Supporting Information for "Local Time Dependence of Jupiter's Polar Auroral Emissions Observed by Juno UVS"

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S1: Northern auroral dataset

As described in the main text we have created 101-spin integrated brightness and color ratio maps of the northern aurora from all the calibrated Juno UVS observations from perijoves 1 and 3-13. Just prior to Juno's second perijove pass, a spacecraft anomaly caused all instruments to shut down. Thus, no UVS data was recorded during perijove 2. The full description of the figures and annotations are given in the caption of Figure 2 in the main text. The images in this appendix are ordered by their mid-point time sub-solar System III longitude, which is also printed on each page of the pdf.

S2: Northern auroral clock style image

Similar to figure 2 in the main text, this clock style image of the northern auroral emissions contains more maps, higher temporal sampling, at the cost of smaller map sizes and slightly less detail.

S3: Southern auroral dataset

The southern dataset is presented the same way as described in figure 3 of the main text and includes all the calibrated data from perijoves1 and 3-13.

S4: Southern auroral clock style image

Similar to figure 3 in the main text, this clock style image of the southern auroral emissions contains more maps, higher temporal sampling, at the cost of smaller map sizes and slightly less detail.

S5: PJ5 movie of map production

This movie depicts the integration of multiple spins of Juno UVS data in order to produce brightness and color ratio maps like those shown in the main paper in the supplements 1 and 2. The movie begins with the mapping of a single spin of data from only the wide slits and continues adding in consecutive scan data for 45 spins worth of data collection. The initial spin of data in this particular animation is taken 45 spins or 22.5 minutes prior to the last spin of data and thus the image is a composite image that presents portions of the aurora at a given time along with other portions of the aurora taken at a much different time. Areas in the map that contain multiple spins worth of emission data are averaged together. UVS can at best measure variability at a 30 second cadence given the 2 rpm spin rate of the spacecraft. However, given the scale of the auroral regions at low spacecraft/Jupiter ranges means that the time to capture two consecutive images of the same surface area can range from 30 seconds to tens of minutes depending on the perijove unique scan mirror pointing planned by the UVS team.