The photodissociation and chemistry of interstellar CO

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ERRATA

In the paper "Evolutionary Population Synthesis: An Application to Magellanic Cloud Clusters" by P. Battinelli and R. Capuzzo-Dolcetta (*Ap. J.*, **347**, 794), a sentence which appears on page 806 is in error and should be corrected. In the sentence which begins "The efficiency of the first two phenomena increases with the mass of the system" (page 806, first column, row 34), the word "increases" should be changed to "decreases." The sentence thus amended reads "The efficiency of the first two phenomena decreases with the mass of the system . . ."

In the paper "The Photodissociation and Chemistry of Interstellar CO" by Ewine F. van Dishoeck and John H. Black (*Ap. J.*, **334**, 771 [1988]), some numerical errors appeared in a table of predicted emission-line intensities. In the calculation of the intensities of the atomic fine-structure lines in § IV*c*, a mistake was found in the programming of the optical depths according to equation (15). This resulted in an overestimate of the atomic fine-structure line intensities listed in Table 9, most notably those of the $O(^3P_0 \rightarrow {}^3P_1)$ line at 145 μm. The corrected intensities are presented in the revised Table 9 below. The differences between these and the earlier results are largest for cold clouds and for clouds with low visual extinction, but are small for warm, dense photodissociation regions. The revised results do not affect any of our conclusions.

TABLE 9

COMPUTED ATOMIC FINE-STRUCTURE LINE INTENSITIES[a] FOR SELECTED MODELS[b]

Model	$C(^3P_1 \rightarrow {}^3P_0)$ (609 μm)	$C(^3P_2 \rightarrow {}^3P_1)$ (370 μm)	$C^+(^2P_{\frac{3}{2}} \rightarrow {}^2P_{\frac{1}{2}})$ (158 μm)	$O(^3P_1 \rightarrow {}^3P_2)$ (63 μm)	$O(^3P_0 \rightarrow {}^3P_1)$ (145 μm)
ζ Oph	2.9(-8)	3.5(-8)	3.5(-5)	1.1(-6)	2.8(-8)
T1	3.5(-8)	4.3(-8)	6.3(-6)	2.3(-8)	2.7(-10)
T2	1.0(-7)	1.4(-7)	1.0(-5)	3.5(-8)	4.7(-10)
T3	2.5(-7)	2.9(-7)	1.6(-5)	1.9(-7)	3.6(-9)
T4	5.1(-7)	7.6(-7)	2.7(-5)	5.0(-7)	1.2(-8)
T5	9.8(-7)	2.0(-6)	5.0(-5)	1.6(-6)	4.6(-8)
T6	1.0(-6)	2.5(-6)	7.1(-5)	7.5(-6)	3.8(-7)
T6A	2.8(-7)	1.7(-7)	5.0(-7)	3.5(-10)	5.6(-12)
T6B	1.0(-6)	2.1(-6)	3.0(-5)	3.4(-7)	8.7(-9)
T6C	8.6(-7)	7.1(-7)	8.1(-7)	1.6(-9)	3.7(-12)
H1	2.7(-8)	3.4(-8)	3.7(-6)	1.4(-8)	1.5(-10)
H3	1.6(-7)	2.2(-7)	8.6(-6)	3.2(-8)	4.2(-10)
H5	3.2(-7)	4.9(-7)	9.2(-6)	4.2(-8)	6.7(-10)
H6	3.9(-7)	6.0(-7)	9.2(-6)	4.9(-8)	8.8(-10)
I1	3.3(-8)	4.9(-8)	1.3(-5)	3.1(-8)	3.3(-10)
I3	3.3(-7)	5.1(-7)	2.5(-5)	5.3(-8)	5.6(-10)
I6	2.0(-6)	3.7(-6)	2.9(-5)	7.9(-8)	1.0(-9)
I8	2.1(-6)	3.8(-6)	3.0(-5)	1.0(-7)	1.6(-9)
PD3	2.8(-6)	1.4(-5)	3.0(-4)	1.2(-4)	4.4(-6)
PD4	3.4(-6)	1.7(-5)	4.7(-4)	1.8(-4)	6.0(-6)
PD5	4.6(-6)	2.3(-5)	6.3(-4)	2.5(-4)	8.3(-6)
PD6	1.5(-6)	7.8(-6)	1.9(-3)	4.1(-4)	1.7(-5)
NGC 2023	6.9(-6)	2.9(-5)	4.1(-4)	4.3(-5)	3.4(-6)
NGC 2024	5.7(-6)	2.1(-5)	1.3(-4)	3.5(-6)	3.9(-7)

[a] In ergs s^{-1} cm^{-2} sr^{-1}.

[b] All results are for a carbon depletion factor $\delta_C = 0.4$, except for the ζ Oph model G which uses $\delta_C = 0.67$.