

Erratum: The High Time Resolution Universe survey – IX. Polarimetry of long-period pulsars

by C. Tiburzi,^{1,2★} S. Johnston,³ M. Bailes,^{4,5} S. D. Bates,⁶ N. D. R. Bhat,^{4,5,7} M. Burgay,¹ S. Burke-Spolaor,⁸ D. Champion,⁹ P. Coster,^{3,4} N. D’Amico,^{1,2} M. J. Keith,¹⁰ M. Kramer,^{9,10} L. Levin,⁶ S. Milia,¹ C. Ng,⁹ A. Possenti,¹ B. W. Stappers,¹⁰ D. Thornton^{3,10} and W. van Straten^{4,5}

¹INAF – Osservatorio Astronomico di Cagliari, Via della Scienza, I-09047 Selargius (CA), Italy

²Dipartimento di Fisica, Università di Cagliari, Cittadella Universitaria, I-09042 Monserrato (CA), Italy

³CSIRO Astronomy and Space Science, Australia Telescope National Facility, PO Box 76, Epping, NSW 1710, Australia

⁴Centre for Astrophysics and Supercomputing, Swinburne University of Technology, Mail H39, PO Box 218, VIC 3122, Australia

⁵ARC Centre of Excellence for All-sky Astrophysics, 44 Rosehill Street Redfern, NSW 2016, Australia

⁶Department of Physics, West Virginia University, Morgantown, WV 26506, USA

⁷International Centre for Radio Astronomy Research, Curtin University, Bentley, WA 6102, Australia

⁸NASA Jet Propulsion Laboratory, M/S 138-307, Pasadena, CA 91106, USA

⁹Max Planck Institut für Radioastronomie, Auf dem Hügel 69, D-53121 Bonn, Germany

¹⁰Jodrell Bank Centre for Astrophysics, University of Manchester, Alan Turing Building, Oxford Road, Manchester M13 9PL, UK

Key words: errata, addenda – magnetic fields – polarization – methods: observational – pulsars: general.

The paper ‘The High Time Resolution Universe survey – IX. Polarimetry of long-period pulsars’ was published in MNRAS, 436, 3557 (2013). We report that nine of the dispersion measure (DM) values used in the paper were incorrect. This was because the DM values of these nine pulsars, drawn from tables intended for private use of the High Time Resolution Universe Collaboration, were out of date. The implication of using an incorrect DM is that the pulse profile suffers a spurious broadening, and this affects the polarization parameters and therefore the measured rotation measure (RM).

We reanalyzed the data from the nine aforementioned pulsars in order to compute a new DM value. We collapsed the data from each observation in four frequency sub-bands, and produced pulse profiles for each of them. We then fitted the times of arrival of the pulses in each of the four sub-bands to a timing model where only the DM was allowed to vary. The new updated values of the DM are listed in the third column of the Table 1 presented here.

Although the percentages of linear (L per cent), circular (V per cent) and absolute circular ($|V|$ per cent) polarization do not change within the error bars, except for the L per cent of PSR J1744–5337 which is now 25 ± 1 while the published value was 20 ± 1 , the measured RMs are affected, as reported in Table 1. In particular, for PSR J1105–4353 we are no longer able to measure an RM.

Fig. 5 of this erratum should substitute the same figure in the original paper. The conclusions drawn from it remain unchanged.

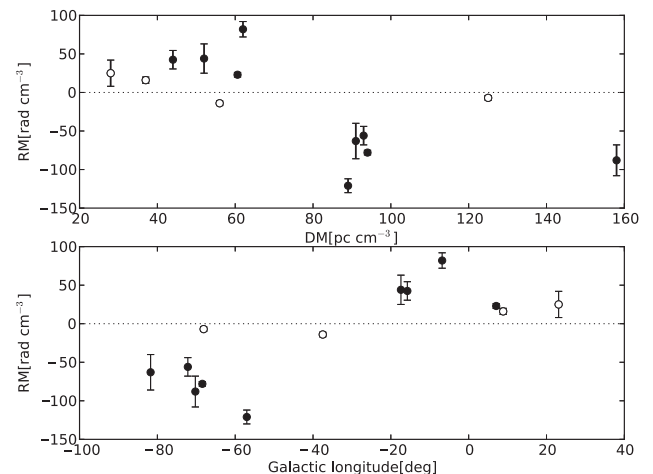


Figure 1. In the top panel are shown the RM values for the pulsars the projected positions of which are in agreement with their belonging to the Carina–Sagittarius arm, plotted as a function of their DM. In the bottom panel are shown the RM values for the same pulsars plotted as a function of their Galactic longitude. Empty circles indicate pulsars with positive Galactic latitude, whereas filled circles are associated with pulsar located at negative Galactic latitude. 1σ error bars are overlapped to the data points. Note that the error bars associated with some of the data points are too small to be visible.

★E-mail: ctiburzi@oa-cagliari.inaf.it

Table 1. Columns report, respectively, pulsar name, published value of DM, updated value of DM, published value of RM, value of RM computed using the updated value of DM, published value of the average magnetic field along the line of sight, $\langle B_{\parallel} \rangle$, value of $\langle B_{\parallel} \rangle$ computed using the updated value of DM.

PSR	Paper DM	Updated DM	Paper RM	Updated RM	Paper $\langle B_{\parallel} \rangle$	Updated $\langle B_{\parallel} \rangle$
J0912–3851	63.18	71.50(69)	94(15)	85(16)	1.85	1.47
J1105–4353	38.30	45.51(99)	17(1)	–	0.56	–
J1409–6953	171.09	167.63(30)	–30(10)	–51(10)	–0.22	–0.37
J1530–6336	201.2	206.50(15)	202(11)	195(7)	1.24	1.16
J1700–4422	413	425(5)	–	–	–	–
J1705–5230	170.5	163.62(19)	–38(9)	–20(11)	–0.28	–0.15
J1705–6135	106	95(5)	86(7)	75(11)	1.0	0.98
J1744–5337	124.4	108.85(74)	52(6)	38(9)	0.52	0.43
J1749–4931	52.4	55.29(49)	42(21)	41(19)	1.0	0.93

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