

***Bar code events in the Juno-UVS data: a signature ~10 MeV electron microbursts at Jupiter***

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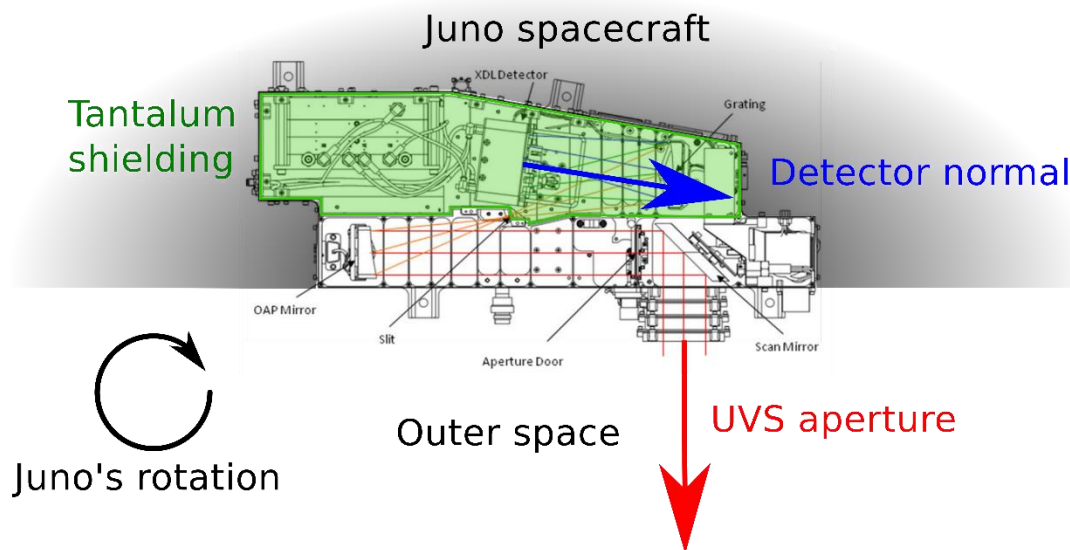
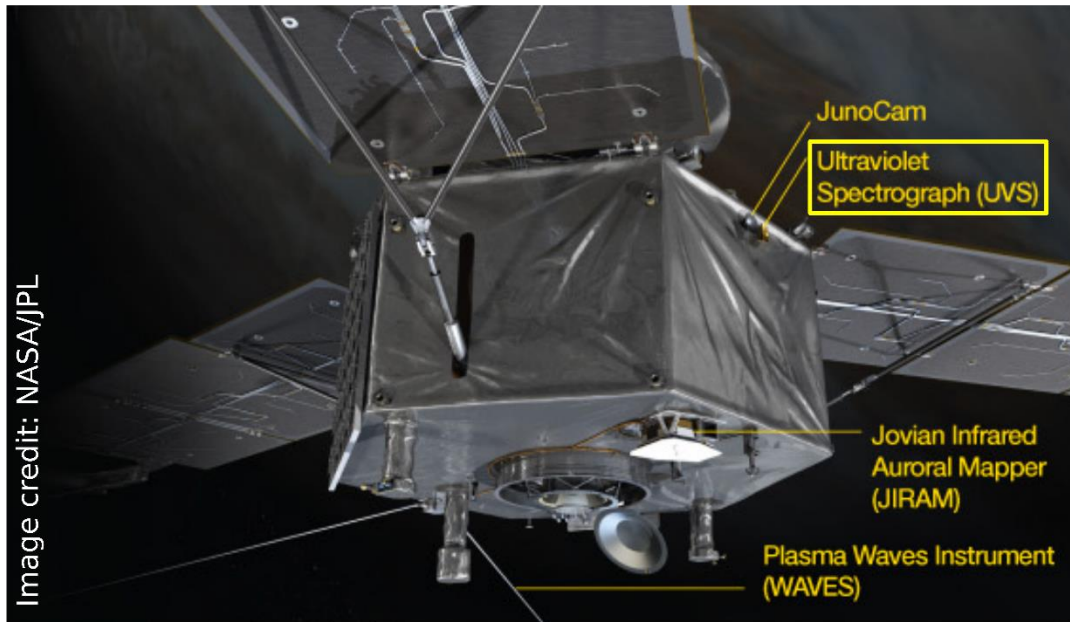
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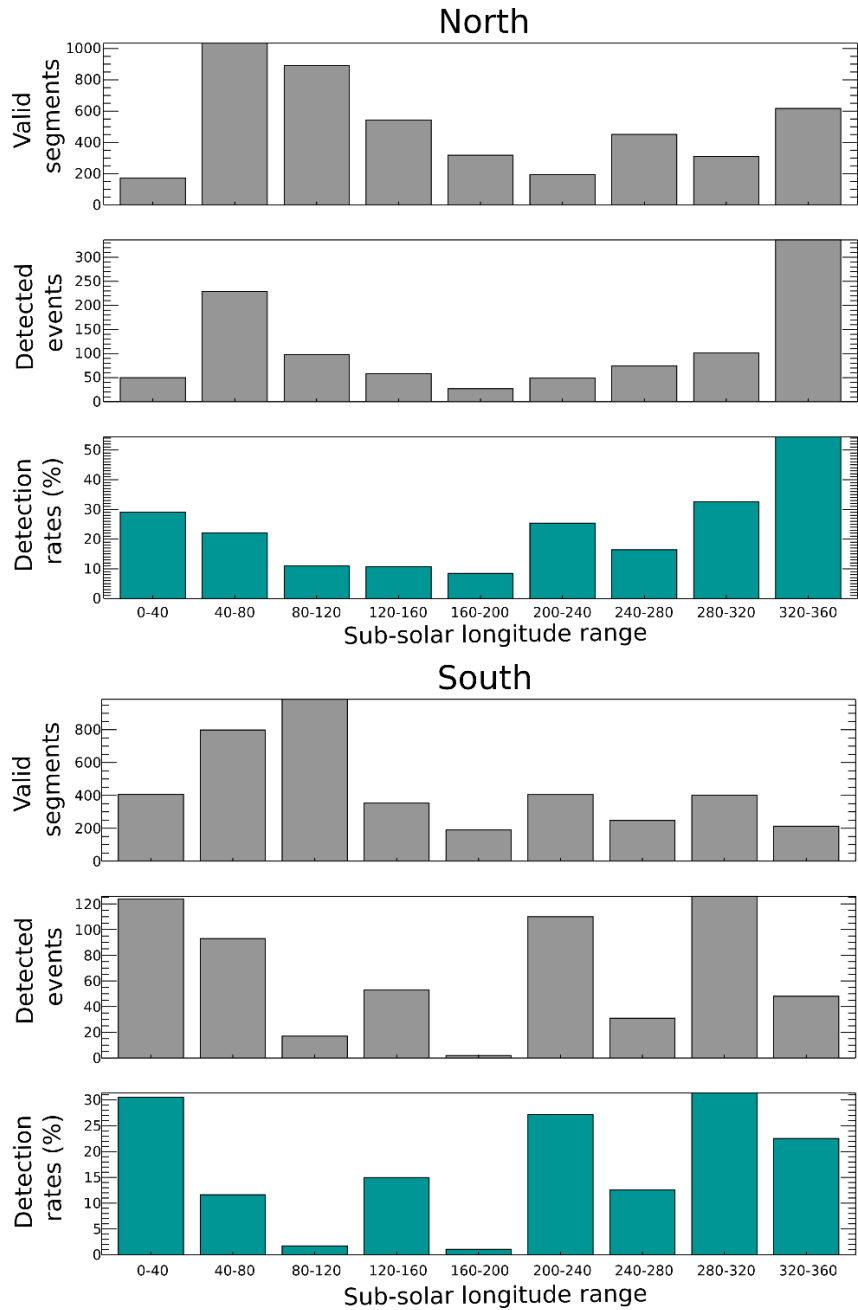
Figures S1 to S2

## Introduction

The two figures included as supplemental material are 1) a sketch of the Juno-UVS instrument and 2) histograms illustrating the statistics of the bar-code events detections as a function of the sub-solar System III longitudes.



**Figure S1.** Top: Illustration of the location of the Juno-UVS instrument within the Juno spacecraft (adapted from Bolton et al., 2017). Bottom: Sketch of the Juno-UVS instrument (adapted from Gladstone et al., 2017). The spectrograph & detector section of the instrument is shielded from penetrating particles by contiguous plates of Tantalum (shown in green). The fact that the count rate peaks when the UVS aperture (red arrow) is aligned with the magnetic field and pointing towards Jupiter is probably due to the extra shielding provided by the whole spacecraft for the other directions. Otherwise, it would have peaked when the normal to the detector plate (blue arrow) is aligned with the relativistic electron beam.



**Figure S2.** Histograms of the number of valid segments, number of detected bar code events and of the detection rate for the northern and southern hemispheres. All segments are considered here, including those recorded when Juno's footprint was equatorward of the main emission (relative to the magnetic pole). There is a clear trend in the north, as the detection rate peaks at >50% when the northern end of Jupiter's magnetic dipole points away from the Sun (sub-solar System III longitudes between 320° and 360°). On the other hand, it only reaches ~10% when the dipole points towards the Sun (sub-solar System III longitudes between 160° and 200°). In the southern hemisphere, no clear trend emerges.

## References

- Bolton, S. J., Lunine, J., Stevenson, D., Connerney, J. E. P., Levin, S., Owen, T. C., et al. (2017). The Juno Mission. *Space Science Reviews*, 213(1), 5–37. <https://doi.org/10.1007/s11214-017-0429-6>
- Gladstone, G. R., Persyn, S. C., Eterno, J. S., Walther, B. C., Slater, D. C., Davis, M. W., et al. (2017). The Ultraviolet Spectrograph on NASA's Juno Mission. *Space Science Reviews*, 213(1), 447–473. <https://doi.org/10.1007/s11214-014-0040-z>