# Article information:

The stellar content of the ROSAT all-sky survey | Astronomy & Astrophysics (A&A)
<https://www.aanda.org/articles/aa/full_html/2022/08/aa42573-21/aa42573-21.html>

# Article summary:

1. This article presents a method to identify the stellar content of the ROSAT all-sky survey (RASS).

2. The authors compare their results with preliminary detections from the first eROSITA all-sky survey (eRASS1) and estimate that 24.9% of RASS sources are stellar.

3. The authors analyze the X-ray to bolometric flux ratio, color distribution, and three-dimensional distribution of the stellar RASS sources.

# Article rating:

Appears well balanced: The article presents the information in a reliable and balanced way, without biases and prejudices. The claims made in the article are well supported and, where applicable, all sides of the argument are given opportunity to present their point of view. The article appears trustworthy and reliable.

# Article analysis:

The article is generally reliable and trustworthy in its presentation of data and analysis. The authors provide detailed information on their methods, including crossmatching between RASS sources and Gaia Early Data Release 3 (EDR3), estimating stellar probabilities for every RASS source from geometric properties, X-ray to G-band flux ratio, and counterpart distances. They also compare their results with preliminary detections from eRASS1, randomly shifted RASS sources, and a previous identification of RASS sources to confirm their estimated completeness and reliability of 93%. Furthermore, they present an analysis of X-ray to bolometric flux ratio as a function of color which shows the onset of convection and saturation limit clearly visible.

The only potential bias in this article is that it does not explore counterarguments or present both sides equally; however, this is not necessary for this type of research paper since it is focused on presenting data rather than debating different points of view. Additionally, there is no promotional content or partiality in this article; instead it provides an objective overview of the data collected by the authors. Finally, possible risks are noted throughout the paper when discussing potential implications for certain types of stars or clusters.

# Topics for further research:

* X-ray to bolometric flux ratio
* Convection onset in stars
* Saturation limit in stars
* RASS source identification
* Gaia Early Data Release 3
* Crossmatching between RASS sources and Gaia EDR3

# Report location:

<https://www.fullpicture.app/item/385578c40b068b9596c99446c044b67f>