

ERRATUM: “ANOMALOUS DIFFUSE INTERSTELLAR BANDS IN THE SPECTRUM OF HERSCHEL 36. II. ANALYSIS OF RADIATIVELY EXCITED CH⁺, CH, AND DIFFUSE INTERSTELLAR BANDS”
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In the published article, the following corrections are needed.

$$A^J = \frac{2^9 \pi^4 B^3 \mu^2}{3hc^3} \frac{J^4}{2J+1}, \quad (6)$$

$$n(J) = n(0) \prod_{m=1}^J \left[\frac{\alpha B^3 \mu^2 \frac{m^4}{2m-1} \frac{1}{e^{2hBm/kT_r} - 1} + C \sqrt{\frac{2m+1}{2m-1}} e^{-hBm/kT_k}}{\alpha B^3 \mu^2 \frac{m^4}{2m+1} \left(1 + \frac{1}{e^{2hBm/kT_r} - 1}\right) + C \sqrt{\frac{2m-1}{2m+1}} e^{hBm/kT_k}} \right], \quad (8)$$

where $\alpha = 2^9 \pi^4 / 3hc^3$. There was also an error in the unit conversion when calculating A^J , and the values of δt shown in Figure 5 should be divided by 2π .

The revised Figure 4 is shown below. Small variations are visible for $T_r = 2.73$ K and 14.6 K, but nearly invisible for $T_r = 80$ K which is close to T_k . The variation is negligible for Figure 5 in which $T_r = 90$ K and $T_k = 100$ K are close. The errors do not affect the text or the conclusions of the paper.

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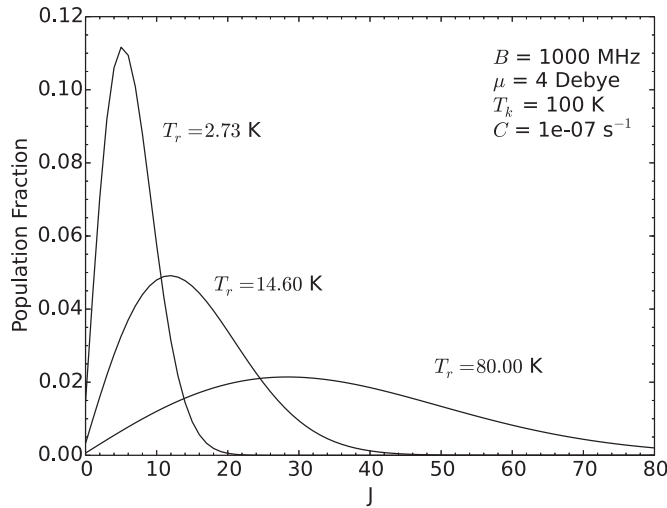


Figure 4. Population fractions of polar molecules calculated by using $n(J)$ of Equation (8) for $T_r = 2.73$ K, 14.6 K, and 80 K. Spontaneous emission reduces $n(J)$ in high J levels for low T_r , while dust emission pumps them back for high T_r .