

ISRO'S WEB BASED VISUALIZATION TOOL FOR ASTROSAT

HOW OUR APPLICATION LOOKS LIKE?

Welcome to ISRO data analyzer

VISUALIZATION TOOL FOR ASTROSAT OBSERVATIONS

Import Files

Astrosat Data File
No File Selected
Browse A File
Load File

Sources Data File
No File Selected
Browse A File
Load File

Publications Data File
No File Selected
Browse A File
Load File

Generate Map

List of Proposals

Sl.no	Proposal ID
1	A04_104
2	A04_174
3	A04_209
4	A04_230
5	A05_002
6	A05_004
7	A05_007
8	A05_010
9	A05_012

Selected Proposal

Serial number	Obs_Start_Date	Obs_Start_Time	Proposal_ID	Target_ID	RA	Dec	O
17	9/19/2018 0:00	7:50:00 PM	A04_209	T01	24.17395	15.783660000000000001	A04_209T01_

HOW DOES THE APPLICATION WORK?

STEP - 1

Welcome to ISRO data analyzer

VISUALIZATION TOOL FOR ASTROSAT OBSERVATIONS

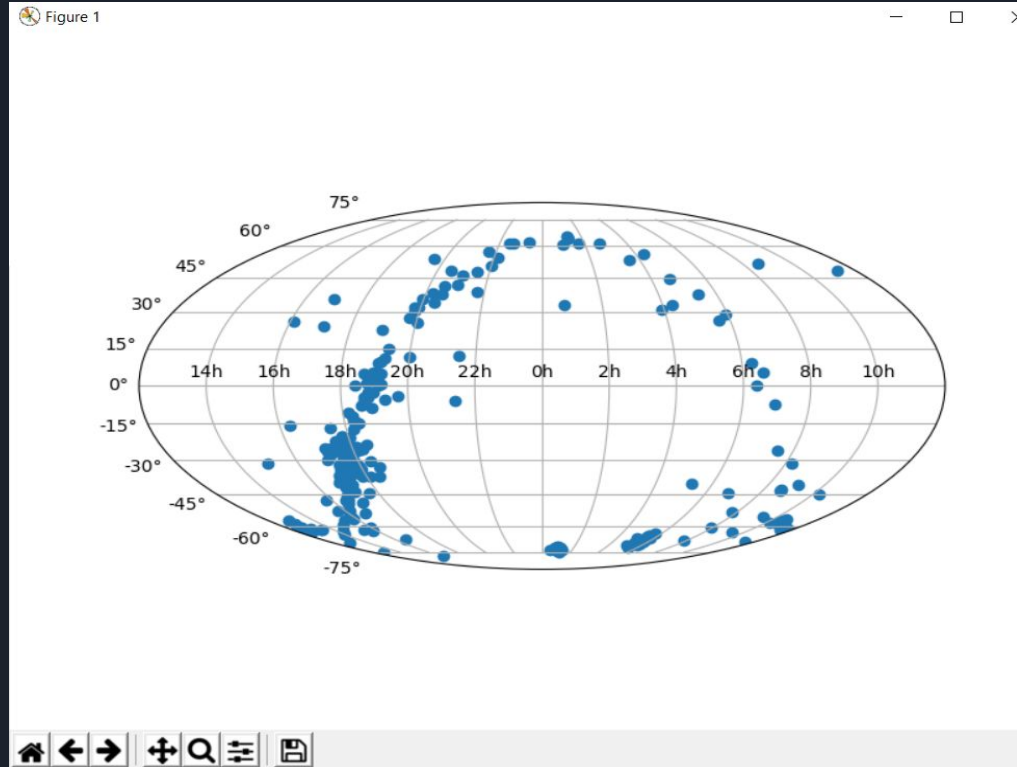
Import Files

<p>Astrosat Data File</p> <p>strosat_readings_new.xlsx</p> <p>Browse A File</p> <p>Load File</p>	<p>Sources Data File</p> <p>bined_cosmic sources.xlsx</p> <p>Browse A File</p> <p>Load File</p>	<p>Publications Data File</p> <p>sv files/publication.xlsx</p> <p>Browse A File</p> <p>Load File</p>
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Generate Map

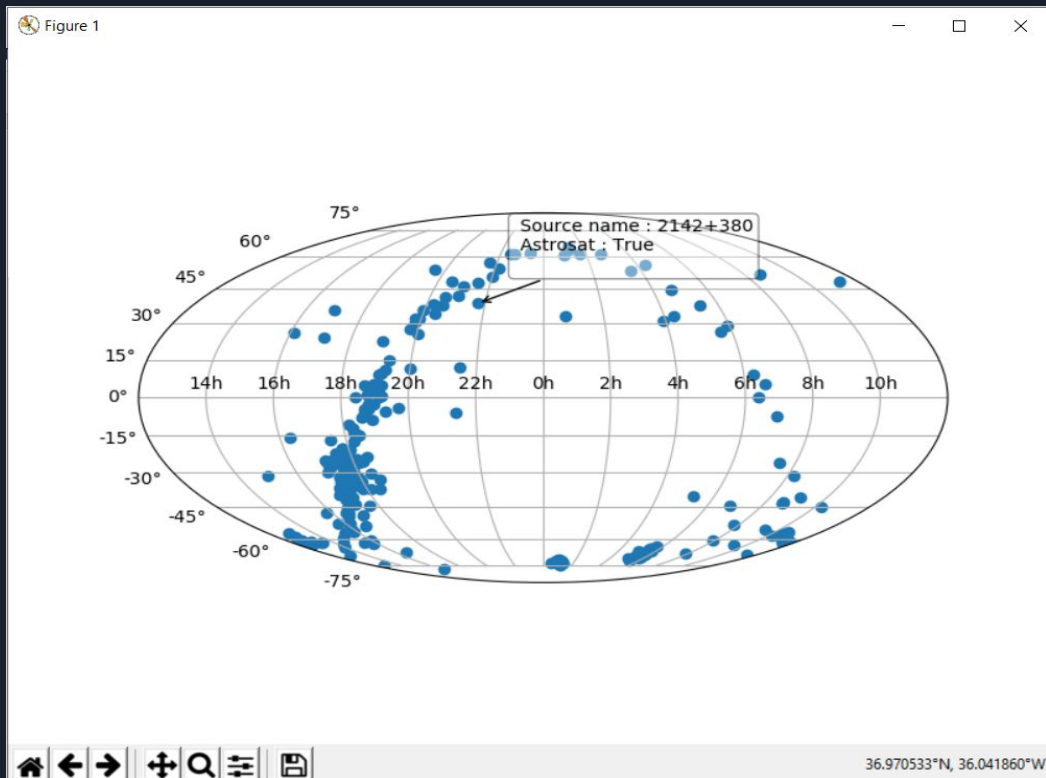
HOW DOES THE APPLICATION WORK?

STEP - 2



HOW DOES THE APPLICATION WORK?

STEP-3



HOW DOES THE APPLICATION WORK?

STEP-4

Welcome to ISRO data analyzer

List of Clicked Sources									
Sl.no	Source Name								
1	2142 + 380								

Selected Source data									
Serial number	Obs_Start_Date	Obs_Start_Time	Proposal_ID	Target_ID	RA	Dec			
348	7/29/2019 0:00	4:08:02 PM	A06_002	T02	326.171475	38.321407			
415	9/28/2019 0:00	10:43:36 AM	A06_002	T02	326.171475	38.321407			

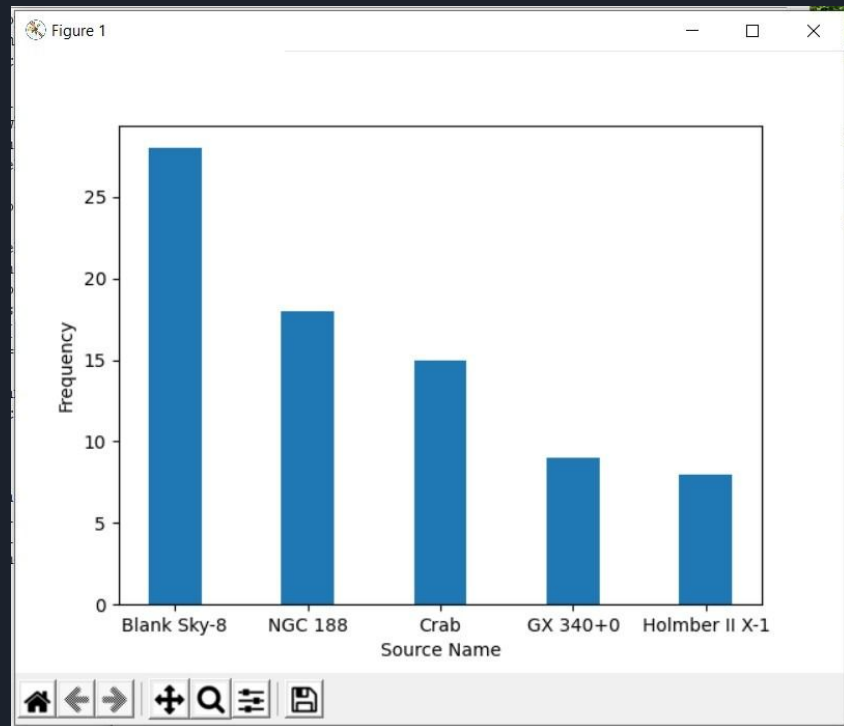
Publications					
Title	Authors	Bibliographi	Keywords	Abstract	URL
Thermonuclear X-ray bursts detected in Cyg >	Devasia, J., Raman, G., & Paul, B.	2021NewA...8301479D	X-Rays	We report the detection of 5 Type-1 thermoni	<a href="https://ui.adsabs.harvard.edu/abs
Thermonuclear X-ray bursts detected in Cyg >	Devasia, J., Raman, G., & Paul, B.	2021NewA...8301479D	X-Rays	We report the detection of 5 Type-1 thermoni	<a href="https://ui.adsabs.harvard.edu/abs

The background is a dark navy blue. In the top-left corner, there are two overlapping geometric shapes: a blue parallelogram and a light green parallelogram. In the top-right corner, there is a grey, 3D-rendered circuit board pattern. In the bottom-left corner, there is a circular, semi-transparent inset showing a detailed image of a printed circuit board (PCB) with various electronic components. The text "DATA ANALYSIS" is centered in the middle-right portion of the image.

DATA ANALYSIS

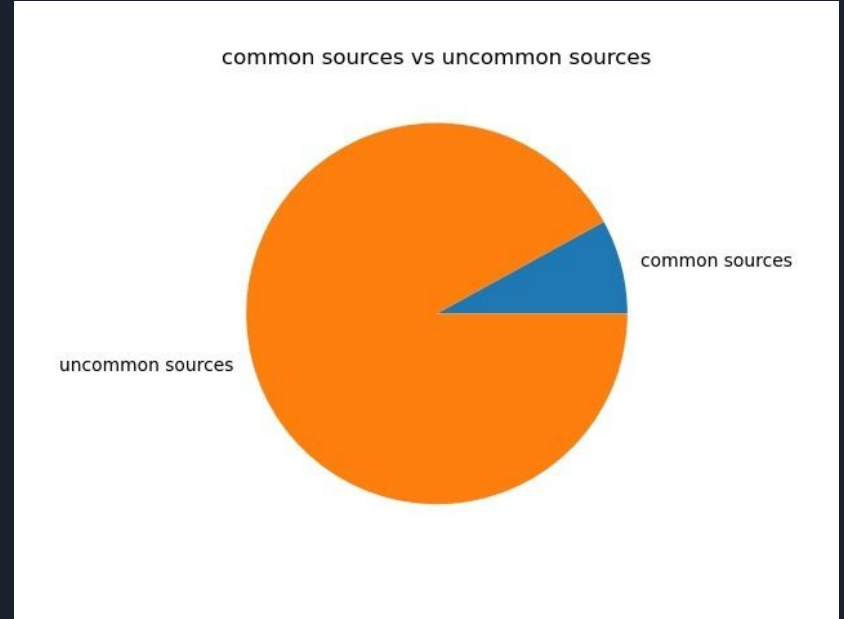
FREQUENCY VS SOURCE NAME:

- As we can observe from the graph, Blank Sky-8 was the source which was detected most number of times.
- Following it NGC 188, Crab, GX 340+0 were detected in the decreasing order of their frequency.
- Holmber II X-1 was detected least number of times compared to all other sources.



SOURCES OF ASTROSAT DATASET:

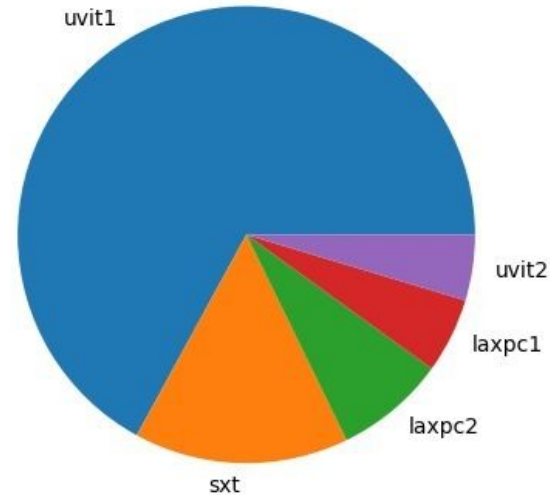
- Nearly 95% of the sources were not found in both the data sets and just a little percentage of them were in common.



NUMBER OF TIMES A PARTICULAR INSTRUMENT HAS DETECTED A SOURCE:

- There are a total of 5 instruments present namely uvit1, uvit2, sxt, laxpc1, laxpc2.
- 70% of the sources were detected by uvit1.
- 20% of the sources were detected by sxt.
- Rest of the instruments have detected the sources with considerably low percentage.

Number of times a particular instrument has detected a source

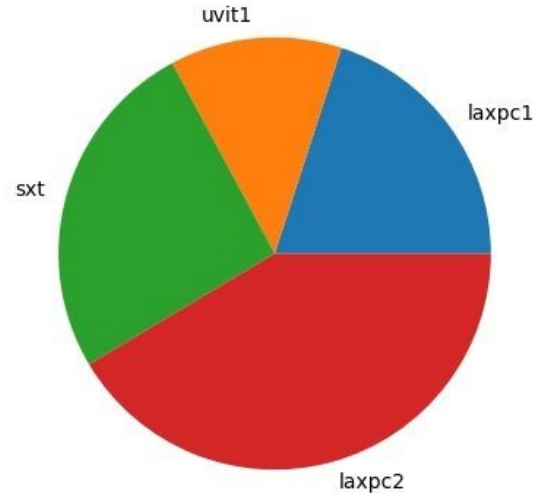


NO. OF TIMES A PARTICULAR INSTRUMENT HAS DETECTED A COMMON SOURCE:

In the commonly detected sources,

- 45% percent of the sources were detected by laxpc2,
- 25% by sxt,
- 20% by laxpc1,
- and the rest by uvit1.

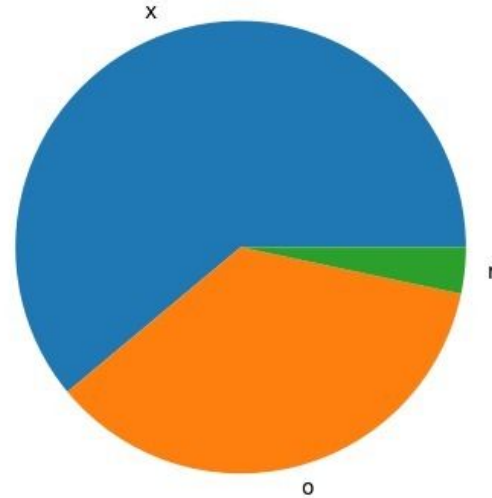
No. of times a particular instrument has detected a common source



ENERGY BANDS THAT THE SOURCES COVER:

- Nearly 55% of the times, the sources covered the X-ray spectral band.
- 40% of the times, the sources covered the optical spectral band
- Less than 10% of times, the sources covered the radio spectral band.

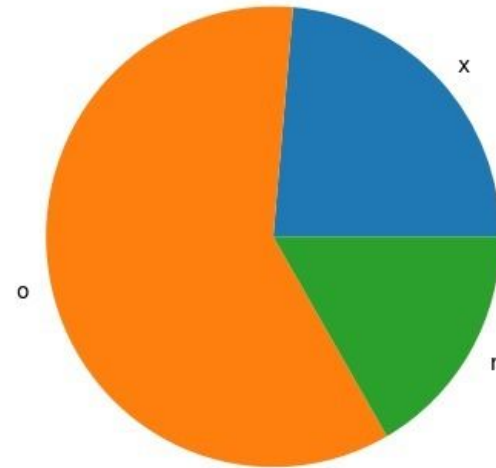
Energy bands that the sources cover



ENERGY BANDS THAT THE COMMON SOURCES COVER:

- In the commonly detected sources, more than 50% of times, lie in the optical spectral band
- Nearly 25% of times, the common sources were present in the X-ray spectral band
- And the rest were present in the radio spectral band

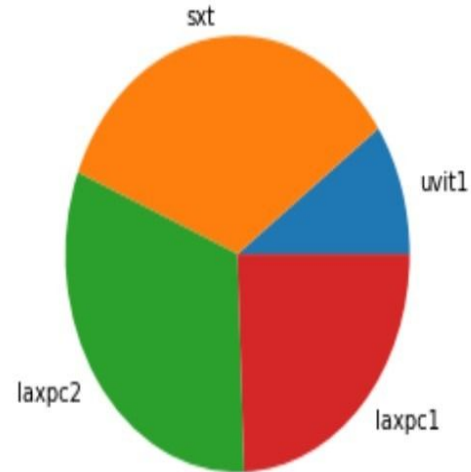
Energy bands that the common sources cover



FREQUENCY OF OBSERVATION OF COMMON SOURCES THAT LIE IN THE OPTICAL SPECTRAL BAND:

- In the common sources observed, laxpc2 and sxt detect 30% of the sources each.
- laxpc1 detects about 25% of the common sources and the rest of them were detected by uvit1.

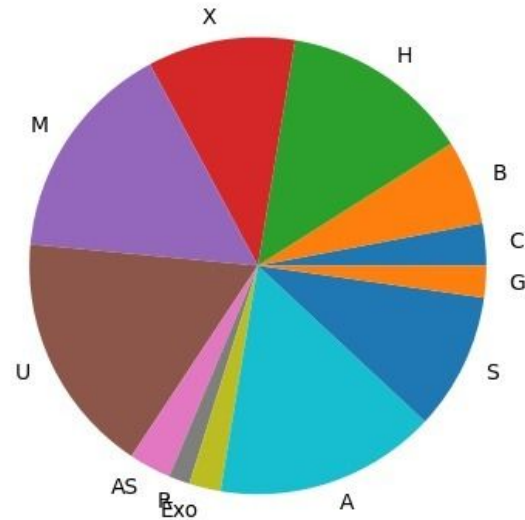
Frequency of observation of common sources that lie in the optical spectral band




CATALOG CONTAINING THE COMMON SOURCES:

Here, you can see the common sources, and the frequency with which they appear.

Catalog containing the common sources



- 
- A: Ariel V sky survey
 - AS: ASCA
 - B: BeppoSAX
 - C: Compton {gamma}-ray Observatory
 - E: Einstein Observatory
 - Exo: Exosat
 - G: Ginga
 - Gr: Granat
 - H: HEAO A-1 sky survey
 - Ha: Hakucho
 - I: Indian X-ray Astronomy Experiment (IXAE)
 - K: Kvant
 - M: Mit OSO-7 sky survey
 - OAO: Orbiting Astronomical Observatory
 - R: ROSAT
 - S: SAS 3
 - SL: Space Lab
 - T: Tenma
 - U: Uhuru sky survey
 - V: Vela-5 and -6 satellites
 - X: Rossi XTE



SCALABILITY OF PRODUCT



THANK YOU!

