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Article

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Erratum: Seeding the Galactic Centre gas stream: gravitational instabilities set the initial conditions for the formation of protocluster clouds

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Key words: errata, addenda – stars: formation – ISM: clouds – ISM: kinematics and dynamics – ISM: structure – Galaxy: centre – Galaxy: kinematics and dynamics.

The paper 'Seeding the Galactic Centre gas stream: gravitational instabilities set the initial conditions for the formation of protocluster clouds' was originally published in MNRAS, 463, L122 (2016).

After online publication of Henshaw, Longmore & Kruijssen (2016), we discovered a number of errors in Table 1. Due to an integer division error, the number densities presented are a factor of 4/3 greater than they should be. Additionally, the tabulated densities refer to atomic hydrogen number densities ($\mu = 1.4$), not molecular hydrogen number densities ($\mu = 2.8$, as claimed). These two errors propagated into the computation of the free-fall times. To summarize, the number densities and free-fall times are factors of 8/3 greater and $\sqrt{3/8}$ shorter than those obtained using the equations quoted in the caption of the table, respectively. Finally, although this has not affected any calculations, the radii were listed in the incorrect order in the table.

These errors were noticed by the authors themselves shortly after publication and we include the corrected table below. All values are now consistent with having been derived from the equations quoted in the caption. The average density of the condensations is now lower by a factor of 3/8 than it is in the original version of the paper (corresponding to the molecular hydrogen number density) and their average free-fall time is longer by a factor of $\sqrt{8/3} \sim 1.63$. As a result, the range of free-fall times is $t_{\rm ff,eq} = 0.37$–0.63 Myr. Comparing this to the fact that the velocity corrugations are 0.3–0.8 Myr upstream from the dust ridge cloud G0.253+0.016, they will undergo approximately one free-fall time (rather than 'at least one free-fall time' as previously stated) before reaching the current position of the dust ridge. None of our conclusions are affected by these changes.

REFERENCE

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Table 1. Dendrogram leaves: kinematic and physical properties. Columns: (*a*) leaf position; (*b*) equivalent radius; $R_{\rm eq} = (N_{\rm pix}A_{\rm pix}/\pi)^{1/2}$; (*c*) SCOUSE-derived centroid velocity and velocity dispersion; (*d*) CLASS-derived centroid velocity, velocity dispersion, and optical depth (*e*) residual velocity; (*f*) peak column density. (*g*) leaf mass; (*h*) equivalent number density; $n_{\rm eq} = 3M/4\pi R_{\rm eq}^3 \mu m_{\rm H}$, where $\mu = 2.8$ and $m_{\rm H}$ is the mass of a hydrogen atom; (*i*) equivalent free-fall time; $t_{\rm ff,eq} = (3\pi/32G\mu m_{\rm H}n_{\rm eq})^{1/2}$.

ID	l^a	b^a	$R^b_{\rm eq}$	v^c_0	v^d_0	σ^c_v	σ^d_v	τ^d	$v^e_{\rm resid}$	N^f $\times 10^{22}$	M^g $\times 10^3$	$n^h_{\rm eq}$ $\times 10^3$	$t^i_{\rm ff,eq}$ $\times 10^6$
	(°)	(°)	(pc)	(km s^{-1})	(km s^{-1})	(km s^{-1})	(km s^{-1})		(km s^{-1})	(cm^{-2})	(M$_\odot$)	(cm^{-3})	(yr)
0	– 0.625	– 0.068	2.3	– 125.19(0.42)	– 126.05(0.36)	8.67(0.42)	3.12(0.83)	2.67(2.02)	– 7.23(1.03)	3.5	8.5	2.4	0.63
1	– 0.550	– 0.051	1.9	– 100.65(0.12)	– 101.77(0.12)	9.61(0.12)	5.91(0.20)	2.58(0.30)	6.60(0.87)	7.1	13.7	6.8	0.37
2	– 0.508	– 0.035	2.2	– 99.82(0.29)	– 101.35(0.14)	9.10(0.29)	6.01(0.30)	1.98(0.41)	1.40(0.87)	7.0	17.9	5.6	0.41
3	– 0.458	– 0.001	1.5	– 95.45(0.13)	– 98.23(0.24)	8.86(0.13)	4.89(0.82)	1.61(1.26)	– 1.61(0.78)	5.9	6.3	6.9	0.37
4	– 0.425	0.007	2.2	– 86.72(0.18)	– 87.63(0.15)	10.32(0.18)	8.52(0.12)	0.10(0.09)	2.36(0.76)	6.0	13.0	4.4	0.46
5	– 0.400	0.015	2.4	– 77.98(0.11)	– 79.08(0.11)	8.89(0.11)	5.04(0.23)	3.37(0.50)	7.50(0.45)	5.6	15.3	3.9	0.50
6	– 0.342	0.040	1.8	– 84.46(0.28)	– 86.48(0.31)	8.75(0.28)	7.87(0.41)	0.10(0.07)	– 7.45(0.61)	2.7	5.2	3.2	0.55
7	– 0.292	0.049	2.9	– 73.19(0.14)	– 74.38(0.20)	8.00(0.14)	4.67(0.61)	2.52(1.09)	0.41(0.49)	5.3	18.8	2.6	0.60
8	– 0.250	0.040	1.7	– 68.16(0.50)	– 69.35(0.43)	5.67(0.50)	2.46(0.21)	3.13(0.44)	0.82(0.73)	4.2	6.4	4.6	0.45
9	– 0.175	0.032	1.9	– 62.37(0.15)	– 65.37(0.07)	7.96(0.15)	5.92(0.14)	0.10(0.01)	– 1.00(0.36)	4.4	8.3	4.2	0.47
10	– 0.133	0.024	2.0	– 48.34(0.39)	– 50.06(0.45)	11.91(0.39)	8.83(0.54)	1.33(0.53)	8.40(0.63)	6.9	10.8	4.4	0.46
11	– 0.092	0.040	2.7	– 58.46(0.52)	– 58.96(0.39)	8.46(0.52)	6.30(0.61)	0.10(0.24)	– 3.71(0.74)	4.6	15.5	2.6	0.60

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