ERRATUM: “THE PROPER MOTION OF THE GALACTIC CENTER PULSAR RELATIVE TO SAGITTARIUS A^{*}” (2015, ApJ, 798, 120)

GEOFFREY C. BOWER¹, ADAM DELLER², PAUL DEMOREST³, ANDREAS BRUNTHALER⁴, HEINO FALCKE^{2,4,5},
 MONIKA MOSCIBRODZKA⁵, RYAN M. O’LEARY⁶, RALPH P. EATOUGH⁴, MICHAEL KRAMER^{4,7}, K. J. LEE⁴, LAURA SPITLER⁴,
 GREGORY DESVIGNES⁴, ANTHONY P. RUSHTON^{8,9}, SHEPERD DOELEMEN^{10,11}, AND MARK J. REID¹¹

¹ Academia Sinica Institute of Astronomy and Astrophysics, 645 N. A’ohoku Place, Hilo, HI 96720, USA; gbower@asiaa.sinica.edu.tw

² ASTRON, P.O. Box 2, 7990 AA Dwingeloo, The Netherlands

³ NRAO, 520 Edgemont Road, Charlottesville, VA 22903-2475, USA

⁴ Max-Planck-Institut für Radioastronomie, Auf dem Hügel 69, D-53121 Bonn, Germany

⁵ Department of Astrophysics, Institute for Mathematics, Astrophysics and Particle Physics (IMAPP), Radboud University,
 PO Box 9010, 6500 GL Nijmegen, The Netherlands

⁶ JILA, University of Colorado and NIST, 440 UCB, Boulder, CO 80309-0440, USA

⁷ Jodrell Bank Centre of Astrophysics, University of Manchester, Manchester M13 9PL, UK

⁸ Department of Physics, Astrophysics, University of Oxford, Keble Road, Oxford OX1 3RH, UK

⁹ School of Physics and Astronomy, University of Southampton, Highfield, Southampton SO17 1BJ, UK

¹⁰ MIT Haystack Observatory, Route 40, Westford, MA 01886, USA

¹¹ Harvard-Smithsonian Center for Astrophysics, 60 Garden Street, Cambridge, MA 02138, USA

Received 2016 March 11; accepted 2016 March 12; published 2016 April 22

We used an incorrect value for the ICRF position of Sgr A^{*} at the specified reference date to determine the relative position of the magnetar, PSR J1745-2900, in our analysis. The correct value for the Sgr A^{*} position is 17h45m40.0366s, $-29^{\circ}00'28''.217$ at epoch MJD = 56710. ICRF positions reported for the magnetar are correct as reported in the paper, but relative positions should be adjusted by (+18.36, -32.0) mas. This applies to individual epoch positions reported in columns 6 and 7 of Table 2 and the mean fitted positions reported in rows 1 and 2 of Table 4. For example, the correct fitted offset position using the proper motion bootstrap technique in Table 4 is +1700.53, -1679.41 mas. The relative positions in Figure 1 should be shifted by the same offset. Proper motion, acceleration, and core shift values are unaffected. There are no changes in the interpretation of the results.

Table 2
Observed Positions of PSR J1745-2900

MJD	Band	Flux Density (mJy)	ICRF RA (J2000)	ICRF Dec. (J2000)	$\Delta\alpha$ (mas)	$\Delta\delta$ (mas)
56422	X	0.56	17 45 40.166377 ± 0.000020	−29 00 29.8960 ± 00.0002	1699.97 ± 0.26	−1683.38 ± 0.20
56444	X	0.76	17 45 40.166327 ± 0.000012	−29 00 29.8962 ± 00.0001	1699.50 ± 0.16	−1683.24 ± 0.10
56473	Ku	0.58	17 45 40.166263 ± 0.000008	−29 00 29.8962 ± 00.0001	1698.91 ± 0.10	−1682.80 ± 0.10
56486	X	1.47	17 45 40.166222 ± 0.000008	−29 00 29.8965 ± 00.0001	1698.49 ± 0.10	−1682.90 ± 0.10
56658	Ku	2.09	17 45 40.166264 ± 0.000007	−29 00 29.8960 ± 00.0001	1700.52 ± 0.09	−1679.79 ± 0.10
...	X	1.18	17 45 40.166276 ± 0.000010	−29 00 29.8960 ± 00.0001	1700.68 ± 0.13	−1679.79 ± 0.10
56710	Ku	1.07	17 45 40.166249 ± 0.000005	−29 00 29.8960 ± 00.0001	1700.77 ± 0.07	−1679.00 ± 0.10
...	X	0.94	17 45 40.166237 ± 0.000014	−29 00 29.8962 ± 00.0002	1700.62 ± 0.18	−1679.20 ± 0.20
56750	K	0.92	17 45 40.166235 ± 0.000004	−29 00 29.8961 ± 00.0001	1700.94 ± 0.05	−1678.49 ± 0.10
...	Q	0.54	17 45 40.166238 ± 0.000003	−29 00 29.8959 ± 00.0001	1700.98 ± 0.04	−1678.29 ± 0.10
56772	X	1.00	17 45 40.166246 ± 0.000016	−29 00 29.8958 ± 00.0002	1701.27 ± 0.21	−1677.86 ± 0.20
...	Ku	1.22	17 45 40.166204 ± 0.000008	−29 00 29.8961 ± 00.0001	1700.72 ± 0.10	−1678.16 ± 0.10
56892	Ku	0.63	17 45 40.166196 ± 0.000028	−29 00 29.8959 ± 00.0003	1701.65 ± 0.37	−1676.15 ± 0.30
56899	K	0.26	17 45 40.166250 ± 0.000025	−29 00 29.8959 ± 00.0003	1702.42 ± 0.33	−1676.06 ± 0.30
...	Q	0.15	17 45 40.166215 ± 0.000005	−29 00 29.8958 ± 00.0001	1701.95 ± 0.07	−1675.90 ± 0.10

Table 4
Proper Motion Fits for PSR J1745-2900

Parameter	Units	PM Bootstrap	PM LSQ	PM + Accel.	PM + Core Shift
$\Delta\alpha_0$	(mas)	1700.53 ± 0.07	1700.52 ± 0.07	1700.54 ± 0.09	1700.52 ± 0.19
$\Delta\delta_0$	(mas)	−1679.41 ± 0.03	−1679.41 ± 0.03	−1679.42 ± 0.05	−1679.35 ± 0.10
μ_α	(mas/yr)	2.45 ± 0.33	2.50 ± 0.22	2.49 ± 0.23	2.51 ± 0.31
μ_δ	(mas/yr)	5.88 ± 0.11	5.90 ± 0.09	5.92 ± 0.10	5.84 ± 0.12
a_α	(mas/yr ²)	...	...	−0.2 ± 1.0	...
a_δ	(mas/yr ²)	...	...	0.2 ± 0.5	...
Φ_α	(mas/cm)	...	...	...	−0.00 ± 0.10
Φ_δ	(mas/cm)	...	...	...	0.03 ± 0.05
$\chi^2_\alpha/d.o.f._\alpha$	...	...	112.3/13	111.8/12	112.3/12
$\chi^2_\delta/d.o.f._\delta$	...	...	17.0/13	16.8/12	16.5/12

Figure 1. Position as a function of time for PSR J1745-2900 relative to Sgr A*. Different colors are used to identify the wavelength of observations. The solid black line shows the best-fit proper motion in each coordinate (see, text for details of the fit).