Erratum

High spatial and spectral resolution observations of the forbidden 1.707 μm rovibronic SO emissions on Io: Evidence for widespread stealth volcanism (Planetary Science Journal (2020) 1 (29) DOI: 10.3847/PSJ/ab9eb1)

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DOI
10.3847/PSJ/abe1ca

Publication date
2021

Document Version
Final published version

Published in
Planetary Science Journal

The Planetary Science Journal, 2:42 (6pp), 2021 February https://doi.org/10.3847/PSJ/abe1ca

Erratum: "High Spatial and Spectral Resolution Observations of the Forbidden 1.707 μm Rovibronic SO Emissions on Io: Evidence for Widespread Stealth Volcanism" (2020, PSJ, 1, 29)

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Received 2021 January 14; published 2021 February 26

Several figures (Figures 5, 6, 8, 12, 13, 14) had the units off. This has been corrected in the versions below. This did not affect our results.

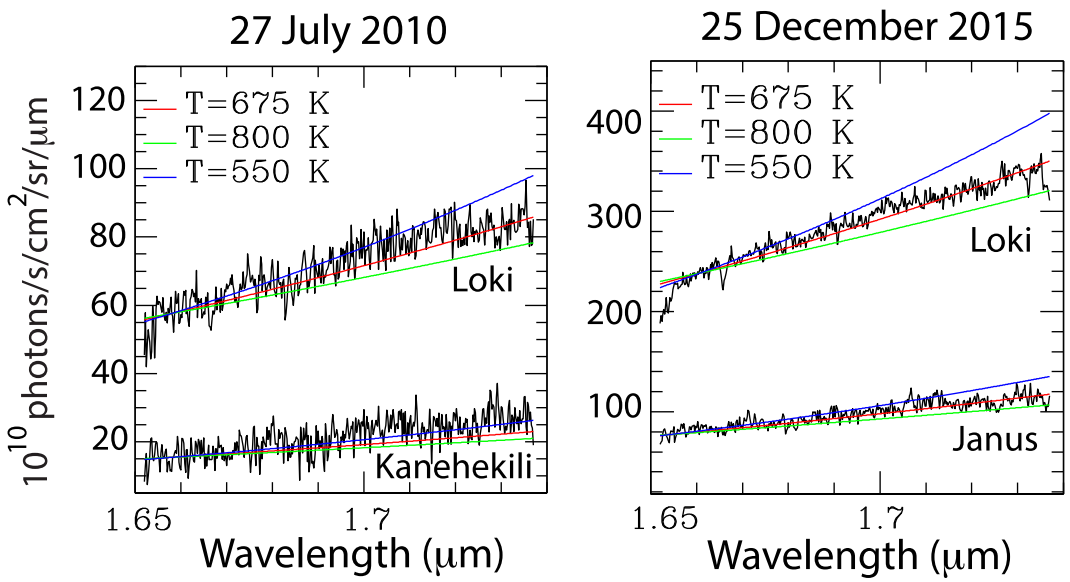

Figure 5. One-pixel spectra of Loki Patera and Kanehekili Fluctus on 2010 July 27, and of Loki Patera and Janus Patera on 2015 December 25. Superposed are blackbody curves for temperatures of 550, 675, and 800 K.

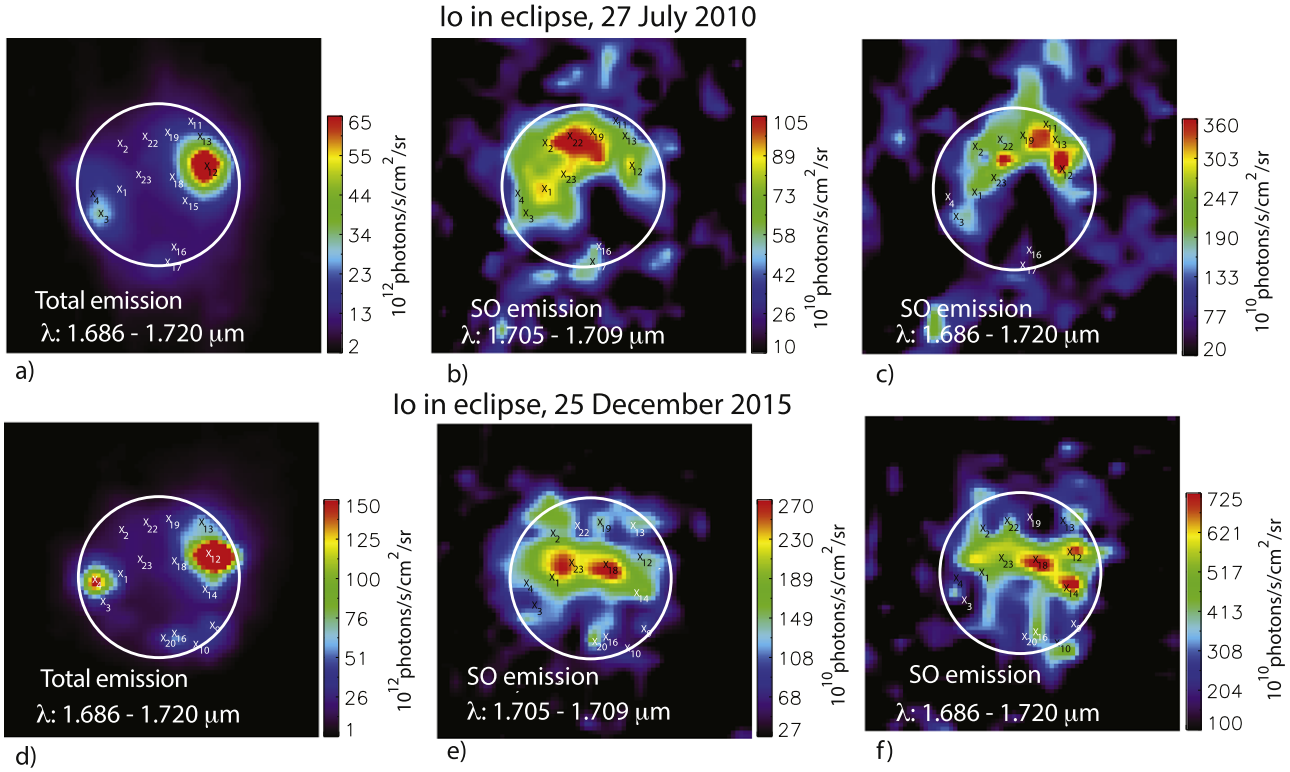

Figure 6. (a) and (d): Images of Io's total emission integrated over the entire SO emission band, including the (background) thermal emission (1.686–1.720 μm) (top row are results from 2010; bottom row from 2015). The bright volcanoes were indicated in Figure 4. (b) and (e): Images of Io's emission integrated over the narrow core of the SO emission band (1.705–1.709 μm), after the background had been subtracted from the spectral data cubes. (c) and (f): Images of Io's emission integrated over the wings of the SO emission band (1.686–1.720 μm minus the 1.705–1.709 μm range), after the background had been subtracted from the spectral data cubes. The locations of several volcanic centers are indicated by an x; the subscripts refer to the names provided in Table 2 (see Section 4.1 for details).

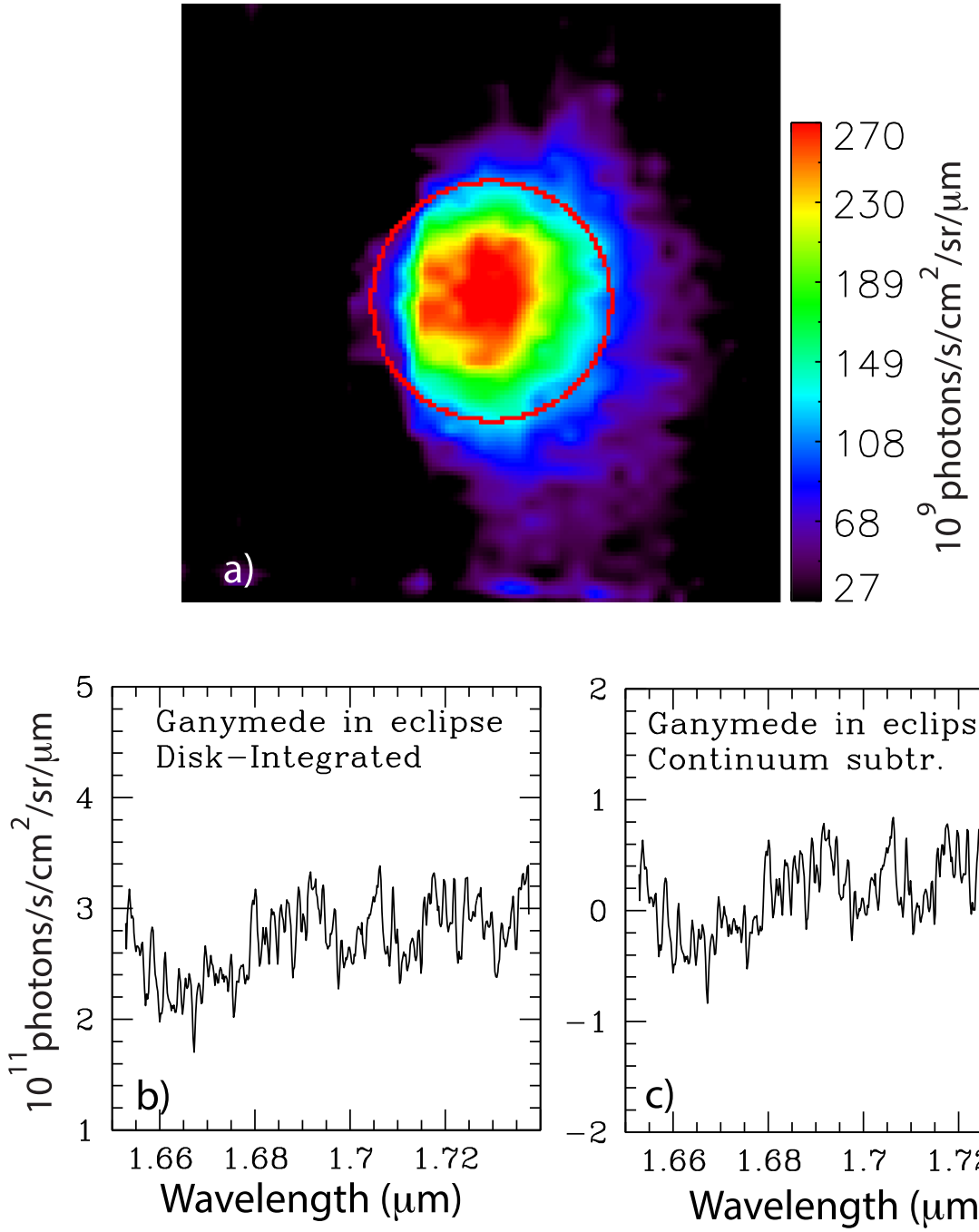

Figure 8. (a) Image of Ganymede-in-eclipse, averaged over the HN4 band. A circle the size of Ganymede's disk has been superposed. (b) Disk-integrated spectrum of Ganymede-in-eclipse. (c) Disk-integrated spectrum of Ganymede in panel (b) after subtraction of the continuum emission.

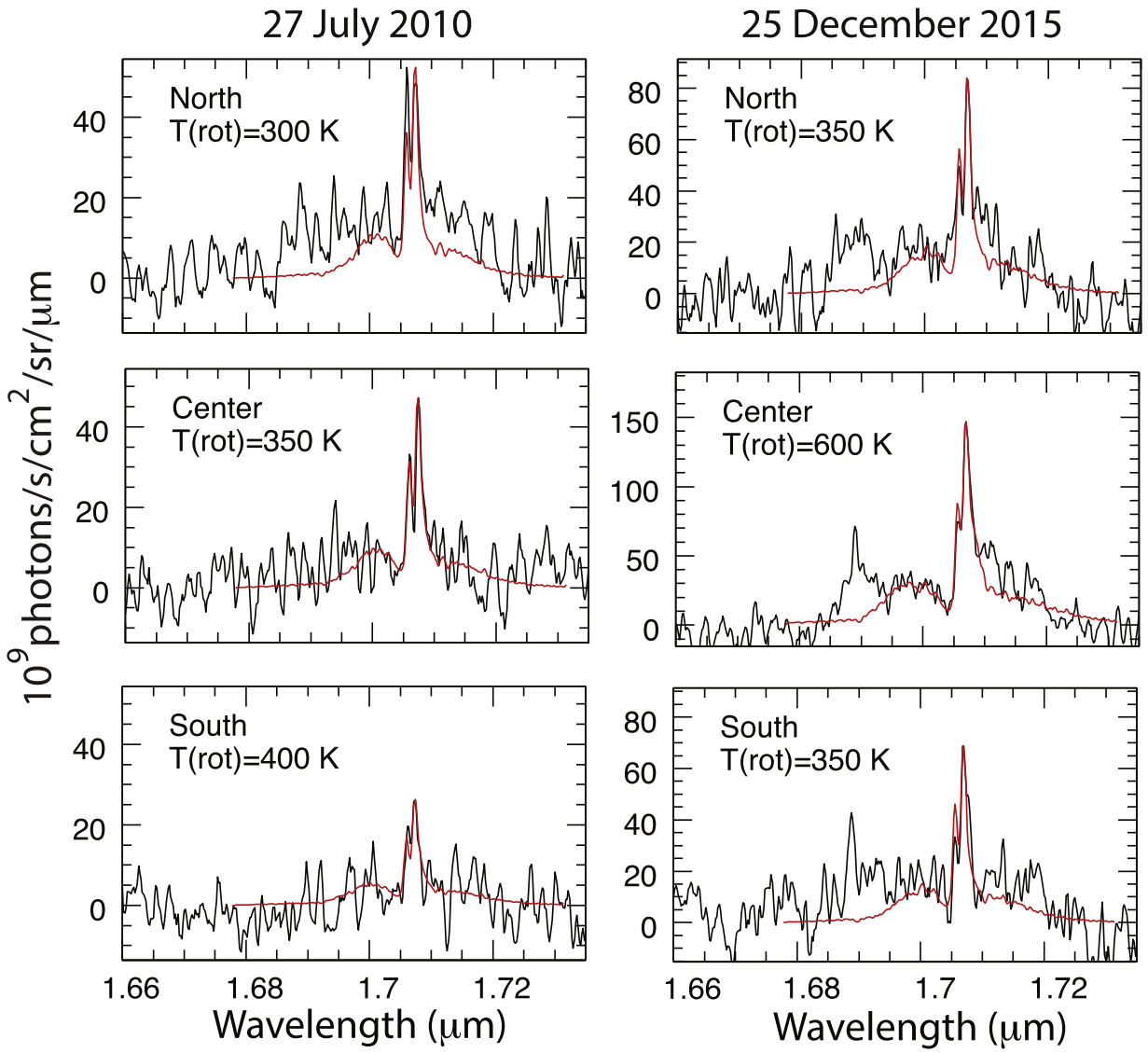

Figure 12. Spectra integrated over the yellow rectangles in Figure 11, indicated by north, center, and south. Superposed (in red) are LTE models of the SO emission that best fit the center portion or core of the emission band; the rotational temperatures of these lines are indicated on each panel.

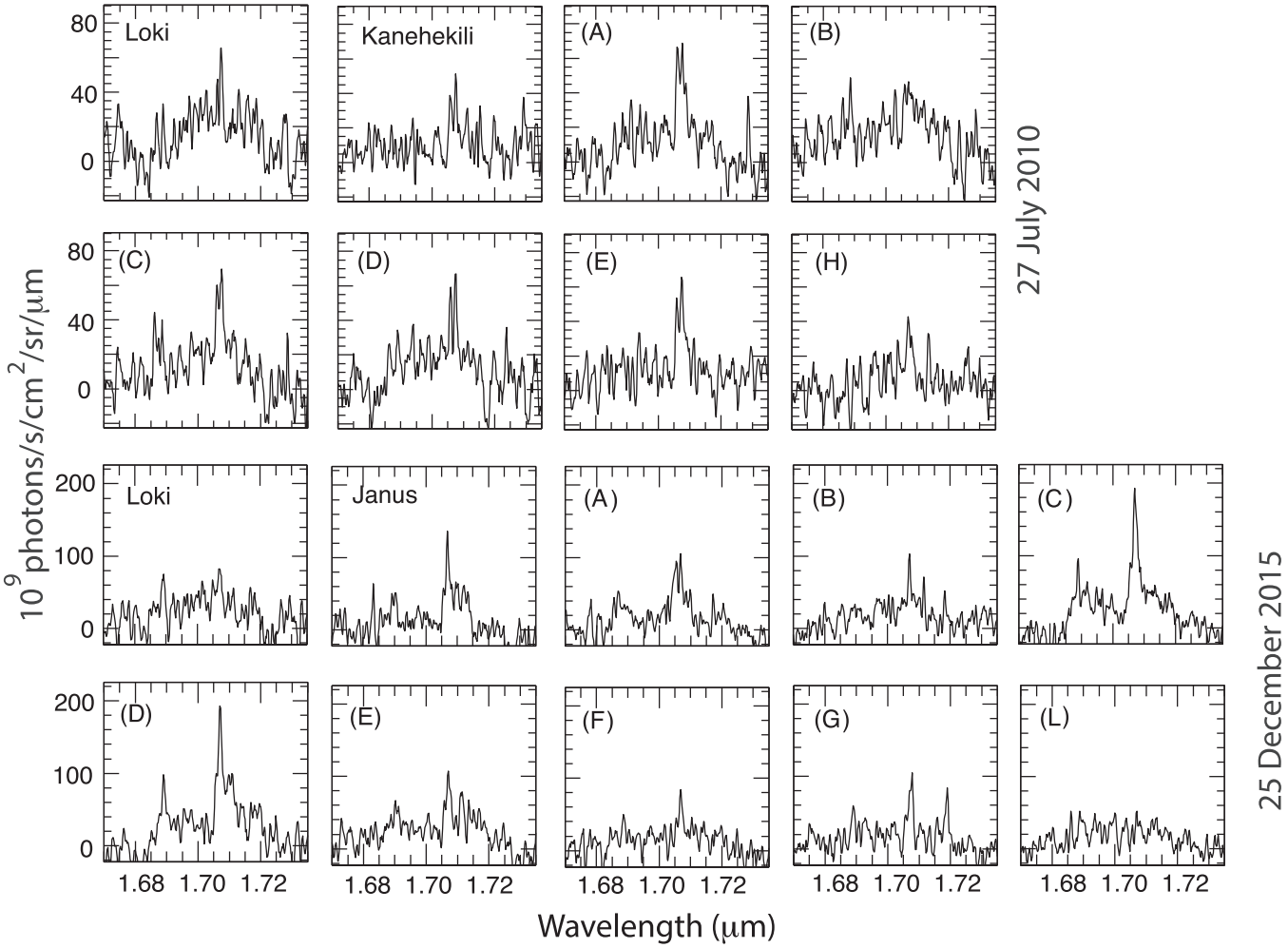

Figure 13. Spectra integrated over the small squares in Figure 11. The two top rows show spectra from 2010; the two bottom rows from 2015.

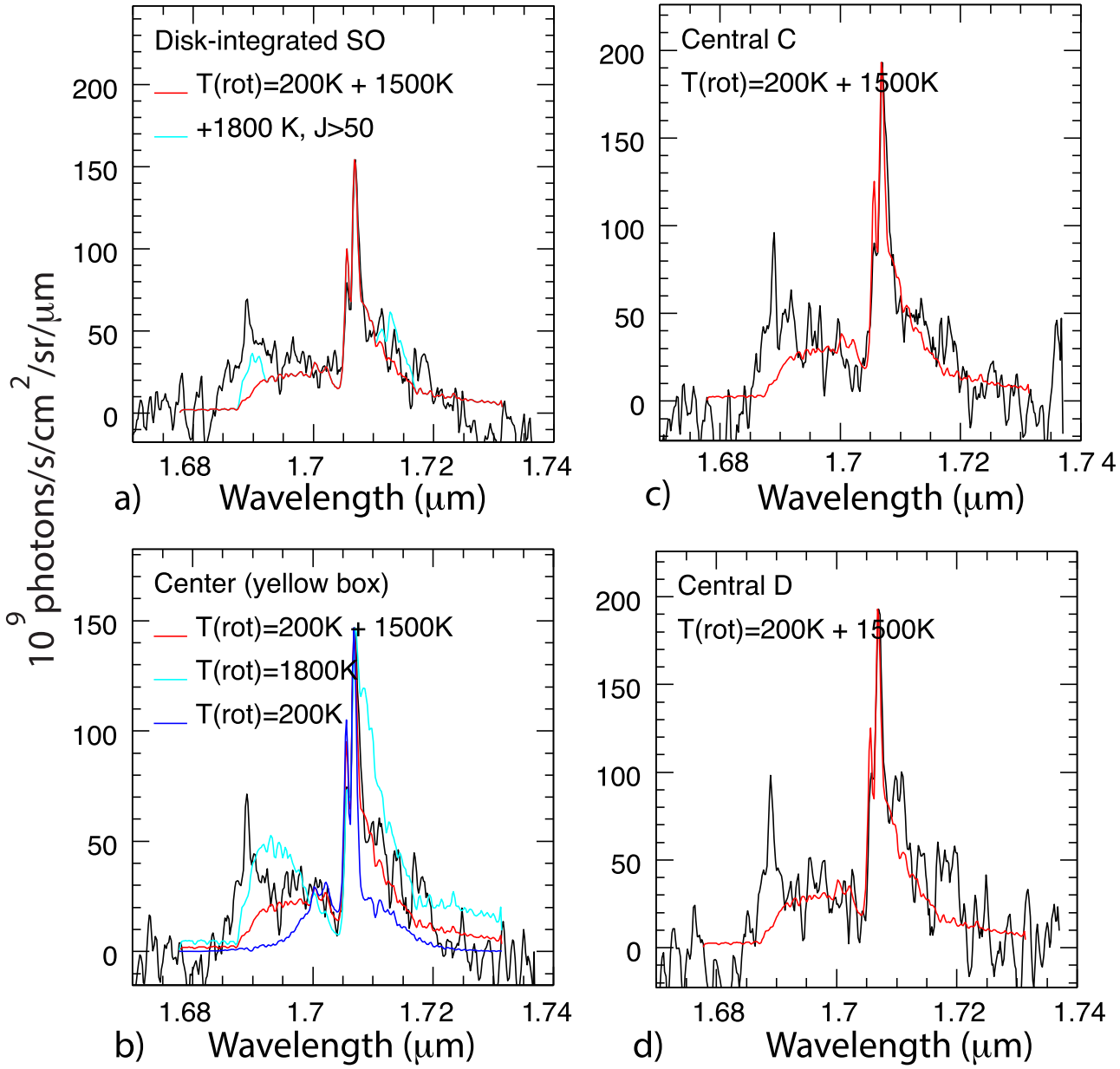

Figure 14. High S/N OSIRIS spectra from 2015 December 25, with superposed (in red) a model after de Kleer et al.'s (2019a) best fit-model to NIRSPEC's 2015 high-spectral resolution data (normalized to the peak intensity of each spectrum). This model consists of a gas with two temperatures: $T_1 = 200$ K and $T_2 = 1500$ K, in almost equal proportions ($c_2/c_1 = 6/5$). Panel a shows the total flux density; panel b the central portion from Figure 12, and panels c and d the spectra from Figure 13. In panel b we also show a profile for single rotational temperatures of 200 and 1800 K, and in panel a we show the contribution of only high-J states at 1800 K to the two-temperature profile.

Other typos/corrections:

Table 1: NIRSPEC platescale in 2015: 0.72×0.194 (instead of 0.72×1.94).

Caption Figure 3: Last sentence should read: "one can convert these to steradians by dividing by Io's solid angle (at 4.08 au)."

Page 10: Left-hand column: "Both spectra show that Ganymede does not emit detectable SO Emissions." (delete the rest of the sentence).

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