Erratum: Dust and Gas in the Magellanic Clouds from the HERITAGE Herschel Key Project. I. Dust Properties and Insights into the Origin of the Submm Excess Emission (2014, ApJ, 797, 85)

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The Astrophysical Journal, 837:98 (2pp), 2017 March 1 https://doi.org/10.3847/1538-4357/aa6042

Erratum: "Dust and Gas in the Magellanic Clouds from the HERITAGE *Herschel* Key Project. I. Dust Properties and Insights into the Origin of the Submm Excess Emission" (2014, ApJ, 797, 85)

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Received 2017 February 10; published 2017 March 7

The values of $\kappa_{\rm eff,160}$ given in the original paper are missing a factor of π. This is because the routine used to compute $B_\lambda(T)$ was the IDL Astronomer User's Library[27] `planck.pro` and it returns $\pi B_\lambda(T)$. While this is explicitly documented in the `planck.pro` function, it was not realized by the first author until after the paper was published. This does not impact the results or conclusions of the paper as the values of $\kappa_{\rm eff,160}$ used were determined based on fitting Milky Way observations using the same code that was used to fit the Magellanic Cloud observations. Thus, the correct values of $\kappa_{\rm eff,160}$ are a factor of π larger than the ones quoted in the paper. Using Equation (5) from the paper with the values of $\kappa_{\rm eff,160}$ given in the corrected Table 2 will reproduce the dust surface density result from the paper. The detailed fit parameter maps used in the paper are available online.[28]

The correct values of $\kappa_{\rm eff,160}$ are approximately a factor of two larger than the values calculated from full dust grain models and discussed in Section 5.3 of the paper. This difference may be due to the simple models in our paper, which did not include the full physical treatment (e.g., multiple grain sizes/compositions with different temperatures) or, less likely, some issues with the assumptions in the dust grain models. We are carrying out work to investigate such issues for the dust in the Magellanic Clouds (and Milky Way) using more complicated dust grain models and additional observations. This work will be discussed in future papers.

There was a typo in Equation (4) with a factor of π missing from the denominator. This does not affect Equation (5) as it was derived correctly including this factor of π. The correct equation is

$$S_\lambda = \frac{\Sigma_d}{\frac{4}{3}\pi a^3 \rho} \pi a^2 Q_\lambda B_\lambda(T_d). \quad (4)$$

Last, there was a typo in Equation (15). The correct equation is

$$S_{\rm band} = \frac{\int S_\nu R_E(\nu) d\nu}{\int (\nu_o/\nu) R_E(\nu) d\nu}. \quad (15)$$

[27] https://idlastro.gsfc.nasa.gov/
[28] http://www.stsci.edu/~kgordon/magclouds_results/

Table 2
MW Diffuse Fit Results

Model	$\kappa_{\rm eff,160}$[a] [cm^2 g^{-1}]	Other Parameters	Expectation Values
SMBB	30.2 ± 1.3 ± 2.5	($T_{\rm eff,d}$, $\beta_{\rm eff}$)	(17.2 ± 0.4 K, 1.96 ± 0.10)
BEMBB	36.4 ± 4.7 ± 2.5	($T_{\rm eff,d}$, $\beta_{\rm eff,1}$, λ_b, e_{500})	(16.8 ± 0.6 K, 2.27 ± 0.15, 294 ± 29 μm, 0.48 ± 0.11)
TTMBB	1620 ± 672 ± 2.5	($T_{\rm eff,d1}$, $T_{\rm eff,d2}$, $\beta_{\rm eff}$, e_{500})	(15.0 ± 0.7 K, 6.0 ± 0.8 K, 2.9 ± 0.1, 0.91 ± 0.25)
TTMBB	30.2 ± 1.3 ± 2.5	adopted	

Note.
[a] The results are given as value ± fitting uncertainty ± systematic uncertainty.