YY	6.3	3521
	Detected in a 1.5 day outburst from MJD=53431.6.								
IGR J14298-6715	217.498	-67.245	2.76	0.9±0.1	0.6±0.2	LMXB		9.5	2896
	Detected as a persistent source in the 18-60 keV band.								
IGR J14300-2558	217.509	-25.982	4.86	0.8±0.2	<0.8	?		5.1	799
	Detected as a persistent source in the 20-40 keV band.								
IGR J14301-4158	217.518	-41.979	4.25	0.5±0.1	<0.4	AGN, Sy2	Y	5.9	2548
	Detected in a 1526.7 day outburst from MJD=52879.8.								
IGR J14315-7046	217.878	-70.773	4.06	<0.3	<0.4	?	YY	6.2	2233
	Detected in a 2.6 day outburst from MJD=52831.8.								
IGR J14319-3315	217.988	-33.245	3.95	0.3±0.1	0.9±0.2	?	Y	6.4	1849
	Detected in a 1035.3 day outburst from MJD=52702.5.								
NGC 5643	218.172	-44.173	3.64	0.7±0.1	0.7±0.2	AGN, Sy2		7.0	2609
	Detected as a persistent source in the 18-60 keV band.								
IGR J14331-6112	218.285	-61.261	3.46	0.6±0.1	<0.3	HMXB, Be		7.4	3533
	Detected as a persistent source in the 18-60 keV band.								
NGC 5674	218.453	5.473	4.01	0.9±0.2	1.2±0.3	AGN, Sy2		6.3	1041
SWIFT J1433.9+0528	*Detected as a persistent source in the 20-100 keV band.*								
SWIFT J1436.8-1615	219.183	-16.114	3.84	1.4±0.3	<1.0	AGN, QSO		6.6	522
	Detected as a persistent source in the 20-40 keV band.								
IGR J14385+8553	219.616	85.883	5.04	<0.7	1.3±0.6	?	Y	4.9	254
	Detected in a 164.3 day outburst from MJD=53175.3.								
IGR J14388-0724	219.732	-7.413	4.12	<0.4	0.9±0.4	?	YY	6.1	736
	Detected in a 0.7 day outburst from MJD=55214.1.								
NGC 5728	220.597	-17.281	1.82	3.2±0.3	3.4±0.5	AGN, Sy2		15.3	537
	Detected as a persistent source in the 18-60 keV band.								
IGR J14437-1653	220.938	-16.894	4.54	0.7±0.3	1.9±0.5	?		5.5	558
	Detected as a persistent source in the 20-100 keV band.								
IGR J14443-2750	221.072	-27.827	3.99	0.4±0.2	<0.6	?	Y	6.3	1080
	Detected in a 9.1 day outburst from MJD=55227.2.								

Table 2—Continued

Name[a]	RA	Dec	Error[b]	F20-40[c]	F40-100[c]	Type[d]	Vari[e]	Signif[f]	Exposure[g]
IGR J14471-6414	221.618	-64.273	3.64	0.6±0.1	0.6±0.2	AGN, Sy1.2		7.0	3090
Detected as a persistent source in the 18-60 keV band.									
IGR J14466-3352	221.656	-33.875	4.54	0.3±0.1	0.6±0.2	AGN?, Blazar?	Y	5.5	1960
Detected in a 416.1 day outburst from MJD=53774.0.									
IGR J14471-6319	221.811	-63.289	3.50	0.6±0.1	0.7±0.2	AGN, Sy2		7.3	3263
Detected as a persistent source in the 20-100 keV band.									
IGR J14488-5942	222.205	-59.701	3.19	0.6±0.1	<0.3	HMXB, Be	Y	8.1	3584
Detected in a 883.6 day outburst from MJD=54108.5.									
IGR J14488-4008	222.212	-40.146	4.54	0.5±0.1	<0.4	AGN, Sy1.2		5.5	2495
Detected as a persistent source in the 18-60 keV band.									
IGR J14492-5535	222.303	-55.606	2.05	0.9±0.1	1.2±0.2	AGN		13.3	3720
LEDA 3085605	*Detected as a persistent source in the 18-60 keV band.*								
IGR J14515-5542	222.888	-55.677	1.94	1.1±0.1	1.4±0.2	AGN, Sy2		14.2	3725
Detected as a persistent source in the 18-60 keV band.									
IGR J14532-6356	223.312	-63.927	5.45	<0.2	<0.4	?	YY	4.5	3143
Detected in a 33.2 day outburst from MJD=52667.3. Flags: WARN									
IGR J14536-5522	223.424	-55.362	1.93	1.0±0.1	0.4±0.2	CV, IP	Y	14.3	3780
1RX J145341.1-552146	*Detected in a 883.6 day outburst from MJD=52915.8.*								
PKS 1451-375	223.591	-37.774	4.69	0.3±0.1	0.8±0.2	AGN, Sy1.2		5.3	2354
1RXS J145427.2-374738	*Detected as a persistent source in the 20-100 keV band.*								
IGR J14552-5133	223.825	-51.57	2.51	1.0±0.1	0.9±0.2	AGN, NLS1		10.6	3556
Detected as a persistent source in the 18-60 keV band.									
IGR J14557-5448	223.862	-54.786	4.61	0.5±0.1	0.5±0.2	?		5.4	3762
Detected as a persistent source in the 18-60 keV band.									
IGR J14561-3738	224.034	-37.648	2.64	0.9±0.1	1.1±0.2	AGN, Sy2		10.0	2338
Detected as a persistent source in the 18-60 keV band.									
IC 4518A	224.422	-43.132	1.91	1.4±0.1	0.8±0.2	AGN, Sy2		14.4	2751
Detected as a persistent source in the 18-60 keV band.									
1RXS J145959.4+120124	224.991	12.003	4.39	0.7±0.3	1.1±0.5	?	Y	5.7	553
Detected in a 48.7 day outburst from MJD=54640.7. Flags: WARN									
1RXS J150101.7+223812	225.285	22.624	5.14	0.9±0.4	3.2±0.7	AGN, BL Lac		4.8	228
RBS 1452	*Detected as a persistent source in the 20-100 keV band.*								
IGR J15038-6021	225.941	-60.357	3.95	0.5±0.1	0.4±0.2	?		6.4	3531
Detected as a persistent source in the 18-60 keV band.									
Mrk 841	226.005	10.438	3.46	1.5±0.3	2.0±0.5	AGN, Sy1.5		7.4	532
Detected as a persistent source in the 18-60 keV band.									
IGR J15077+0906	226.932	9.109	4.78	<0.6	<1.0	?	Y	5.2	498
Detected in a 899.8 day outburst from MJD=53755.7.									
SWIFT J1508.6-4953	227.154	-49.874	3.19	0.4±0.1	0.7±0.2	AGN, Blazar	Y	8.1	3651
PMN J1508-4953	*Detected in a 1957.4 day outburst from MJD=53433.7.*								
IGR J15094-6649	227.383	-66.816	1.78	1.6±0.1	1.0±0.2	CV, IP		15.7	2553
Detected as a persistent source in the 18-60 keV band.									
IGR J15107-5414	227.67	-54.241	4.06	<0.2	<0.3	?	YY	6.2	4064
Detected in a 1.9 day outburst from MJD=54307.0.									
IRAS 15091-2107	227.975	-21.356	3.50	1.6±0.2	<0.8	AGN, NLS1		7.3	632
Detected as a persistent source in the 20-40 keV band.									

Table 2—Continued

Name[a]	RA	Dec	Error[b]	F20-40[c]	F40-100[c]	Type[d]	Vari[e]	Signif[f]	Exposure[g]
PKS 1510-089	228.211	-9.1	2.17	1.6±0.2	2.8±0.3	AGN, QSO, Blazar		12.5	972
SWIFT J1512.8-0906	*Detected as a persistent source in the 20-100 keV band.*								
PSR B1509-58	228.477	-59.138	0.42	8.7±0.1	11.0±0.2	PSR, PWN		107.3	3639
	Detected as a persistent source in the 18-60 keV band.								
SWIFT J1513.8-8125	228.676	-81.394	3.84	1.0±0.2	1.8±0.4	AGN, Sy1.2		6.6	709
	Detected as a persistent source in the 20-100 keV band.								
ESO 328-36	228.696	-40.359	4.54	0.5±0.1	0.5±0.2	AGN, Sy1		5.5	2804
1RXS J151447.8-402157	*Detected as a persistent source in the 20-40 keV band.*								
Cir X-1	230.17	-57.167	0.42	5.4±0.1	0.4±0.2	LMXB, B, A, T	Y	106.3	3881
4U 1516-569	*Detected in a 180.4 day outburst from MJD=52659.7.*								
IGR J15219-0935	230.545	-9.647	4.06	<0.4	<0.6	?	YY	6.2	1026
	Detected in a 0.6 day outburst from MJD=55233.2.								
IGR J15293-5609	232.316	-56.163	4.69	<0.2	0.3±0.2	XB, Symb	Y	5.3	4112
	Detected in a 4.8 day outburst from MJD=53771.2. Flags: WARN								
IGR J15301-3840	232.54	-38.675	4.25	0.4±0.1	0.5±0.2	AGN?		5.9	2706
	Detected as a persistent source in the 18-60 keV band.								
IGR J15311-3737	232.767	-37.625	3.55	0.5±0.1	0.9±0.2	AGN, Sy1		7.2	2493
	Detected as a persistent source in the 30-60 keV band.								
MCG-01-40-001	233.329	-8.672	3.15	1.1±0.2	1.0±0.3	AGN, Sy2		8.2	1062
SWIFT J1533.2-0836	*Detected as a persistent source in the 20-100 keV band.*								
IGR J15359-5750	234.012	-57.814	2.06	1.1±0.1	1.3±0.2	AGN		13.2	3957
	Detected as a persistent source in the 18-60 keV band.								
IGR J15368-5102	234.197	-51.045	4.06	0.4±0.1	0.3±0.2	?	Y	6.2	4461
	Detected in a 1641.0 day outburst from MJD=52650.8.								
IGR J15390-6226	234.8	-62.467	1.19	0.6±0.1	0.7±0.2	LMXB?, BHC?, T	Y	25.3	2877
SWIFT J1539.2-6227	*Detected in a 142.7 day outburst from MJD=54770.3.*								
IGR J15391-5307	234.82	-53.138	4.25	0.4±0.1	<0.3	?	Y	5.9	4558
	Detected in a 1969.1 day outburst from MJD=52650.9.								
IGR J15407-1206	235.177	-12.109	4.06	<0.4	<0.5	?	YY	6.2	1058
	Detected in a 1.1 day outburst from MJD=55410.3.								
IGR J15409-4057	235.259	-40.968	4.13	0.3±0.1	<0.4	?	Y	6.1	3012
	Detected in a 4.8 day outburst from MJD=53056.8.								
IGR J15415-5029	235.369	-50.491	3.46	0.5±0.1	0.7±0.1	AGN, Sy2?		7.4	4572
WKK 5204	*Detected as a persistent source in the 18-60 keV band.*								
4U 1538-522	235.597	-52.386	0.28	21.0±0.1	3.5±0.1	HMXB, XP		237.2	4679
	Detected as a persistent source in the 17-30 keV band.								
XTE J1543-568	236.008	-56.712	1.32	0.6±0.1	0.6±0.2	HMXB, XP, Be, T	Y	22.3	4122
	Detected in a 8.3 day outburst from MJD=52667.3.								
4U 1543-624	236.978	-62.568	0.96	3.0±0.1	0.8±0.2	LMXB, NS?		32.8	2715
	Detected as a persistent source in the 17-30 keV band.								
IGR J15479-4529	237.061	-45.478	0.62	5.2±0.1	3.4±0.2	CV, IP		59.2	3930
	Detected as a persistent source in the 18-60 keV band.								
NGC 5995	237.104	-13.758	1.90	1.8±0.2	1.8±0.2	AGN, Sy1.9		14.5	1101
	Detected as a persistent source in the 20-100 keV band.								
AX J1550.8-5418	237.724	-54.306	1.03	1.0±0.1	1.8±0.1	PSR, RM	Y	30.1	4594
	Detected in a 88.8 day outburst from MJD=54843.2.								

Table 2—Continued

Name[a]	RA	Dec	Error[b]	F20-40[c]	F40-100[c]	Type[d]	Vari[e]	Signif[f]	Exposure[g]
XTE J1550-564	237.745	-56.477	0.19	15.9±0.1	25.8±0.2	LMXB, BH, M, T	Y	897.2	4212
Detected in a 20.6 day outburst from MJD=52721.3.									
IGR J15529-5029	238.195	-50.498	3.95	0.4±0.1	<0.3	CV, IP	Y	6.4	4746
Detected in a 949.7 day outburst from MJD=52650.8.									
IGR J15539-6142	238.397	-61.682	2.71	0.8±0.1	1.2±0.2	AGN, Sy2		9.7	2846
Detected as a persistent source in the 18-60 keV band.									
IGR J15541-5613	238.527	-56.216	4.32	<0.2	0.8±0.2	?	Y	5.8	4302
Detected in a 949.5 day outburst from MJD=52651.2.									
IGR J15549-3740	238.721	-37.67	3.19	1.0±0.1	1.1±0.2	AGN, Sy2		8.1	2230
Detected as a persistent source in the 18-60 keV band.									
IGR J15550-4034	238.771	-40.582	4.39	0.6±0.1	0.4±0.2	?		5.7	2959
Detected as a persistent source in the 18-60 keV band.									
H 1553-542	239.452	-54.435	2.21	0.2±0.1	<0.3	HMXB, XP, Be?	Y	12.2	4645
Detected in a 24.8 day outburst from MJD=54494.8.									
SWIFT J1559.5+2553	239.818	25.878	3.39	4.3±0.7	4.2±1.1	XB, Symb		7.6	138
Detected as a persistent source in the 18-60 keV band.									
1H 1556-605	240.26	-60.738	2.11	1.0±0.1	<0.4	LMXB		12.9	3020
Detected as a persistent source in the 17-30 keV band.									
IGR J16016-3431	240.408	-34.528	4.86	0.6±0.2	<0.5	?	Y	5.1	1622
Detected in a 456.2 day outburst from MJD=53677.4.									
IGR J16024-6107	240.452	-61.148	3.74	0.7±0.1	1.0±0.2	AGN, Sy2		6.8	2884
Detected as a persistent source in the 20-100 keV band.									
IGR J16056-6110	241.464	-61.195	3.88	0.7±0.1	1.1±0.2	AGN, Sy1.5		6.5	2839
Detected as a persistent source in the 20-100 keV band.									
IGR J16058-7253	241.47	-72.9	3.59	1.1±0.2	0.7±0.3	AGN, pair, Sy2, Sy2?		7.1	1242
Detected as a persistent source in the 18-60 keV band.									
IGR J16078-2521	242.009	-25.364	4.11	<0.4	<0.5	?	YY	6.1	811
Detected in a 2.3 day outburst from MJD=55412.7.									
IGR J16119-6036	242.964	-60.631	1.89	1.5±0.1	1.5±0.2	AGN, Sy1.5		14.6	2942
Detected as a persistent source in the 20-100 keV band.									
IGR J16120-3543	242.974	-35.754	4.69	0.4±0.2	0.6±0.3	?	Y	5.3	1565
Detected in a 127.3 day outburst from MJD=52911.9.									
4U 1608-522	243.179	-52.423	0.27	18.2±0.1	13.2±0.1	LMXB, B, A, T	Y	266.8	4640
Detected in a 1969.1 day outburst from MJD=53438.6.									
Abell 2163	243.965	-6.12	3.79	0.9±0.2	<0.5	Cluster		6.7	1021
Detected as a persistent source in the 18-60 keV band.									
IGR J16167-4957	244.157	-49.979	1.23	2.1±0.1	1.0±0.1	CV, IP		24.3	4798
Detected as a persistent source in the 17-30 keV band.									
IGR J16173-5023	244.314	-50.386	2.71	0.8±0.1	0.7±0.1	CV?		9.7	4818
Detected as a persistent source in the 20-40 keV band.									
PSR J1617-5055	244.372	-50.92	2.49	0.8±0.1	1.2±0.1	PSR		10.7	4746
Detected as a persistent source in the 20-100 keV band.									
IGR J16181-5407	244.533	-54.103	4.61	0.5±0.1	0.4±0.1	?		5.4	4379
Detected as a persistent source in the 18-60 keV band.									
IGR J16185-5928	244.61	-59.479	2.87	0.7±0.1	1.1±0.2	AGN, NLS1		9.1	3150
Detected as a persistent source in the 18-60 keV band.									

Table 2—Continued

Name[a]	RA	Dec	Error[b]	F20-40[c]	F40-100[c]	Type[d]	Vari[e]	Signif[f]	Exposure[g]
AX J161929-4945	244.884	-49.742	1.19	2.0±0.1	1.4±0.1	HMXB?, SFXT?		25.2	4828
IGR J16195-4945	*Detected as a persistent source in the 18-60 keV band.*								
IGR J16194-2810	244.889	-28.128	2.25	1.9±0.2	1.3±0.3	LMXB, Symb		12.0	1027
	Detected as a persistent source in the 20-100 keV band.								
Sco X-1	244.979	-15.64	0.16	712.8±0.1	22.6±0.2	LMXB, Z, M		8052.6	1776
4U 1617-15	*Detected as a persistent source in the 20-40 keV band.*								
IGR J16207-5129	245.193	-51.502	0.80	3.2±0.1	2.3±0.1	HMXB, Sg		41.8	4579
	Detected as a persistent source in the 18-60 keV band.								
IGR J16226-2759	245.641	-27.995	4.54	<0.4	<0.5	?	YY	5.5	1095
	Detected in a 3.3 day outburst from MJD=53772.7. Flags: WARN								
IGR J16246-4556	246.091	-45.923	4.61	0.4±0.1	<0.3	?	Y	5.4	4713
	Detected in a 1969.2 day outburst from MJD=53044.7.								
SWIFT J1626.6-5156	246.651	-51.943	1.62	0.4±0.1	0.5±0.1	HMXB, Be, T	Y	17.5	4488
	Detected in a 127.8 day outburst from MJD=53660.6.								
4U1624-490	247.012	-49.199	0.54	3.9±0.1	0.5±0.1	LMXB, D		72.1	4860
	Detected as a persistent source in the 17-30 keV band.								
IGR J16283-4838	247.045	-48.649	1.32	1.0±0.1	0.6±0.1	HMXB, Sg	Y	22.3	4711
	Detected in a 14.3 day outburst from MJD=54154.9.								
Mrk 1498	247.053	51.749	5.14	2.0±0.6	3.8±1.1	AGN, Sy1.9		4.8	160
SWIFT J1628.1+5145	*Detected as a persistent source in the 20-100 keV band.*								
IGR J16287-5021	247.112	-50.378	2.62	0.6±0.1	0.5±0.1	LMXB		10.1	4591
	Detected as a persistent source in the 17-30 keV band.								
IGR J16293-4603	247.304	-46.047	4.39	0.3±0.1	0.4±0.1	LMXB, Symb	Y	5.7	4792
	Detected in a 4.8 day outburst from MJD=53433.1.								
SWIFT J1630.5+3925	247.663	39.38	4.39	1.1±0.2	<0.8	AGN, Sy2		5.7	761
	Detected as a persistent source in the 20-40 keV band.								
IGR J16316-4028	247.9	-40.467	4.46	0.3±0.1	0.6±0.2	?	Y	5.6	4025
	Detected in a 1141.8 day outburst from MJD=54363.4.								
IGR J16318-4848	247.952	-48.817	0.25	26.4±0.1	13.8±0.1	HMXB, Be, Sg		326.0	4617
	Detected as a persistent source in the 18-60 keV band.								
AX J1631.9-4752	248.008	-47.874	0.29	19.4±0.1	6.6±0.1	HMXB, XP, Sg		227.4	4543
IGR J16320-4751	*Detected as a persistent source in the 20-40 keV band.*								
4U 1626-67	248.07	-67.462	0.37	20.3±0.2	2.8±0.3	LMXB, XP		133.0	1440
	Detected as a persistent source in the 17-30 keV band.								
IGR J16328-4726	248.158	-47.395	1.24	1.7±0.1	1.2±0.1	HMXB, SFXT		23.9	4541
	Detected as a persistent source in the 18-60 keV band.								
IGR J16327-4940	248.172	-49.666	5.04	<0.2	0.6±0.1	?	Y	4.9	4824
	Detected in a 0.9 day outburst from MJD=53435.3.								
4U 1630-47	248.502	-47.394	0.22	20.6±0.1	19.1±0.1	LMXB, BHC, D, T	Y	476.3	4520
	Detected in a 61.6 day outburst from MJD=52848.1.								
IGR J16351-5806	248.805	-58.08	2.17	1.3±0.1	1.5±0.2	AGN, Sy2		12.5	3335
	Detected as a persistent source in the 20-100 keV band.								
IGR J16358-4726	248.974	-47.428	0.76	1.0±0.1	0.9±0.1	LMXB, Symb, T	Y	44.5	4471
	Detected in a 10.0 day outburst from MJD=52716.8.								
IGR J16363-2243	249.108	-22.797	4.90	0.4±0.2	<0.4	?	Y	5.1	1684
	Detected in a 1616.7 day outburst from MJD=53829.9.								

Table 2—Continued

Name[a]	RA	Dec	Error[b]	F20-40[c]	F40-100[c]	Type[d]	Vari[e]	Signif[f]	Exposure[g]
IGR J16374-5043	249.306	-50.725	2.39	0.4±0.1	0.5±0.1	HMXB?, SFXT?	Y	11.2	4562
Detected in a 0.5 day outburst from MJD=55430.0.									
IGR J16377-6423	249.576	-64.352	2.49	1.4±0.2	0.5±0.3	Cluster		10.7	1717
Detected as a persistent source in the 17-30 keV band.									
IGR J16385-2057	249.63	-20.924	3.84	0.8±0.1	0.7±0.2	AGN, NLS1		6.6	1820
Detected as a persistent source in the 20-100 keV band.									
IGR J16388+3557	249.708	35.959	4.95	0.4±0.2	<0.7	?	Y	5.0	881
Detected in a 0.6 day outburst from MJD=53574.6.									
AX J163904-4642	249.773	-46.704	0.52	5.9±0.1	0.8±0.1	HMXB, XP		77.2	4896
IGR J16393-4643	*Detected as a persistent source in the 17-30 keV band.*								
4U 1636-536	250.231	-53.751	0.26	25.4±0.1	14.1±0.2	LMXB, B, A, T		298.3	4108
Detected as a persistent source in the 18-60 keV band.									
IGR J16413-4046	250.331	-40.794	2.87	0.8±0.1	0.9±0.2	AGN?		9.1	4927
Detected as a persistent source in the 20-100 keV band.									
IGR J16418-4532	250.462	-45.541	0.66	4.8±0.1	1.3±0.1	HMXB, XP, SFXT?		54.5	4734
Detected as a persistent source in the 20-40 keV band.									
IGR J16426+6536	250.767	65.548	5.14	<0.3	<0.5	AGN, NLS1	Y	4.8	1618
Detected in a 0.7 day outburst from MJD=53178.1.									
IGR J16447-5138	251.178	-51.649	4.95	0.2±0.1	0.4±0.1	?	Y	5.0	4092
Detected in a 35.7 day outburst from MJD=54141.5.									
GX 340+0	251.449	-45.611	0.22	30.2±0.1	1.8±0.1	LMXB, Z		521.5	4835
Detected as a persistent source in the 17-30 keV band.									
IGR J16460+0849	251.488	8.818	4.78	<0.6	<1.0	?	YY	5.2	451
Detected in a 356.6 day outburst from MJD=52919.6.									
IGR J16465-4507	251.648	-45.118	1.59	1.5±0.1	0.9±0.1	HMXB, XP, SFXT		17.9	4869
Detected as a persistent source in the 17-30 keV band.									
IGR J16476-3135	251.889	-31.557	3.56	<0.2	0.7±0.2	?		7.2	4238
Detected as a persistent source in the 30-60 keV band.									
IGR J16479-4514	252.027	-45.202	0.71	4.0±0.1	2.1±0.1	HMXB, SFXT		48.8	4871
Detected as a persistent source in the 18-60 keV band.									
IGR J16482-3036	252.062	-30.585	1.30	1.9±0.1	2.3±0.2	AGN, Sy1		22.6	3931
Detected as a persistent source in the 20-100 keV band.									
IGR J16482-2959	252.145	-30.019	4.25	0.3±0.1	0.6±0.2	?	Y	5.9	3860
Detected in a 263.9 day outburst from MJD=54344.1.									
IGR J16493-4348	252.362	-43.819	1.12	2.3±0.1	1.5±0.1	HMXB, Sg		27.2	5048
Detected as a persistent source in the 18-60 keV band.									
IGR J16500-3307	252.483	-33.117	1.65	1.7±0.1	0.7±0.2	CV, IP		17.1	4593
RX J164955.1-330713	*Detected as a persistent source in the 18-60 keV band.*								
SWIFT J1650.5+0434	252.647	4.595	4.78	1.1±0.2	<0.9	AGN, Sy2		5.2	588
NGC 6230	*Detected as a persistent source in the 20-100 keV band.*								
ESO 138-1	252.833	-59.234	2.33	1.4±0.1	1.5±0.2	AGN, Sy2		11.5	2527
ESO 138-G001	*Detected as a persistent source in the 18-60 keV band. Flags: BLEND*								
IGR J16523-3854	253.07	-38.924	4.32	<0.2	<0.3	?	Y	5.8	5732
Detected in a 4.8 day outburst from MJD=55089.2. Flags: WARN									
XTE J1652-453	253.085	-45.344	0.52	1.5±0.1	1.0±0.1	LMXB, BHC?, T	YY	76.0	4869
Detected in a 24.6 day outburst from MJD=55082.4.									

Table 2—Continued

Name[a]	RA	Dec	Error[b]	F20-40[c]	F40-100[c]	Type[d]	Vari[e]	Signif[f]	Exposure[g]
IGR J16524-2352	253.122	-23.875	3.84	0.3±0.1	0.8±0.2	?		6.6	3276
	Detected as a persistent source in the 30-60 keV band.								
NGC 6221	253.194	-59.216	2.33	1.4±0.1	1.5±0.2	AGN, Sy2		11.5	2527
	Detected as a persistent source in the 18-60 keV band. Flags: BLEND								
NGC 6240	253.246	2.4	1.76	3.0±0.2	3.9±0.4	AGN, Sy2, Liner		15.9	664
	Detected as a persistent source in the 20-100 keV band.								
Mrk 501	253.468	39.76	1.49	2.9±0.2	2.2±0.3	AGN, BL Lac	Y	19.3	870
	Detected in a 1902.4 day outburst from MJD=53322.2.								
GRO J1655-40	253.501	-39.846	0.25	8.3±0.1	10.5±0.1	LMXB, BH, M, T	Y	324.3	5728
	Detected in a 8.3 day outburst from MJD=53434.3.								
IGR J16547-1916	253.682	-19.275	2.44	1.2±0.1	0.5±0.2	CV, IP		10.9	3259
RXS J165443.5-191620	*Detected as a persistent source in the 18-60 keV band.*								
IGR J16560-4958	253.989	-49.967	3.59	0.7±0.1	0.6±0.1	AGN?		7.1	4295
	Detected as a persistent source in the 17-30 keV band.								
IGR J16558-5203	254.024	-52.061	1.40	1.7±0.1	1.9±0.2	AGN, Sy1.2		20.7	3605
	Detected as a persistent source in the 18-60 keV band.								
SWIFT J1656.3-3302	254.07	-33.037	1.34	0.9±0.1	1.9±0.1	AGN, QSO, Blazar	Y	21.8	5422
	Detected in a 1960.9 day outburst from MJD=53158.5.								
IGR J16565-1607	254.117	-16.12	3.46	0.6±0.2	1.2±0.2	?		7.4	2521
	Detected as a persistent source in the 30-60 keV band.								
Her X-1	254.458	35.342	0.20	119.4±0.2	21.8±0.3	LMXB, XP		693.9	947
4U 1656+35	*Detected as a persistent source in the 20-40 keV band.*								
MAXI J1659-152	254.761	-15.256	0.25	10.0±0.1	7.4±0.2	LMXB, BHC, T	Y	317.9	2475
	Detected in a 29.3 day outburst from MJD=55463.8.								
AX J1700.2-4220	255.075	-42.34	1.24	2.1±0.1	1.7±0.1	HMXB		24.0	4734
	Detected as a persistent source in the 18-60 keV band.								
OAO 1657-415	255.204	-41.656	0.20	70.8±0.1	38.3±0.1	HMXB, XP		823.5	5253
	Detected as a persistent source in the 18-60 keV band.								
IGR J17008-6425	255.204	-64.425	5.14	<0.4	1.1±0.3	?	Y	4.8	1503
	Detected in a 11.9 day outburst from MJD=53222.9. Flags: WARN								
XTE J1701-462	255.244	-46.186	0.37	3.0±0.1	0.9±0.1	LMXB, B, T	Y	137.9	4327
	Detected in a 455.2 day outburst from MJD=53760.6.								
IGR J17009+3559	255.264	36.002	3.84	1.1±0.2	<0.6	AGN, XBONG		6.6	868
	Detected as a persistent source in the 17-30 keV band.								
IGR J17014-4306	255.337	-43.092	2.90	0.8±0.1	0.6±0.1	CV, IP?		9.0	4798
	Detected as a persistent source in the 17-30 keV band.								
XTE J1701-407	255.435	-40.858	0.54	3.1±0.1	3.0±0.2	LMXB	Y	71.4	4338
	Detected in a 788.0 day outburst from MJD=54638.4.								
GX 339-4	255.706	-48.79	0.19	69.7±0.1	78.0±0.2	LMXB, BH, M, T	Y	1255.1	4063
4U 1659-48	*Detected in a 73.5 day outburst from MJD=55230.3.*								
4U 1700-377	255.987	-37.844	0.17	203.7±0.1	122.7±0.1	HMXB, Sg		2517.3	7499
	Detected as a persistent source in the 18-60 keV band.								
IGR J17044-1844	256.089	-18.735	3.71	0.7±0.1	0.7±0.2	?		6.9	3995
	Detected as a persistent source in the 30-60 keV band.								
GX 349+2	256.435	-36.423	0.20	44.0±0.1	1.0±0.1	LMXB, Z		827.7	7188
4U 1702-36	*Detected as a persistent source in the 17-30 keV band.*								

Table 2—Continued

Name[a]	RA	Dec	Error[b]	F20-40[c]	F40-100[c]	Type[d]	Vari[e]	Signif[f]	Exposure[g]
IGR J17063-7338	256.493	-73.607	5.24	<0.4	<0.7	?	Y	4.7	908
	Detected in a 3.1 day outburst from MJD=54315.5. Flags: WARN								
4U 1702-429	256.564	-43.036	0.32	14.7±0.1	9.7±0.1	LMXB, B, A		181.4	5146
	Detected as a persistent source in the 18-60 keV band.								
IGR J17062-6143	256.569	-61.712	1.34	2.1±0.2	1.9±0.3	LMXB, NS?	Y	21.8	1893
	Detected in a 1359.1 day outburst from MJD=53687.6.								
IGR J17088-4008	257.208	-40.142	1.22	1.4±0.1	3.0±0.1	PSR, Magnetar		24.4	6337
	Detected as a persistent source in the 20-100 keV band.								
4U 1705-32	257.226	-32.333	0.90	2.3±0.1	2.0±0.1	LMXB, B		35.9	7707
	Detected as a persistent source in the 18-60 keV band.								
4U 1705-440	257.227	-44.102	0.28	19.3±0.1	8.3±0.2	LMXB, B, A, T		244.2	4568
	Detected as a persistent source in the 17-30 keV band.								
IGR J17091-3624	257.282	-36.407	0.43	4.6±0.1	5.5±0.1	LMXB, BHC, T	Y	104.4	7273
	Detected in a 456.8 day outburst from MJD=52736.8.								
XTE J1709-267	257.377	-26.656	1.14	1.2±0.1	1.2±0.1	LMXB, B, T	Y	26.6	6669
	Detected in a 5.7 day outburst from MJD=53072.0.								
IGR J17096-2036	257.415	-20.641	3.02	0.7±0.1	0.5±0.1	?		8.6	5585
	Detected as a persistent source in the 18-60 keV band.								
IGR J17096-2527	257.432	-25.47	2.73	0.8±0.1	0.8±0.1	?		9.6	6093
	Detected as a persistent source in the 18-60 keV band.								
IGR J17098-3628	257.441	-36.466	0.51	3.8±0.1	4.1±0.1	LMXB, BHC, T	Y	79.5	7457
	Detected in a 4.8 day outburst from MJD=53453.4.								
IGR J17099-2418	257.466	-24.302	3.38	<0.2	<0.3	?	Y	7.6	5194
	Detected in a 0.8 day outburst from MJD=55233.8.								
XTE J1710-281	257.551	-28.132	0.72	3.1±0.1	2.9±0.1	LMXB, B, T		47.9	7447
	Detected as a persistent source in the 18-60 keV band.								
IGR J17103-3341	257.597	-33.666	3.69	0.2±0.1	0.4±0.1	?	Y	6.9	7997
	Detected in a 8.3 day outburst from MJD=52896.8.								
IGR J17111+0611	257.766	6.198	5.35	<0.4	<0.8	?	YY	4.6	779
	Detected in a 1.1 day outburst from MJD=54365.1. Flags: WARN								
IGR J17111+3910	257.817	39.187	4.39	0.4±0.2	<0.7	AGN	Y	5.7	846
	Detected in a 3.9 day outburst from MJD=54345.5.								
IGR J17118-3155	257.959	-31.927	2.84	0.3±0.1	<0.2	?	Y	9.2	7984
	Detected in a 35.6 day outburst from MJD=52872.7.								
IGR J17116-3512	257.969	-35.22	2.35	0.7±0.1	0.9±0.1	?		11.4	7512
	Detected as a persistent source in the 20-100 keV band.								
4U 1708-40	258.099	-40.843	1.33	1.2±0.1	0.7±0.1	LMXB, B, A		22.0	5971
	Detected as a persistent source in the 17-30 keV band.								
Oph Cluster	258.108	-23.363	0.60	4.7±0.1	0.9±0.1	Cluster		62.0	6281
	Detected as a persistent source in the 17-30 keV band.								
SAX J1712.6-3739	258.142	-37.643	0.54	5.1±0.1	4.4±0.1	LMXB, B, T		71.3	7545
	Detected as a persistent source in the 18-60 keV band.								
V2400 Oph	258.152	-24.246	0.77	3.5±0.1	1.1±0.1	CV, IP		44.0	5955
RX J1712.6.2414	*Detected as a persistent source in the 20-40 keV band.*								
RX J1713.7-3946	258.388	-39.762	2.71	0.9±0.1	0.9±0.1	SNR		9.7	6464
	Detected as a persistent source in the 20-100 keV band.								

Table 2—Continued

Name[a]	RA	Dec	Error[b]	F20-40[c]	F40-100[c]	Type[d]	Vari[e]	Signif[f]	Exposure[g]
2S 1711-339	258.577	-34.032	1.93	0.4±0.1	0.5±0.1	LMXB, T	Y	14.3	8928
Detected in a 73.8 day outburst from MJD=55422.8.									
XTE J1716-389	258.983	-38.865	2.66	0.4±0.1	0.5±0.1	HMXB, Sg, T	Y	9.9	6664
Detected in a 73.8 day outburst from MJD=52671.9.									
NGC 6300	259.247	-62.82	1.07	4.5±0.2	4.1±0.3	AGN, Sy2		28.8	1545
Detected as a persistent source in the 18-60 keV band.									
IGR J17173-5855	259.325	-58.93	4.19	0.4±0.1	<0.5	?	Y	6.0	2256
Detected in a 42.5 day outburst from MJD=52702.4.									
IGR J17178-1859	259.489	-18.984	2.41	1.0±0.1	1.4±0.2	?		11.1	5144
Detected as a persistent source in the 30-60 keV band.									
XMMSL1 J171900.4-353217	259.752	-35.538	2.96	<0.2	0.4±0.1	?, T	Y	8.8	8899
Detected in a 183.6 day outburst from MJD=55256.9.									
MCG+08-31-041	259.811	48.98	4.19	1.9±0.4	2.5±0.7	AGN, Sy1, Liner		6.0	300
Detected as a persistent source in the 18-60 keV band.									
IGR J17191-2821	259.813	-28.299	3.69	<0.1	<0.2	LMXB, B, T, A	YY	6.9	9697
Detected in a 1.3 day outburst from MJD=54161.7.									
XTE J1719-291	259.818	-29.062	3.19	<0.2	<0.2	XB, T	Y	8.1	9335
Detected in a 6.9 day outburst from MJD=54543.9.									
IGR J17193-3216	259.835	-32.274	2.04	0.9±0.1	0.9±0.1	?		13.4	9918
Detected as a persistent source in the 20-40 keV band.									
IGR J17196-1836	259.896	-18.606	5.24	<0.2	<0.3	?	Y	4.7	5480
Detected in a 2.3 day outburst from MJD=53467.0. Flags: WARN									
IGR J17195-4100	259.9	-41.015	0.98	2.7±0.1	1.9±0.1	CV, IP		32.2	5720
1RXS J171935.6-410054	*Detected as a persistent source in the 18-60 keV band.*								
XTE J1720-318	259.975	-31.749	0.49	1.1±0.1	1.4±0.1	LMXB, BHC, T	YY	82.3	9527
Detected in a 24.7 day outburst from MJD=52730.0.									
IGR J17200-3116	260.025	-31.283	0.81	2.7±0.1	1.3±0.1	HMXB, T		41.2	9341
Detected as a persistent source in the 17-30 keV band.									
IGR J17204-3554	260.091	-35.88	2.09	0.4±0.1	0.9±0.1	AGN	Y	13.0	8045
Detected in a 657.8 day outburst from MJD=52668.3.									
IGR J17217-6030	260.412	-60.528	4.46	<0.3	<0.5	?	Y	5.6	1885
Detected in a 263.4 day outburst from MJD=54511.8.									
Mrk 506	260.697	30.952	4.79	0.9±0.2	1.2±0.4	AGN, Sy1.5		5.2	749
1H 1727+308	*Detected as a persistent source in the 18-60 keV band.*								
SWIFT J1723.5+3630	260.876	36.512	4.13	1.0±0.2	1.1±0.4	AGN, Sy1.5	Y	6.1	806
1RXS J172323.3+363010	*Detected in a 1.9 day outburst from MJD=55387.3.*								
EXO 1722-363	261.297	-36.283	0.39	9.2±0.1	2.8±0.1	HMXB		124.8	8691
IGR J17252-3616	*Detected as a persistent source in the 20-40 keV band.*								
IGR J17254-3257	261.353	-32.954	0.92	2.0±0.1	2.2±0.1	LMXB, B		34.8	10523
Detected as a persistent source in the 18-60 keV band.									
IGR J17259+2603	261.521	25.905	4.78	<0.6	<1.0	?		5.2	513
Detected as a persistent source in the 20-40 keV band.									
IGR J17269-4737	261.707	-47.64	3.38	<0.3	0.4±0.2	XB?, BHC, T	Y	7.6	3191
Detected in a 11.9 day outburst from MJD=53645.0.									
IGR J17276-0123	261.888	-1.393	4.32	<0.3	<0.6	?	YY	5.8	1470
Detected in a 8.1 day outburst from MJD=53076.1. Flags: WARN									

Table 2—Continued

Name[a]	RA	Dec	Error[b]	F20-40[c]	F40-100[c]	Type[d]	Vari[e]	Signif[f]	Exposure[g]
GRS 1722-30	261.888	-30.802	0.24	19.8±0.1	16.5±0.1	LMXB, B		356.6	11070
4U 17322-30	*Detected as a persistent source in the 18-60 keV band.*								
IGR J17285-2922	262.163	-29.362	1.76	0.2±0.1	0.5±0.1	LMXB?, T	Y	15.9	10463
	Detected in a 61.4 day outburst from MJD=55431.9.								
IGR J17299-4404	262.486	-44.068	4.39	0.3±0.1	0.3±0.2	?	Y	5.7	3939
	Detected in a 0.5 day outburst from MJD=55429.9. Flags: WARN								
IGR J17303-0601	262.59	-5.993	1.11	3.7±0.1	2.4±0.2	CV, IP		27.4	1946
1RXS J173021.5-055933	*Detected as a persistent source in the 18-60 keV band.*								
IGR J17314-2854	262.854	-28.895	2.49	0.3±0.1	0.8±0.1	?	Y	10.7	10457
	Detected in a 456.3 day outburst from MJD=52831.5.								
GX 9+9	262.934	-16.962	0.30	12.3±0.1	<0.3	LMXB, A		202.1	4753
	Detected as a persistent source in the 17-30 keV band.								
GX 354-0	262.989	-33.835	0.20	45.2±0.1	18.9±0.1	LMXB, B, A		738.8	10047
	Detected as a persistent source in the 17-30 keV band.								
V2487 Oph	262.999	-19.232	2.30	0.9±0.1	1.3±0.1	CV, IP?		11.7	6418
	Detected as a persistent source in the 20-100 keV band.								
GX 1+4	263.009	-24.746	0.19	56.0±0.1	45.4±0.1	LMXB, XP		1004.5	9026
	Detected as a persistent source in the 18-60 keV band.								
PKS 1730-13	263.261	-13.08	4.06	0.6±0.1	0.9±0.2	AGN, QSO, Blazar		6.2	2361
1RXS J173302.7-130451	*Detected as a persistent source in the 18-60 keV band.*								
IGR J17331-2406	263.304	-24.156	1.31	<0.2	<0.2	?	YY	22.5	9279
	Detected in a 24.5 day outburst from MJD=53244.7.								
4U 1730-335	263.35	-33.388	0.41	3.8±0.1	1.9±0.1	LMXB, RB, G, T	Y	110.5	10614
	Detected in a 17.1 day outburst from MJD=52880.2.								
IGR J17348-2045	263.745	-20.759	2.43	0.7±0.1	1.2±0.1	AGN?		11.0	7565
	Detected as a persistent source in the 20-100 keV band.								
IGR J17353-3539	263.848	-35.671	3.34	0.4±0.1	0.6±0.1	LMXB, B		7.7	8250
	Detected as a persistent source in the 17-30 keV band.								
IGR J17354-3255	263.865	-32.932	1.54	1.1±0.1	0.8±0.1	HMXB, SFXT		18.6	10116
	Detected as a persistent source in the 18-60 keV band.								
IGR J17361-2055	264.002	-20.952	4.73	<0.2	<0.2	?	YY	5.2	8069
	Detected in a 2.7 day outburst from MJD=55276.3. Flags: WARN								
IGR J17361-4441	264.073	-44.735	3.69	<0.2	0.5±0.2	XB?, T	Y	6.9	3505
	Detected in a 263.9 day outburst from MJD=53169.7.								
GRS 1734-294	264.368	-29.134	0.42	5.5±0.1	5.0±0.1	AGN, Sy1		106.3	11018
	Detected as a persistent source in the 18-60 keV band.								
IGR J17375-3022	264.391	-30.388	2.57	0.4±0.1	0.7±0.1	?, T	Y	10.3	11613
	Detected in a 3.3 day outburst from MJD=54749.8.								
IGR J17379-5957	264.397	-59.956	3.79	0.8±0.2	<0.6	AGN, Sy2		6.7	1605
ESO 139- G012	*Detected as a persistent source in the 18-60 keV band.*								
IGR J17379-3747	264.495	-37.772	2.53	0.4±0.1	0.5±0.1	LMXB, B, T	Y	10.5	6893
	Detected in a 9.9 day outburst from MJD=53047.8.								
SLX 1735-269	264.571	-26.994	0.30	11.0±0.1	9.7±0.1	LMXB, B		207.5	10589
	Detected as a persistent source in the 18-60 keV band.								
IGR J17385-3433	264.633	-34.549	2.55	0.5±0.1	0.9±0.1	?		10.4	9290
	Detected as a persistent source in the 30-60 keV band.								

Table 2—Continued

Name[a]	RA	Dec	Error[b]	F20-40[c]	F40-100[c]	Type[d]	Vari[e]	Signif[f]	Exposure[g]
4U 1735-444	264.743	-44.45	0.25	23.6±0.1	0.8±0.2	LMXB, B, A		324.0	3473
Detected as a persistent source in the 17-30 keV band.									
XTE J1739-302	264.798	-30.344	0.76	1.1±0.1	0.9±0.1	HMXB, SFXT	Y	44.6	11678
Detected in a 0.5 day outburst from MJD=52877.8. Flags: GCFLAG1									
GRS 1736-297	264.888	-29.724	1.88	0.4±0.1	0.4±0.1	HMXB, Be?	Y	14.7	11244
Detected in a 264.1 day outburst from MJD=53767.6. Flags: GCFLAG1									
XTE J1739-285	264.975	-28.496	0.61	1.2±0.1	1.0±0.1	LMXB, B	Y	60.3	11569
Detected in a 42.6 day outburst from MJD=53629.4.									
AX J1740.2-2903	265.074	-29.066	2.51	0.6±0.1	0.6±0.1	CV, IP		10.6	11690
Detected as a persistent source in the 17-30 keV band. Flags: GCFLAG1									
IGR J17404-3655	265.112	-36.927	1.63	1.2±0.1	1.1±0.1	HMXB?		17.4	7145
Detected as a persistent source in the 20-40 keV band.									
SLX 1737-282	265.163	-28.297	0.53	3.9±0.1	3.6±0.1	LMXB, B		74.4	11127
Detected as a persistent source in the 18-60 keV band.									
2E 1739.1-1210	265.48	-12.199	1.84	1.5±0.1	1.6±0.2	AGN, Sy1.2		15.1	3239
Detected as a persistent source in the 18-60 keV band.									
IGR J17419-2802	265.483	-28.032	1.67	0.3±0.1	0.4±0.1	?, T	Y	16.9	10934
Detected in a 5.7 day outburst from MJD=53641.3.									
IGR J17426-0258	265.646	-2.963	4.86	<0.3	<0.4	?	YY	5.1	2360
Detected in a 2.7 day outburst from MJD=53843.3. Flags: WARN									
XTE J1743-363	265.755	-36.373	0.72	2.4±0.1	2.0±0.1	XB, Symb	Y	47.8	7547
Detected in a 264.1 day outburst from MJD=53252.4.									
IGR J17431-5945	265.776	-59.765	4.39	<0.4	0.7±0.3	?	Y	5.7	1536
Detected in a 2.8 day outburst from MJD=52711.1. Flags: WARN									
1E 1740.7-2942	265.978	-29.745	0.20	33.8±0.1	42.4±0.1	LMXB, BHC, M		712.1	11785
Detected as a persistent source in the 20-100 keV band. Flags: GCFLAG1									
PKS 1741-03	265.995	-3.835	5.24	0.3±0.1	0.5±0.2	AGN, QSO, Blazar	Y	4.7	2493
1RXS J174358.8-034958	*Detected in a 29.2 day outburst from MJD=52729.2.*								
IGR J17445-2747	266.117	-27.756	1.96	0.1±0.1	0.2±0.1	XB, T	Y	14.0	10292
Detected in a 51.2 day outburst from MJD=53045.3. Flags: GCFLAG1									
IGR J17448-3232	266.156	-32.539	2.66	0.6±0.1	0.7±0.1	Cluster, Blazar		9.9	11324
Detected as a persistent source in the 17-30 keV band.									
KS 1741-293	266.233	-29.352	0.53	3.9±0.1	3.5±0.1	LMXB, B		74.5	12050
Detected as a persistent source in the 18-60 keV band. Flags: BLEND, GCFLAG2,									
GRS 1741.9-2853	266.26	-28.914	0.60	4.1±0.1	2.5±0.1	LMXB, B		62.3	11914
Detected as a persistent source in the 18-60 keV band. Flags: BLEND, GCFLAG2,									
IGR J17456-2901b	266.413	-29.029	0.42	6.0±0.1	3.7±0.1	?		107.7	11935
Detected as a persistent source in the 18-60 keV band. Flags: BLEND, GCFLAG2,									
1E 1742.8-2853	266.5	-28.914	0.43	5.7±0.1	3.7±0.1	LMXB		103.3	11481
Detected as a persistent source in the 17-30 keV band. Flags: BLEND, GCFLAG2,									
1A 1742-294	266.523	-29.515	0.28	13.7±0.1	7.6±0.1	LMXB, B		246.3	11794
Detected as a persistent source in the 18-60 keV band. Flags: GCFLAG1									
IGR J17464-3213	266.567	-32.233	0.20	17.0±0.1	15.0±0.1	LMXB, BHC, T	Y	776.8	11093
Detected in a 29.6 day outburst from MJD=52724.8.									
1E 1743.1-2843	266.587	-28.729	0.45	5.3±0.1	2.4±0.1	LMXB?		96.3	11296
Detected as a persistent source in the 17-30 keV band. Flags: BLEND, GCFLAG2,									

Table 2—Continued

Name[a]	RA	Dec	Error[b]	F20-40[c]	F40-100[c]	Type[d]	Vari[e]	Signif[f]	Exposure[g]
IGR J17468-2902	266.69	-29.045	0.88	2.1±0.1	1.4±0.1	?		36.5	11732
Detected as a persistent source in the 17-30 keV band. Flags: BLEND, GCFLAG2,									
SAX J1747.0-285	266.761	-28.883	0.52	3.5±0.1	2.2±0.1	LMXB, B, T	Y	76.6	11329
Detected in a 35.5 day outburst from MJD=53787.9. Flags: BLEND, GCFLAG2,									
IGR J17472+0701	266.796	7.018	5.04	0.4±0.2	<0.7	?	Y	4.9	1172
Detected in a 218.5 day outburst from MJD=52710.2.									
IGR J17464-2811	266.817	-28.18	1.14	1.4±0.1	1.2±0.1	LMXB?, T		26.6	10714
Detected as a persistent source in the 20-40 keV band. Flags: BLEND, GCFLAG2,									
IGR J17473-2721	266.825	-27.344	0.28	1.9±0.1	2.3±0.1	LMXB, B, T	YY	242.3	11028
Detected in a 152.8 day outburst from MJD=54559.0. Flags: GCFLAG1									
IGR J17475-2822	266.829	-28.4	0.80	2.2±0.1	1.9±0.1	mol cloud		41.6	11478
Detected as a persistent source in the 18-60 keV band. Flags: GCFLAG1									
SLX 1744-299	266.858	-30.021	0.34	9.0±0.1	5.8±0.1	LMXB, B		162.8	11977
Detected as a persistent source in the 18-60 keV band. Flags: GCFLAG1									
IGR J17476-2253	266.875	-22.879	1.91	0.8±0.1	1.0±0.1	AGN, Sy1		14.4	10136
Detected as a persistent source in the 18-60 keV band.									
IGR J17479-2807	266.982	-28.121	1.37	1.0±0.1	0.9±0.1	?		21.3	11167
Detected as a persistent source in the 30-60 keV band. Flags: BLEND, GCFLAG2,									
GX 3+1	266.983	-26.564	0.25	11.5±0.1	1.3±0.1	LMXB, B, A		325.4	9678
Detected as a persistent source in the 17-30 keV band.									
IGR J17480-2446	267.02	-24.78	0.68	<0.1	0.4±0.1	LMXB, B	YY	51.7	9930
Detected in a 20.4 day outburst from MJD=55477.4.									
1A 1744-361	267.08	-36.121	1.05	0.8±0.1	1.2±0.1	LMXB, B, T	Y	29.5	7050
Detected in a 11.9 day outburst from MJD=53102.9.									
IGR J17488-2338	267.162	-23.591	2.71	0.6±0.1	1.2±0.1	AGN, Sy1.5		9.7	8555
Detected as a persistent source in the 18-60 keV band.									
IGR J17487-3124	267.171	-31.382	2.17	0.5±0.1	1.3±0.1	?		12.5	11468
Detected as a persistent source in the 30-60 keV band.									
4U 1745-203	267.223	-20.367	1.26	0.5±0.1	1.3±0.1	LMXB, B, G, T	Y	23.6	7904
Detected in a 2.7 day outburst from MJD=52919.7.									
IGR J17488-3253	267.228	-32.913	0.96	1.7±0.1	2.3±0.1	AGN, Sy1		33.0	10633
Detected as a persistent source in the 20-100 keV band.									
AX J1749.1-2733	267.288	-27.553	0.93	1.6±0.1	1.6±0.1	HMXB, XP, Be, T	Y	34.1	9996
Detected in a 0.6 day outburst from MJD=52891.2. Flags: GCFLAG1									
GRO J1750-27	267.3	-26.647	0.22	5.0±0.1	1.1±0.1	HMXB, XP, T	YY	467.6	9332
Detected in a 73.0 day outburst from MJD=54506.1.									
SWIFT J1749.4-2807	267.383	-28.135	1.69	0.9±0.1	1.1±0.1	LMXB, XP, T	Y	16.6	11402
Detected in a 17.1 day outburst from MJD=53996.1. Flags: BLEND, GCFLAG2,									
IGR J17497-2821	267.408	-28.355	0.28	2.4±0.1	3.3±0.1	LMXB, BHC, Symb?	YY	244.3	11442
Detected in a 24.7 day outburst from MJD=53996.3. Flags: BLEND, GCFLAG2,									
SLX 1746-331	267.461	-33.199	0.76	0.9±0.1	1.5±0.1	LMXB, BHC, T	Y	44.3	10795
Detected in a 14.3 day outburst from MJD=52882.4.									
4U 1746-370	267.553	-37.052	0.60	3.2±0.1	0.4±0.1	LMXB, B, G, A		62.4	7163
Detected as a persistent source in the 17-30 keV band.									
SAX J1750.8-2900	267.6	-29.038	0.62	1.0±0.1	1.1±0.1	LMXB, B, A, G	Y	58.6	11744
Detected in a 220.1 day outburst from MJD=54531.4. Flags: BLEND, GCFLAG1									

Table 2—Continued

Name[a]	RA	Dec	Error[b]	F20-40[c]	F40-100[c]	Type[d]	Vari[e]	Signif[f]	Exposure[g]
IGR J17507-2647	267.664	-26.743	1.47	1.1±0.1	1.1±0.1	HMXB?		19.5	11811
Detected as a persistent source in the 18-60 keV band.									
GRS 1747-312	267.69	-31.292	1.02	1.8±0.1	1.7±0.1	LMXB, B, G		30.5	11543
Detected as a persistent source in the 17-30 keV band.									
IGR J17507-2856	267.692	-28.948	1.96	0.5±0.1	<0.2	?, T	Y	14.0	11744
Detected in a 67.5 day outburst from MJD=53232.3. Flags: BLEND, GCFLAG1									
IGR J17508-3219	267.721	-32.33	2.31	0.6±0.1	0.9±0.1	?		11.6	11211
Detected as a persistent source in the 18-60 keV band.									
IGR J17511-3057	267.786	-30.961	0.59	0.6±0.1	0.9±0.1	LMXB, XP, B	YY	63.3	11404
Detected in a 20.6 day outburst from MJD=55082.7.									
IGR J17513-2011	267.804	-20.204	1.56	1.1±0.1	1.5±0.1	AGN, Sy1.9		18.3	8338
Detected as a persistent source in the 18-60 keV band.									
XTE J1751-305	267.817	-30.625	1.31	<0.1	0.4±0.1	LMXB, XP	YY	22.4	11462
Detected in a 1.6 day outburst from MJD=54193.4.									
XTE J1752-223	268.0	-22.3	0.48	0.5±0.1	0.8±0.1	LMXB, BHC?	YY	86.2	9363
Detected in a 29.3 day outburst from MJD=55284.6.									
IGR J17520-6018	268.009	-60.305	3.95	0.9±0.2	1.6±0.3	AGN, Sy2		6.4	1274
Detected as a persistent source in the 20-100 keV band.									
1RXS J175252.0-053210	268.217	-5.536	4.32	0.6±0.1	0.5±0.2	AGN, Sy1.2		5.8	3169
Detected as a persistent source in the 20-100 keV band.									
SWIFT J1753.5-0127	268.368	-1.452	0.20	60.0±0.1	78.8±0.2	LMXB, BHC	Y	697.6	2724
Detected in a 1926.1 day outburst from MJD=53577.0.									
SAX J1753.5-2349	268.383	-23.82	1.56	<0.1	<0.2	LMXB, B	YY	18.2	10226
Detected in a 11.8 day outburst from MJD=54747.3.									
IGR J17544-2619	268.605	-26.331	0.92	1.0±0.1	0.5±0.1	HMXB, SFXT	Y	34.7	11418
Detected in a 0.5 day outburst from MJD=52899.0.									
IGR J17585-3057	269.638	-30.956	1.87	0.9±0.1	1.1±0.1	LMXB?		14.8	10591
Detected as a persistent source in the 20-100 keV band.									
IGR J17586-2129	269.644	-21.389	0.76	2.0±0.1	0.9±0.1	HMXB?, Sg	Y	44.5	8796
Detected in a 73.0 day outburst from MJD=55053.9.									
IGR J17597-2201	269.94	-22.028	0.52	3.7±0.1	3.3±0.1	LMXB, B, D	Y	76.3	8626
Detected in a 376.8 day outburst from MJD=52698.2.									
NGC 6552	270.064	66.603	4.86	0.5±0.1	0.5±0.2	AGN, Sy2		5.1	2370
SWIFT J1800.3+6637	*Detected as a persistent source in the 20-100 keV band.*								
V2301 Oph	270.149	8.185	3.59	1.0±0.2	<0.6	CV, P	Y	7.1	1309
1RX J180035.0+081013	*Detected in a 42.4 day outburst from MJD=54359.8.*								
IGR J18007-4146	270.202	-41.802	3.19	0.9±0.1	0.5±0.2	?		8.1	3512
Detected as a persistent source in the 18-60 keV band.									
GX 5-1	270.284	-25.079	0.19	50.3±0.1	3.4±0.1	LMXB, Z		1229.0	9987
Detected as a persistent source in the 17-30 keV band.									
GRS 1758-258	270.303	-25.741	0.19	52.9±0.1	70.2±0.1	LMXB, BHC, M		1103.0	10205
Detected as a persistent source in the 20-100 keV band.									
GX 9+1	270.385	-20.529	0.23	16.6±0.1	<0.2	LMXB, A		408.1	7281
Detected as a persistent source in the 17-30 keV band.									
SAX J1802.7-201	270.675	-20.288	0.50	5.5±0.1	1.8±0.1	HMXB, XP, Be/Sg?, T		80.8	7611
Detected as a persistent source in the 20-40 keV band.									

Table 2—Continued

Name[a]	RA	Dec	Error[b]	F20-40[c]	F40-100[c]	Type[d]	Vari[e]	Signif[f]	Exposure[g]
IGR J18027-1455	270.697	-14.915	1.27	1.8±0.1	2.4±0.1	AGN, Sy1		23.2	4968
	Detected as a persistent source in the 20-100 keV band.								
IGR J18044-2739	271.115	-27.671	4.97	0.3±0.1	<0.2	LMXB		5.0	10443
	Detected as a persistent source in the 18-60 keV band.								
IGR J18048-1455	271.162	-14.946	2.57	0.9±0.1	0.7±0.2	CV, IP		10.3	5019
	Detected as a persistent source in the 20-40 keV band.								
XTE J1807-294	271.749	-29.408	0.90	<0.1	<0.2	LMXB, XP, T	YY	35.9	9744
	Detected in a 35.4 day outburst from MJD=52698.2.								
IGR J18074+3827	271.92	38.441	4.95	1.2±0.5	<1.7	?	Y	5.0	207
	Detected in a 447.2 day outburst from MJD=53275.0.								
IGR J18078+1123	271.958	11.347	5.04	0.8±0.2	0.7±0.3	AGN, Sy1-Sy1.2	Y	4.9	1126
	Detected in a 1954.0 day outburst from MJD=52997.3.								
SAX J1808.4-3658	272.115	-36.979	0.57	0.2±0.1	<0.3	LMXB, XP, B, T	YY	66.2	6764
	Detected in a 14.3 day outburst from MJD=54730.7.								
SGR 1806-20	272.164	-20.411	0.76	2.7±0.1	3.4±0.1	SGR, T		44.4	7913
	Detected as a persistent source in the 20-100 keV band.								
XTE J1810-189	272.586	-19.07	0.41	1.7±0.1	1.4±0.1	LMXB, B, T	YY	112.5	7460
	Detected in a 126.2 day outburst from MJD=54540.3.								
SAX J1810.8-2609	272.685	-26.15	0.37	1.9±0.1	1.4±0.1	LMXB, B, T	Y	132.4	10199
	Detected in a 61.1 day outburst from MJD=54329.4.								
PSR J1811-1926	272.872	-19.424	2.04	1.0±0.1	1.0±0.1	SNR, PSR, PWN		13.4	7810
	Detected as a persistent source in the 20-100 keV band.								
IGR J18129-0649	273.224	-6.829	4.08	0.5±0.1	<0.3	AGN	Y	6.2	4328
PMN J1812-0648	*Detected in a 50.8 day outburst from MJD=54333.4.*								
IGR J18134-1636	273.367	-16.597	3.57	0.5±0.1	0.7±0.1	?		7.2	6455
	Detected as a persistent source in the 18-60 keV band.								
IGR J18135-1751	273.397	-17.833	1.43	1.4±0.1	1.6±0.1	SNR, PSR, PWN		20.2	6986
	Detected as a persistent source in the 18-60 keV band.								
GX 13+1	273.631	-17.157	0.30	12.3±0.1	1.8±0.1	LMXB, B, A		211.3	6224
	Detected as a persistent source in the 17-30 keV band.								
IGR J18151-1052	273.767	-10.859	3.64	0.5±0.1	0.6±0.2	HMXB		7.0	4327
	Detected as a persistent source in the 20-40 keV band.								
M 1812-12	273.776	-12.096	0.25	26.7±0.1	26.7±0.2	LMXB, B		342.2	4709
	Detected as a persistent source in the 18-60 keV band.								
GX 17+2	274.006	-14.036	0.19	61.5±0.1	4.2±0.2	LMXB, B, Z		982.2	4702
	Detected as a persistent source in the 17-30 keV band.								
AM Her	274.06	49.868	2.49	5.6±0.5	2.4±0.9	CV, P		10.7	212
4U 1813+50	*Detected as a persistent source in the 20-40 keV band.*								
SWIFT J1816.7-1613	274.178	-16.223	1.04	0.7±0.1	1.0±0.1	HMXB, XP	Y	29.7	5342
	Detected in a 20.4 day outburst from MJD=54547.7.								
IGR J18173-2509	274.342	-25.145	1.52	1.3±0.1	0.6±0.1	CV, IP		18.8	8135
	Detected as a persistent source in the 17-30 keV band.								
IGR J18175-1530	274.392	-15.511	2.93	0.4±0.1	0.6±0.1	?, T	Y	8.9	5571
	Detected in a 35.3 day outburst from MJD=54335.0.								
XTE J1817-330	274.431	-33.019	0.29	4.9±0.1	3.5±0.1	LMXB, BHC, T	Y	216.1	7764
	Detected in a 17.1 day outburst from MJD=53777.8.								

Table 2—Continued

Name[a]	RA	Dec	Error[b]	F20-40[c]	F40-100[c]	Type[d]	Vari[e]	Signif[f]	Exposure[g]
XTE J1818-245	274.603	-24.538	0.94	0.8±0.1	0.3±0.1	LMXB, BHC, T	Y	34.0	5887
Detected in a 20.5 day outburst from MJD=53596.1.									
SAX J1818.6-1703	274.658	-17.047	0.67	1.4±0.1	1.2±0.1	HMXB, SFXT	Y	52.7	5951
Detected in a 0.9 day outburst from MJD=52890.9.									
AX J1820.5-1434	275.123	-14.573	0.95	2.1±0.1	1.2±0.1	HMXB, XP, Be	Y	33.4	5121
Detected in a 14.2 day outburst from MJD=52746.6.									
IGR J18214-1318	275.332	-13.311	1.42	1.7±0.1	1.4±0.2	HMXB, T		20.4	4601
Detected as a persistent source in the 18-60 keV band.									
SWIFT J1821.6+5953	275.36	59.882	4.13	0.5±0.1	1.1±0.3	AGN, Sy1.5		6.1	1697
Detected as a persistent source in the 20-100 keV band.									
IGR J18219-1347	275.478	-13.791	2.53	0.9±0.1	0.6±0.2	HMXB?	Y	10.5	4910
Detected in a 9.9 day outburst from MJD=55087.4.									
IGR J18218+6421	275.488	64.343	2.44	1.3±0.1	0.9±0.2	AGN, Sy1.2		10.9	2209
QSO B1821+643	*Detected as a persistent source in the 18-60 keV band.*								
4U 1820-303	275.919	-30.361	0.21	36.3±0.1	2.6±0.1	LMXB, B, A, G		678.1	7388
Detected as a persistent source in the 17-30 keV band.									
IGR J18241-1456	276.038	-14.928	2.46	0.6±0.1	1.5±0.2	?		10.8	5128
Detected as a persistent source in the 20-100 keV band.									
IGR J18244-5622	276.081	-56.369	2.01	2.1±0.2	1.4±0.3	AGN, Sy2		13.6	946
Detected as a persistent source in the 18-60 keV band.									
IGR J18246-1425	276.099	-14.415	1.84	1.2±0.1	0.9±0.2	XP		15.1	4914
Detected as a persistent source in the 18-60 keV band.									
IGR J18249-3243	276.234	-32.716	3.26	0.5±0.1	<0.3	AGN, Sy1/QSO	Y	7.9	6438
Detected in a 546.4 day outburst from MJD=52752.9.									
4U 1822-000	276.342	-0.012	1.02	1.8±0.1	<0.3	LMXB		30.5	4258
Detected as a persistent source in the 17-30 keV band.									
IGR J18256-1035	276.433	-10.584	2.41	1.0±0.1	0.6±0.2	LMXB		11.1	4942
Detected as a persistent source in the 20-40 keV band.									
3A 1822-371	276.445	-37.105	0.24	32.0±0.1	3.7±0.2	LMXB, XP, M		366.1	5260
Detected as a persistent source in the 17-30 keV band.									
IGR J18259-0706	276.49	-7.173	2.62	0.8±0.1	0.9±0.1	AGN, Sy1		10.1	4850
Detected as a persistent source in the 18-60 keV band.									
LS5039	276.563	-14.848	1.97	1.0±0.1	1.7±0.2	HMXB, NS, M		13.9	5274
Detected as a persistent source in the 20-100 keV band.									
IGR J18280-2939	276.991	-29.644	5.24	<0.2	<0.3	?	Y	4.7	6623
Detected in a 1.6 day outburst from MJD=52879.3.									
XMMSL1 J182831.8-022901	277.109	-2.495	3.74	0.6±0.1	0.4±0.2	?		6.8	4589
Detected as a persistent source in the 20-40 keV band.									
IGR J18284-0345	277.125	-3.762	2.76	0.4±0.1	0.4±0.2	?	Y	9.5	4616
Detected in a 218.6 day outburst from MJD=54905.3.									
IGR J18293-1213	277.334	-12.214	3.42	0.7±0.1	0.4±0.2	?		7.5	4824
Detected as a persistent source in the 18-60 keV band.									
GS 1826-24	277.367	-23.797	0.19	84.9±0.1	68.3±0.1	LMXB, B		1131.9	6771
Detected as a persistent source in the 18-60 keV band.									
XTE J1829-098	277.439	-9.897	2.55	0.4±0.1	<0.3	HMXB, XP	Y	10.4	4813
Detected in a 4.0 day outburst from MJD=54195.1.									

Table 2—Continued

Name[a]	RA	Dec	Error[b]	F20-40[c]	F40-100[c]	Type[d]	Vari[e]	Signif[f]	Exposure[g]
AX J183039-1002	277.66	-10.046	3.12	0.6±0.1	0.3±0.2	AGN?		8.3	4884
Detected as a persistent source in the 18-60 keV band.									
IGR J18308-1232	277.708	-12.539	2.99	0.7±0.1	0.8±0.2	CV, IP		8.7	4860
Detected as a persistent source in the 20-100 keV band.									
IGR J18308+0928	277.711	9.478	3.34	0.5±0.1	1.0±0.2	AGN, Sy2		7.7	2970
Detected as a persistent source in the 20-100 keV band.									
IGR J18311-3337	277.81	-33.597	2.57	0.8±0.1	1.0±0.1	AGN, Sy2		10.3	5626
Detected as a persistent source in the 18-60 keV band.									
AX J1832.3-0840	278.087	-8.677	4.06	0.5±0.1	<0.3	CV, IP	Y	6.2	4876
Detected in a 2807.0 day outburst from MJD=52848.8.									
IGR J18325-0756	278.118	-7.945	1.02	1.2±0.1	0.4±0.1	HMXB?	Y	30.5	4914
Detected in a 20.4 day outburst from MJD=53842.4.									
SNR 021.5-00.9	278.396	-10.558	0.82	3.1±0.1	3.2±0.2	SNR, PSR, PWN		40.6	4906
Detected as a persistent source in the 18-60 keV band.									
PKS 1830-211	278.416	-21.061	0.90	2.5±0.1	3.6±0.2	AGN, QSO, Blazar		35.8	5728
Detected as a persistent source in the 20-100 keV band.									
3C 382	278.764	32.696	3.74	3.5±0.7	<2.0	AGN, Sy1		6.8	144
Detected as a persistent source in the 20-40 keV band.									
RX 1832-330	278.933	-32.982	0.39	10.1±0.1	9.9±0.2	LMXB, B, G, T		122.6	5508
Detected as a persistent source in the 18-60 keV band.									
Fairall 49	279.222	-59.403	4.78	1.0±0.2	<0.8	AGN, Sy2		5.2	741
SWIFT J1836.9-5924	*Detected as a persistent source in the 18-60 keV band.*								
AX J1838.0-0655	279.508	-6.904	1.09	2.0±0.1	2.7±0.1	SNR, PSR, PWN		28.2	4905
Detected as a persistent source in the 20-100 keV band.									
IGR J18381-0924	279.538	-9.415	4.13	0.6±0.1	<0.3	?		6.1	4750
Detected as a persistent source in the 20-40 keV band.									
ESO 103-G35	279.585	-65.428	1.30	4.6±0.2	3.7±0.4	AGN, Sy2		22.6	623
Detected as a persistent source in the 18-60 keV band.									
SWIFT J1839.1-5717	279.764	-57.249	4.69	1.0±0.2	0.8±0.4	?		5.3	771
Detected as a persistent source in the 20-40 keV band.									
Ser X-1	279.99	5.036	0.31	10.4±0.1	<0.3	LMXB, B		189.4	4456
4U 1837+04	*Detected as a persistent source in the 17-30 keV band.*								
AX J1841.0-0536	280.28	-5.57	1.60	0.9±0.1	0.9±0.1	HMXB, XP, SFXT	Y	17.7	4910
IGR J18410-0535	*Detected in a 1.6 day outburst from MJD=53845.6.*								
Kes 73	280.331	-4.936	0.84	2.3±0.1	4.2±0.1	SNR, AXP		39.1	4989
AX J1841.3-0455	*Detected as a persistent source in the 20-100 keV band.*								
3C 390.3	280.537	79.771	1.39	3.4±0.2	4.5±0.4	AGN, Sy1.5		20.9	885
Detected as a persistent source in the 20-100 keV band.									
SWIFT J1842.5-1124	280.572	-11.417	0.87	0.2±0.1	<0.3	LMXB?, BHC, T	YY	37.4	4556
Detected in a 9.8 day outburst from MJD=54719.8.									
AX J1844.7-0305	281.158	-3.144	3.69	0.6±0.1	<0.3	?		6.9	4999
Detected as a persistent source in the 20-40 keV band.									
SWIFT J1845.4+7211	281.22	72.167	4.60	0.7±0.1	<0.5	AGN, Sy2		5.4	1950
CGCG 341-006	*Detected as a persistent source in the 18-60 keV band.*								
ESO 140-G43	281.225	-62.365	2.57	1.8±0.2	2.0±0.4	AGN, Sy1.5		10.3	648
Detected as a persistent source in the 18-60 keV band.									

Table 2—Continued

Name[a]	RA	Dec	Error[b]	F20-40[c]	F40-100[c]	Type[d]	Vari[e]	Signif[f]	Exposure[g]
IGR J18450-0435	281.256	-4.566	1.67	1.4±0.1	1.0±0.1	HMXB, SFXT		16.9	4928
Detected as a persistent source in the 18-60 keV band.									
GS 1843+009	281.404	0.865	0.38	4.5±0.1	3.1±0.1	HMXB, XP, Be, T	Y	129.6	5140
Detected in a 14.2 day outburst from MJD=54898.8.									
IGR J18457+0244	281.42	2.702	3.69	0.5±0.1	0.7±0.1	?		6.9	5407
Detected as a persistent source in the 20-100 keV band.									
IGR J18462-0223	281.569	-2.393	3.12	0.6±0.1	0.7±0.1	HMXB, SFXT, XP	Y	8.3	4967
Detected in a 0.5 day outburst from MJD=54385.3.									
PSR J1846-0258	281.602	-2.974	1.15	2.0±0.1	2.4±0.1	SNR, PSR, PWN		26.3	4993
Detected as a persistent source in the 20-100 keV band.									
IGR J18482+0049	282.06	0.797	3.91	0.4±0.1	0.5±0.1	HMXB		6.5	5329
Detected as a persistent source in the 18-60 keV band.									
IGR J18483-0311	282.072	-3.171	0.62	4.6±0.1	2.7±0.1	HMXB, SFXT, XP		58.3	4853
Detected as a persistent source in the 18-60 keV band.									
3A 1845-024	282.074	-2.42	1.91	0.5±0.1	0.5±0.1	HMXB, XP, Be?, T	Y	14.4	4790
Detected in a 8.2 day outburst from MJD=52758.3.									
IGR J18485-0047	282.106	-0.776	2.17	0.9±0.1	0.9±0.1	?		12.5	5026
Detected as a persistent source in the 20-100 keV band.									
IGR J18490-0000	282.257	-0.022	1.64	1.2±0.1	1.5±0.1	PWN, PSR		17.2	5111
Detected as a persistent source in the 20-100 keV band.									
IGR J18497+5943	282.433	59.716	4.25	0.7±0.2	0.7±0.3	?		5.9	1503
Detected as a persistent source in the 17-30 keV band.									
IGR J18498+1608	282.454	16.139	4.13	<0.2	0.5±0.2	?	Y	6.1	3340
Detected in a 3.3 day outburst from MJD=52763.4.									
SWIFT J185003.2-005627	282.537	-0.959	4.25	0.4±0.1	0.4±0.1	LMXB, B, T	Y	5.9	5027
Detected in a 1130.8 day outburst from MJD=53269.6.									
PBC J1850.7-1658	282.74	-16.965	3.83	0.7±0.1	0.8±0.2	AGN		6.6	3740
Detected as a persistent source in the 20-100 keV band.									
4U 1850-087	283.27	-8.706	0.60	5.1±0.1	4.2±0.2	LMXB, B, G		61.5	4297
Detected as a persistent source in the 18-60 keV band.									
IGR J18532+0416	283.318	4.297	4.13	0.3±0.1	0.6±0.1	?		6.1	5985
Detected as a persistent source in the 20-100 keV band.									
IGR J18538-0102	283.451	-1.041	2.87	0.6±0.1	0.6±0.1	AGN, Sy1		9.1	4978
Detected as a persistent source in the 18-60 keV band.									
IGR J18539+0727	283.492	7.469	0.84	<0.2	0.3±0.1	LMXB?, BHC, T	YY	39.2	5559
Detected in a 11.8 day outburst from MJD=52745.7.									
V1223 Sgr	283.759	-31.163	0.63	7.1±0.1	3.4±0.2	CV, IP		58.0	2773
Detected as a persistent source in the 18-60 keV band.									
ESO 25-G002	283.84	-78.858	4.69	0.7±0.2	1.6±0.4	AGN, Sy1		5.3	651
Detected as a persistent source in the 20-100 keV band.									
XTE J1855-026	283.88	-2.607	0.36	10.7±0.1	6.8±0.1	HMXB, XP		139.2	4826
Detected as a persistent source in the 18-60 keV band.									
2E 1853.7+1534	284.003	15.633	1.59	1.5±0.1	1.6±0.2	AGN, Sy1		17.9	3696
Detected as a persistent source in the 18-60 keV band.									
2E 1849.2-7832	284.25	-78.479	2.79	1.7±0.2	1.4±0.4	AGN, Sy1		9.4	641
Detected as a persistent source in the 18-60 keV band.									

Table 2—Continued

Name[a]	RA	Dec	Error[b]	F20-40[c]	F40-100[c]	Type[d]	Vari[e]	Signif[f]	Exposure[g]
XTE J1856+053	284.258	5.319	3.18	<0.2	<0.2	LMXB, T	YY	8.1	6003
	Detected in a 6.9 day outburst from MJD=54933.7.								
XTE J1858+034	284.679	3.439	0.25	6.8±0.1	0.8±0.1	HMXB, XP, Be?	Y	333.0	5983
	Detected in a 29.5 day outburst from MJD=53122.0.								
HETE J1900.1-2455	285.038	-24.92	0.31	18.2±0.1	15.6±0.2	LMXB, XP, B	Y	191.1	2144
	Detected in a 1949.6 day outburst from MJD=53587.6.								
XTE J1901+014	285.418	1.441	0.83	2.8±0.1	2.5±0.1	LMXB?, SFXT?		39.4	5696
	Detected as a persistent source in the 18-60 keV band.								
4U 1901+03	285.905	3.192	0.21	16.3±0.1	2.1±0.1	HMXB, XP, T	Y	664.8	6029
	Detected in a 73.4 day outburst from MJD=52704.2.								
XTE J1906+090	286.19	9.039	2.51	0.2±0.1	<0.2	HMXB, XP, Be?, T	Y	10.6	5822
	Detected in a 8.2 day outburst from MJD=55468.2.								
IGR J19071-2858	286.783	-28.974	4.39	0.4±0.2	<0.5	?	Y	5.7	1801
	Detected in a 35.3 day outburst from MJD=52715.6. Flags: WARN								
IGR J19072-2046	286.807	-20.765	3.34	0.8±0.1	<0.5	CV	Y	7.7	2055
	Detected in a 87.2 day outburst from MJD=54508.0.								
SGR 1900+14	286.81	9.322	2.14	0.8±0.1	0.9±0.1	SGR, T		12.7	5821
	Detected as a persistent source in the 18-60 keV band.								
IGR J19077-3925	286.911	-39.427	3.50	0.7±0.1	1.1±0.2	AGN, Sy1.9		7.3	1762
	Detected as a persistent source in the 20-100 keV band.								
IGR J19079+0942	286.985	9.711	5.35	<0.2	<0.2	?	YY	4.6	5615
	Detected in a 0.5 day outburst from MJD=52742.0. Flags: WARN								
XTE J1908+094	287.221	9.385	0.84	0.6±0.1	0.9±0.1	LMXB, BHC	Y	39.1	5785
	Detected in a 35.4 day outburst from MJD=52707.7.								
4U 1907+097	287.408	9.83	0.29	14.8±0.1	1.5±0.1	HMXB, XP		217.8	5734
	Detected as a persistent source in the 17-30 keV band.								
SWIFT J1910.2-0546	287.576	-5.785	4.86	<0.2	<0.3	LMXB, BHC, T	Y	5.1	3517
	Detected in a 0.6 day outburst from MJD=54388.7.								
AX J1910.7+0917	287.696	9.285	3.42	0.2±0.1	0.4±0.1	HMXB	Y	7.5	5915
	Detected in a 378.7 day outburst from MJD=52950.3.								
4U 1909+07	287.7	7.596	0.30	14.0±0.1	8.0±0.1	HMXB, XP		201.2	6079
	Detected as a persistent source in the 18-60 keV band.								
Aql X-1	287.817	0.585	0.30	10.5±0.1	9.5±0.1	LMXB, B, A	Y	201.8	4509
4U 1908+00	*Detected in a 29.5 day outburst from MJD=53461.6.*								
IGR J19113+1533	287.821	15.553	4.13	0.3±0.1	0.7±0.1	?	Y	6.1	3835
	Detected in a 2.8 day outburst from MJD=53137.7.								
IGR J19118-1707	287.938	-17.129	3.50	1.0±0.1	0.7±0.2	AGN, Liner		7.3	2251
	Detected as a persistent source in the 20-100 keV band.								
IGR J19118+1125	287.943	11.418	5.04	<0.2	0.4±0.1	?	Y	4.9	5488
	Detected in a 4.8 day outburst from MJD=53478.4. Flags: WARN								
SS 433	287.957	4.983	0.37	9.5±0.1	4.9±0.1	HMXB, M		137.2	5911
1A 1909+04	*Detected as a persistent source in the 18-60 keV band.*								
IGR J19140+0951	288.518	9.883	0.38	8.7±0.1	5.4±0.1	HMXB, Sg		127.4	5589
	Detected as a persistent source in the 18-60 keV band.								
IGR J19149+1036	288.736	10.611	1.27	1.6±0.1	1.0±0.1	HMXB		23.4	3803
	Detected as a persistent source in the 18-60 keV band. Flags: BLEND								

Table 2—Continued

Name[a]	RA	Dec	Error[b]	F20-40[c]	F40-100[c]	Type[d]	Vari[e]	Signif[f]	Exposure[g]
GRS 1915+105	288.798	10.946	0.17	274.2±0.1	129.9±0.1	LMXB, BH, M, T		3719.8	5763
Detected as a persistent source in the 18-60 keV band.									
IGR J19173+0747	289.337	7.798	4.06	0.5±0.1	<0.2	HMXB, Be?		6.2	5097
Detected as a persistent source in the 20-40 keV band.									
4U 1916-053	289.699	-5.236	0.44	9.7±0.1	6.4±0.2	LMXB, B, D		100.0	3023
Detected as a persistent source in the 18-60 keV band.									
PKS 1916-300	289.888	-29.986	3.84	0.8±0.2	<0.5	AGN, Sy1.5-Sy1.8		6.6	1445
Detected as a persistent source in the 18-60 keV band.									
4U 1919+44	290.274	44.022	3.74	0.9±0.3	<0.8	Cluster		6.8	720
Detected as a persistent source in the 17-30 keV band.									
ESO 141-G55	290.309	-58.671	2.08	2.8±0.3	2.9±0.5	AGN, Sy1.2		13.1	520
Detected as a persistent source in the 18-60 keV band.									
SWIFT J1922.7-1716	290.654	-17.284	1.51	0.8±0.1	0.6±0.2	LMXB, B	Y	19.0	1929
Detected in a 450.3 day outburst from MJD=53452.1.									
1RXS J192450.8-291437	291.213	-29.242	4.13	0.9±0.2	1.0±0.3	AGN, BL Lac		6.1	1343
Detected as a persistent source in the 20-100 keV band.									
IGR J19267+1325	291.612	13.368	3.15	0.6±0.1	0.3±0.1	CV, IP		8.2	4723
Detected as a persistent source in the 18-60 keV band.									
IGR J19294-1746	292.341	-17.782	4.86	0.3±0.1	<0.5	?	Y	5.1	1713
Detected in a 0.5 day outburst from MJD=53671.0. Flags: WARN									
IGR J19294+1327	292.374	13.451	3.43	0.5±0.1	0.5±0.1	?		7.5	4615
Detected as a persistent source in the 18-60 keV band.									
IGR J19295-0919	292.376	-9.319	4.61	0.3±0.1	<0.4	?	Y	5.4	2039
Detected in a 14.2 day outburst from MJD=53638.3. Flags: WARN									
IGR J19294+1816	292.483	18.311	1.27	0.5±0.1	0.6±0.2	HMXB?, Be?, SFXT?	Y	23.2	3134
Detected in a 8.3 day outburst from MJD=55492.8.									
SWIFT J1930.5+3414	292.557	34.181	3.26	0.9±0.2	0.9±0.3	AGN, Sy1.5-Sy1.8		7.9	1528
Detected as a persistent source in the 20-100 keV band.									
PSR J1930+1852	292.585	18.896	3.46	0.4±0.1	0.9±0.2	PSR		7.4	2932
Detected as a persistent source in the 20-100 keV band.									
SWIFT J1933.9+3258	293.447	32.907	3.55	1.1±0.2	<0.5	AGN, Sy1.2		7.2	1629
1RXS J193347.6+325422	*Detected as a persistent source in the 20-40 keV band.*								
QSO B1933-400	294.318	-39.967	4.39	0.5±0.1	1.0±0.3	AGN, QSO, Blazar	Y	5.7	1470
Detected in a 1952.9 day outburst from MJD=53584.3.									
IGR J19375-0012	294.363	-0.233	4.46	<0.2	<0.4	?	YY	5.6	2981
Detected in a 4.0 day outburst from MJD=54941.8. Flags: WARN									
IGR J19378-0617	294.388	-6.218	2.93	1.0±0.1	0.7±0.2	AGN, NLS1		8.9	1970
Detected as a persistent source in the 18-60 keV band.									
IGR J19383-0113	294.593	-1.222	4.19	0.5±0.1	0.6±0.2	?	Y	6.0	2734
Detected in a 4.8 day outburst from MJD=53120.2.									
IGR J19386-4653	294.653	-46.886	4.25	<0.3	<0.6	?	YY	5.9	1033
Detected in a 17.1 day outburst from MJD=53098.8.									
IGR J19387-6502	294.741	-65.042	4.46	<0.6	<1.1	?		5.6	404
Detected as a persistent source in the 30-60 keV band.									
V1432 Aql	295.048	-10.424	1.39	3.0±0.1	1.7±0.3	CV, IP		21.0	1640
RX J1940.2-1025	*Detected as a persistent source in the 18-60 keV band.*								

Table 2—Continued

Name[a]	RA	Dec	Error[b]	F20-40[c]	F40-100[c]	Type[d]	Vari[e]	Signif[f]	Exposure[g]
IGR J19405-3016	295.063	-30.263	3.55	1.2±0.2	0.7±0.3	AGN, Sy1.2		7.2	1252
	Detected as a persistent source in the 18-60 keV band.								
IGR J19401+1724	295.063	17.437	3.89	0.4±0.1	0.4±0.2	?	Y	6.5	2903
	Detected in a 2.8 day outburst from MJD=52737.2.								
NGC 6814	295.668	-10.323	1.19	3.0±0.1	4.1±0.3	AGN, Sy1.5		25.1	1586
	Detected as a persistent source in the 20-100 keV band.								
IGR J19443+2117	295.984	21.307	4.78	0.7±0.2	<0.5	AGN, BL Lac?	Y	5.2	1776
HESS J1943+213	*Detected in a 679.7 day outburst from MJD=53204.1.*								
XTE J1946+274	296.414	27.365	0.43	6.5±0.2	1.0±0.3	HMXB, XP, T	Y	103.4	1525
	Detected in a 131.7 day outburst from MJD=55346.4.								
XSS J19459+4508	296.831	44.828	2.43	1.4±0.2	1.1±0.2	AGN, Sy2		11.0	1822
IGR J19473+4452	*Detected as a persistent source in the 20-40 keV band.*								
IGR J19491-1035	297.286	-10.576	3.95	0.9±0.2	0.6±0.3	AGN, Sy1.2		6.4	1463
	Detected as a persistent source in the 18-60 keV band.								
KS 1947+300	297.398	30.209	0.48	4.2±0.2	3.3±0.2	HMXB, XP, T	Y	86.6	1960
	Detected in a 679.7 day outburst from MJD=52626.4.								
3C 403	298.062	2.508	3.02	1.0±0.1	0.7±0.2	AGN, Sy2		8.6	2260
	Detected as a persistent source in the 18-60 keV band.								
SWIFT J1953.0+3256	298.231	32.903	2.87	0.9±0.1	0.6±0.2	PSR		9.1	2293
	Detected as a persistent source in the 20-40 keV band.								
IGR J19536+5307	298.392	53.127	4.19	<0.4	<0.6	?	YY	6.0	1232
	Detected in a 2.9 day outburst from MJD=54087.2.								
IGR J19552+0044	298.796	0.745	3.69	0.7±0.2	<0.5	CV, IP?	Y	6.9	1974
	Detected in a 454.4 day outburst from MJD=52726.9.								
4U 1954+319	298.926	32.097	0.36	13.5±0.1	5.8±0.2	LMXB, Symb	Y	138.7	2305
	Detected in a 2435.3 day outburst from MJD=53235.2.								
V2306 Cyg	299.562	32.505	2.57	1.1±0.1	0.6±0.2	CV, IP		10.3	2497
H 2215+32	*Detected as a persistent source in the 20-40 keV band.*								
Cyg X-1	299.59	35.202	0.16	687.3±0.1	830.3±0.2	HMXB, BH, M		8154.2	4402
4U 1956+35	*Detected as a persistent source in the 20-100 keV band.*								
IGR J19587-1806	299.69	-18.133	3.95	<0.3	<0.6	?	YY	6.4	1292
	Detected in a 2.7 day outburst from MJD=55097.1.								
4U 1957+115	299.813	11.717	3.69	0.5±0.2	0.5±0.2	LMXB	Y	6.9	1598
	Detected in a 1.9 day outburst from MJD=54753.5.								
Cyg A	299.868	40.734	0.66	4.4±0.1	5.2±0.2	AGN, Sy2		54.2	2814
	Detected as a persistent source in the 18-60 keV band.								
1ES 1959+650	299.999	65.149	3.34	1.2±0.2	0.7±0.3	AGN, BL Lac		7.7	1215
SWIFT J1959.6+6507	*Detected as a persistent source in the 18-60 keV band.*								
IGR J20006+3210	300.091	32.189	1.20	2.4±0.1	2.0±0.2	HMXB		25.0	2548
SWIFT J2000.6+321	*Detected as a persistent source in the 20-40 keV band.*								
ESO 399-G20	301.738	-34.548	4.39	0.7±0.2	1.4±0.3	AGN, NLS1		5.7	1030
	Detected as a persistent source in the 20-100 keV band.								
NGC 6860	302.213	-61.094	3.84	2.1±0.4	3.2±0.7	AGN, Sy1.5		6.6	238
	Detected as a persistent source in the 18-60 keV band.								
SWIFT J2012.0-5648	303.059	-56.824	4.94	1.2±0.5	<1.6	Cluster		5.0	222
Abell 2367	*Detected as a persistent source in the 17-30 keV band.*								

Table 2—Continued

Name[a]	RA	Dec	Error[b]	F20-40[c]	F40-100[c]	Type[d]	Vari[e]	Signif[f]	Exposure[g]
IGR J20155+3827	303.875	38.45	4.61	<0.2	<0.3	?	Y	5.4	3432
Detected in a 25.5 day outburst from MJD=53256.1. Flags: WARN									
IGR J20159+3713	303.881	37.188	3.19	0.6±0.1	0.7±0.2	CV-Blazar		8.1	2932
Detected as a persistent source in the 30-60 keV band.									
SWIFT J2018.4-5539	304.433	-55.68	4.89	2.2±0.5	2.1±0.8	AGN, Sy2		5.1	206
PKS 2014-55	*Detected as a persistent source in the 20-40 keV band.*								
IGR J20186+4043	304.66	40.683	1.81	1.1±0.1	1.2±0.2	AGN, Sy2		15.4	3151
Detected as a persistent source in the 18-60 keV band.									
IGR J20216+4359	305.45	44.009	2.82	0.5±0.1	0.8±0.2	AGN, Sy2		9.3	3207
Detected as a persistent source in the 20-100 keV band.									
IGR J20231+5302	305.774	53.036	5.04	<0.3	<0.4	?	YY	4.9	2227
Detected in a 5.9 day outburst from MJD=54231.2. Flags: WARN									
IGR J20286+2544	307.145	25.733	1.50	2.4±0.2	3.3±0.3	AGN, pair, Sy2, XBONG		19.1	978
Detected as a persistent source in the 20-100 keV band.									
IGR J20310+3835	307.755	38.576	4.54	0.6±0.1	<0.3	?		5.5	3208
Detected as a persistent source in the 20-40 keV band.									
EXO 2030+375	308.063	37.638	0.18	54.3±0.1	27.9±0.2	HMXB, XP, Be, T	Y	1991.3	3233
Detected in a 63.5 day outburst from MJD=53906.2.									
Cyg X-3	308.107	40.958	0.18	146.9±0.1	63.5±0.2	HMXB, M		1814.4	3312
4U 2030+40	*Detected as a persistent source in the 20-40 keV band.*								
NGC6926	308.272	-2.027	4.86	0.8±0.2	<0.8	AGN, Sy2		5.1	758
Detected as a persistent source in the 18-60 keV band.									
4C +21.55	308.393	21.807	3.46	1.6±0.3	1.8±0.5	AGN, QSO, Blazar		7.4	462
SWIFT J2033.4+2147	*Detected as a persistent source in the 20-100 keV band.*								
SWIFT J2037.2+4151	309.273	41.835	2.41	0.5±0.1	<0.3	?, T	Y	11.1	3106
Detected in a 1408.4 day outburst from MJD=53048.9.									
IGR J20413+3210	310.384	32.219	3.42	<0.3	<0.4	?	Y	7.5	2364
Detected in a 1.6 day outburst from MJD=54014.9.									
4C 74.26	310.655	75.134	2.39	2.7±0.3	3.1±0.5	AGN, Sy1		11.2	551
Detected as a persistent source in the 18-60 keV band.									
SWIFT J2044.0+2832	311.022	28.555	3.15	0.8±0.2	1.1±0.3	AGN, Sy1		8.2	1106
RX J2044.0+2833	*Detected as a persistent source in the 20-100 keV band.*								
Mrk 509	311.041	-10.724	1.06	4.3±0.2	4.7±0.3	AGN, Sy1.5		29.0	1066
Detected as a persistent source in the 18-60 keV band.									
IGR J20450+7530	311.144	75.533	4.69	1.1±0.3	<1.0	AGN, Sy1	Y	5.3	515
Detected in a 969.8 day outburst from MJD=52798.9.									
IGR J20526-4320	313.161	-43.345	4.19	<0.7	<1.2	?	Y	6.0	389
Detected in a 24.6 day outburst from MJD=53312.6.									
IGR J20569+4940	314.178	49.669	2.99	0.6±0.1	0.4±0.2	AGN?		8.7	3432
Detected as a persistent source in the 18-60 keV band.									
IGR J21025+6738	315.619	67.68	4.95	<0.4	<0.7	?	YY	5.0	1036
Detected in a 470.2 day outburst from MJD=54589.9.									
IGR J21024-4608	315.632	-46.113	3.79	<0.8	<1.5	?	YY	6.7	286
Detected in a 11.8 day outburst from MJD=54950.4.									
SAX J2103.5+4545	315.899	45.752	0.35	10.7±0.1	6.0±0.2	HMXB, XP, Be, T	Y	150.6	3613
Detected in a 2.0 day outburst from MJD=54215.0.									

Table 2—Continued

Name[a]	RA	Dec	Error[b]	F20-40[c]	F40-100[c]	Type[d]	Vari[e]	Signif[f]	Exposure[g]
IGR J21064+7232	316.606	72.559	4.54	<0.6	<1.0	?	Y	5.5	609
Detected in a 391.8 day outburst from MJD=54656.2.									
IGR J21095+4322	317.391	43.346	4.06	0.5±0.1	0.5±0.2	?		6.2	3342
Detected as a persistent source in the 20-100 keV band.									
1RXS J211336.1+542226	318.47	54.371	3.95	0.6±0.1	<0.4	CV, IP		6.4	2990
Detected as a persistent source in the 20-40 keV band.									
S5 2116+81	318.502	82.08	3.99	2.0±0.4	<1.3	AGN, Sy1		6.3	273
Detected as a persistent source in the 18-60 keV band.									
IGR J21171+3930	319.306	39.515	5.03	0.5±0.1	0.6±0.2	?		4.9	2800
Detected as a persistent source in the 17-30 keV band.									
IGR J21178+5139	319.447	51.648	2.15	0.9±0.1	1.2±0.2	AGN		12.6	3509
Detected as a persistent source in the 20-100 keV band.									
IGR J21188+4901	319.699	49.017	4.13	<0.2	<0.3	?	YY	6.1	3696
Detected in a 109.5 day outburst from MJD=52637.8.									
1RXS J211928.4+333259	319.898	33.551	2.79	0.9±0.2	0.9±0.3	AGN, Sy1.5		9.4	1457
Detected as a persistent source in the 18-60 keV band.									
V2069 Cyg	320.937	42.301	2.17	1.2±0.1	<0.3	CV, IP		12.5	3094
RX J2123.7-4217	*Detected as a persistent source in the 20-40 keV band.*								
IGR J21247+5058	321.164	50.973	0.46	7.5±0.1	8.5±0.2	AGN, Sy1		91.2	3548
Detected as a persistent source in the 18-60 keV band.									
IGR J21268+6203	321.692	62.062	4.25	<0.3	<0.5	?	Y	5.9	1967
Detected in a 2.4 day outburst from MJD=54088.9. Flags: WARN									
SWIFT J2127.4+5654	321.941	56.943	1.32	2.5±0.1	1.4±0.2	AGN, NLS1		22.2	2587
Detected as a persistent source in the 18-60 keV band.									
IGR J21286+4956	322.143	49.945	4.86	<0.2	<0.3	?	YY	5.1	3600
Detected in a 7.1 day outburst from MJD=53881.0. Flags: WARN									
4U 2129+12	322.493	12.167	3.02	3.9±0.5	4.0±1.0	LMXB, B?, D, G		8.6	107
Detected as a persistent source in the 18-60 keV band.									
IGR J21304-1547	322.643	-15.811	3.95	1.7±0.4	1.3±0.6	?		6.4	372
Detected as a persistent source in the 18-60 keV band.									
IGR J21319+3619	322.981	36.331	4.78	<0.3	<0.5	?	Y	5.2	1844
Detected in a 36.7 day outburst from MJD=54087.4. Flags: WARN									
CTS 109	323.021	-33.757	4.46	0.5±0.2	1.7±0.4	AGN, Sy1.2	Y	5.6	567
SWIFT J2132.0-3343	*Detected in a 5.7 day outburst from MJD=55333.9.*								
IGR J21335+5105	323.375	51.092	1.04	3.1±0.1	1.6±0.2	CV, IP		29.6	3349
RX J2133.7+5107	*Detected as a persistent source in the 18-60 keV band.*								
IGR J21347+4737	323.585	47.634	3.09	<0.2	<0.3	HMXB, XP, Be	Y	8.4	3412
Detected in a 392.3 day outburst from MJD=52666.1. Flags: BLEND									
RX J2135.9+4728	323.977	47.475	2.02	1.1±0.1	1.4±0.2	AGN, Sy1		13.5	3363
Detected as a persistent source in the 18-60 keV band. Flags: BLEND									
IGR J21376+5636	324.448	56.564	5.02	<0.2	0.4±0.2	?	Y	4.9	2631
Detected in a 91.4 day outburst from MJD=53206.0.									
1RXS J213944.3+595016	324.928	59.827	4.54	0.6±0.1	0.8±0.2	AGN, Sy1.5	Y	5.5	2368
Detected in a 2433.0 day outburst from MJD=52995.1.									
SS Cyg	325.678	43.586	1.00	3.3±0.1	1.6±0.2	CV, IP		31.3	2698
1H 2140+433	*Detected as a persistent source in the 18-60 keV band.*								

Table 2—Continued

Name[a]	RA	Dec	Error[b]	F20-40[c]	F40-100[c]	Type[d]	Vari[e]	Signif[f]	Exposure[g]
Cyg X-2	326.172	38.322	0.27	25.3±0.1	2.4±0.2	LMXB, B, Z		267.6	1877
4U 2142+38	*Detected as a persistent source in the 17-30 keV band.*								
IGR J21485+4306	327.127	43.104	4.25	0.4±0.1	0.7±0.2	?		5.9	2490
	Detected as a persistent source in the 30-60 keV band.								
PKS 2149-306	327.981	-30.465	2.69	1.5±0.2	2.5±0.4	AGN, QSO, Blazar		9.8	642
	Detected as a persistent source in the 20-100 keV band.								
IGR J21523-2240	328.078	-22.678	3.95	<0.6	<1.1	?	YY	6.4	409
	Detected in a 1.1 day outburst from MJD=53336.6.								
IGR J21540+4806	328.475	48.085	4.95	0.3±0.1	0.7±0.2	?		5.0	2774
	Detected as a persistent source in the 20-100 keV band.								
IGR J21565+5948	329.018	59.934	4.57	<0.2	0.9±0.2	AGN, Sy1		5.5	2615
	Detected as a persistent source in the 18-60 keV band.								
SWIFT J2156.2+1724	329.038	17.335	5.22	0.9±0.3	1.4±0.5	AGN?		4.7	413
	Detected as a persistent source in the 18-60 keV band.								
Mrk 520	330.126	10.603	2.74	1.1±0.4	1.4±0.6	AGN, Sy1.9	Y	9.6	261
	Detected in a 0.7 day outburst from MJD=52951.4.								
IGR J22014+6034	330.361	60.567	5.35	<0.2	<0.4	?	YY	4.6	2699
	Detected in a 52.8 day outburst from MJD=52694.6.								
NGC 7172	330.507	-31.872	1.22	4.6±0.2	4.8±0.4	AGN, Sy2		24.4	646
	Detected as a persistent source in the 18-60 keV band.								
BL LAC	330.68	42.278	2.53	1.4±0.2	1.5±0.3	AGN, BL Lac		10.5	1748
	Detected as a persistent source in the 18-60 keV band.								
4U 2206+543	331.984	54.518	0.49	8.7±0.1	6.4±0.2	HMXB, Be		83.4	2569
	Detected as a persistent source in the 18-60 keV band.								
FO Aqr	334.481	-8.351	2.74	2.7±0.3	<1.1	CV, IP		9.6	122
H 2215-086	*Detected as a persistent source in the 17-30 keV band.*								
IGR J22234-4116	335.85	-41.262	4.06	<0.6	1.8±0.6	?	Y	6.2	322
	Detected in a 2328.6 day outburst from MJD=52839.4.								
IGR J22253+5046	336.325	50.777	4.95	<0.3	<0.5	?	YY	5.0	2069
	Detected in a 5.9 day outburst from MJD=53955.1.								
UGC 12040	336.785	36.34	4.95	1.6±0.4	<1.5	AGN, Sy1.9		5.0	262
SWIFT J2226.8+3628	*Detected as a persistent source in the 17-30 keV band.*								
IGR J22292+6647	337.306	66.781	3.34	0.7±0.1	0.7±0.2	AGN, Sy1.5		7.7	2843
	Detected as a persistent source in the 18-60 keV band.								
IGR J22345+1007	338.626	10.153	4.54	0.6±0.2	<0.7	?		5.5	973
SWIFT J2233.9+1007	*Detected in a 2412.4 day outburst from MJD=52873.7.*								
NGC 7314	338.942	-26.05	2.79	1.8±0.3	1.2±0.4	AGN, Sy1.9		9.4	406
	Detected as a persistent source in the 18-60 keV band.								
3C 452	341.393	39.724	5.04	1.6±0.5	1.9±0.8	AGN, Sy2	Y	4.9	237
	Detected in a 1684.6 day outburst from MJD=52636.6.								
IGR J22517+2218	342.973	22.293	3.55	0.9±0.2	0.7±0.3	AGN, QSO, Blazar		7.2	1068
	Detected as a persistent source in the 18-60 keV band.								
3C 454.3	343.491	16.148	0.71	6.0±0.2	8.5±0.3	AGN, QSO, Blazar		48.4	1244
	Detected as a persistent source in the 20-100 keV band.								
QSO B2251-178	343.525	-17.582	1.37	4.4±0.2	4.8±0.4	AGN, Sy1.2		21.2	208
	Detected as a persistent source in the 18-60 keV band.								

Table 2—Continued

Name[a]	RA	Dec	Error[b]	F20-40[c]	F40-100[c]	Type[d]	Vari[e]	Signif[f]	Exposure[g]
AO Psc	343.825	-3.162	4.86	<0.7	<1.2	CV, IP	Y	5.1	143
H 2252-035	*Detected in a 673.1 day outburst from MJD=52834.3.*								
IGR J22560+5152	344.004	51.882	4.19	<0.3	<0.4	?	YY	6.0	2302
	Detected in a 2.9 day outburst from MJD=54089.4.								
KAZ 320	344.872	24.92	3.64	1.1±0.2	<0.7	AGN, NLS1		7.0	882
SWIFT J2259.7+2458	*Detected as a persistent source in the 18-60 keV band.*								
NGC 7465	345.532	15.944	4.46	0.4±0.2	<0.6	AGN, Sy2, Liner	Y	5.6	1223
	Detected in a 1673.3 day outburst from MJD=52803.2.								
IGR J23029+4535	345.717	45.595	4.46	<0.5	<0.9	?	YY	5.6	797
	Detected in a 12.3 day outburst from MJD=54216.4. Flags: WARN								
NGC 7469	345.816	8.874	1.80	2.9±0.2	2.9±0.4	AGN, Sy1.5		15.5	845
	Detected as a persistent source in the 18-60 keV band.								
MCG-02-58-022	346.181	-8.686	1.91	3.8±0.3	2.9±0.5	AGN, Sy1.5		14.4	206
	Detected as a persistent source in the 18-60 keV band.								
NGC7479	346.218	12.348	3.89	1.1±0.2	<0.6	AGN, Sy1.9		6.5	1122
SWIFT J2304.9+1220	*Detected as a persistent source in the 20-40 keV band.*								
1SWXRT J230642.8+550817	346.727	55.173	3.79	0.4±0.1	<0.3	?		6.7	3215
	Detected as a persistent source in the 17-30 keV band.								
IGR J23070+2203	346.74	22.063	4.61	0.4±0.2	0.8±0.3	?, T	Y	5.4	1091
	Detected in a 968.3 day outburst from MJD=52635.9.								
NGC 7582	349.598	-42.371	3.89	3.5±0.5	2.0±0.9	AGN, Sy2		6.5	157
	Detected as a persistent source in the 18-60 keV band.								
IGR J23206+6431	350.153	64.512	3.92	0.4±0.1	<0.3	AGN, Sy1		6.5	4211
	Detected as a persistent source in the 18-60 keV band.								
Cas A	350.866	58.812	0.67	4.0±0.1	2.4±0.1	SNR		53.3	4093
4U 2321+58	*Detected as a persistent source in the 17-30 keV band.*								
RHS 61	351.483	21.908	4.46	0.9±0.2	<0.8	AGN, Sy1	Y	5.6	756
SWIFT J2325.6+2157	*Detected in a 4.1 day outburst from MJD=54424.2.*								
PKS 2325+093	351.937	9.666	4.01	1.0±0.2	1.8±0.4	AGN, QSO, Blazar		6.3	680
SWIFT J2327.5+0938	*Detected as a persistent source in the 20-100 keV band.*								
IGR J23298+7511	352.468	75.191	4.18	<0.4	<0.6	?	YY	6.0	1202
	Detected in a 0.7 day outburst from MJD=54573.8.								
IGR J23308+7120	352.655	71.379	4.19	0.6±0.1	<0.4	AGN, Sy2?		6.0	2628
	Detected as a persistent source in the 18-60 keV band.								
IGR J23524+5842	358.091	58.759	2.84	0.5±0.1	0.8±0.1	AGN, Sy2?		9.2	4381
	Detected as a persistent source in the 20-100 keV band.								
IGR J23558-1047	358.939	-10.788	4.78	1.6±0.6	4.3±1.1	AGN, Sy1/QSO	Y	5.2	62
	Detected in a 0.8 day outburst from MJD=53342.6.								

[a]Names in bold face indicate new detections since fourth IBIS/ISGRI catalog

[b]Position errors expressed as radius of 90% confidence circle in arcminutes

[c]Time-averaged flux expressed in units of mCrab; appropriate conversion factors are: (20-40 keV) 10 mCrab = 7.57×10^{-11} erg cm^{-2} s^{-1} = 1.71×10^{-3} ph cm^{-2} s^{-1}; (40-100 keV) 10 mCrab = 9.42×10^{-11} erg cm^{-2} s^{-1} = 9.67×10^{-4} ph cm^{-1} s^{-1}

[d]Source type classifications: A=Atoll source (neutron star); AGN=Active galactic nuclei; AXP=Anomalous X-ray pulsar; B=Burster (neutron star); Be=B-type emission-line star; BH=Black hole (confirmed mass evaluation); BHC=Black hole candidate; BL=broad line; Cluster=Cluster of galaxies; CV=Cataclysmic variable; D=Dipping source; DN=Dwarf Nova; G=Globular Cluster X-ray source; GRB=Gamma-Ray Burst; HMXB=High-mass X-ray binary; IP=Intermediate Polar; LMXB=Low-mass X-ray binary; M=Microquasar; Mol Cloud=Molecular

cloud; NL=narrow line; NS=Neutron Star; P=Polar; PSR=Radio pulsar; PWN=Pulsar wind nebula; QSO = Quasar; RG=Radio Galaxy; SFXT=Supergiant Fast X-ray Transient; SG=Supergiant; SGR=Soft gamma-ray repeater; SNR=Supernova remnant; Sy=Seyfert galaxy; Symb=Symbiotic star; T=Transient source; XB=Galactic X-ray binary; XBONG=X-ray bright, optically normal galaxy; XP=X-ray pulsar; Z=Z-type source (neutron star)

[e]Variability indicator, see Section 3 for details

[f]Maximimum significance in a single map, see notes on individual sources for detection method.

[g]Corrected on-source exposure (ksec)