

Erratum: Supernova and neutron-star limits on large extra dimensions reexamined [Phys. Rev. D **67**, 125008 (2003)]

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In our paper ‘‘Supernova and neutron-star limits on large extra dimensions reexamined’’ a small error has occurred. We have mistakenly used the old distance of 60 pc rather than the new value of 117 pc for the nearby neutron star RX J185635-3754. Therefore, the corresponding limits on R are degraded by a factor $(117/60)^{2/n}$ while those on \bar{M}_{4+n} need a factor $(60/117)^{2/(2+n)}$. Here we reproduce Tables V and VI with the corrected limits in boldface. We thank G. Sigl for drawing our attention to this error.

Note that these limits can be significantly improved if one uses all neutron stars in the galactic bulge as a source rather than only the single nearby stars RX J185635-3754 and PSR J0953+0755. The loss caused by the greater distance is significantly overcompensated by the large number of neutron stars [1].

 TABLE V. Upper limits on the compactification radius R (in meters) from our arguments.

n	1	2	3	4	5	6	7
Neutrino Signal							
SN 1987A	4.9×10^2	0.96×10^{-6}	1.14×10^{-9}	3.82×10^{-11}	4.85×10^{-12}	1.21×10^{-12}	4.42×10^{-13}
EGRET γ -ray limits							
All cosmic SNe	4.9	0.96×10^{-7}	2.47×10^{-10}	1.21×10^{-11}	1.93×10^{-12}	5.6×10^{-13}	2.29×10^{-13}
Cas A	4.1×10^2	3.61×10^{-7}	3.95×10^{-10}	1.37×10^{-11}	1.86×10^{-12}	5.0×10^{-13}	1.94×10^{-13}
PSR J0953+0755 } RX J185635-3754 }	7.36	5.13×10^{-8}	1.12×10^{-10}	5.46×10^{-12}	9.13×10^{-13}	2.80×10^{-13}	1.21×10^{-13}
Neutron-star excess heat							
PSR J0952+0755	4.44×10^{-5}	1.55×10^{-10}	2.58×10^{-12}	3.36×10^{-13}	9.95×10^{-14}	4.41×10^{-14}	2.46×10^{-14}

 TABLE VI. Lower limits on the fundamental energy scale \bar{M}_{4+n} (in TeV) corresponding to the R -limits of Table V.

n	1	2	3	4	5	6	7
M/\bar{M}_{n+4}	2.32	2.98	3.46	3.82	4.10	4.32	4.51
Neutrino Signal							
SN 1987A	7.4×10^2	8.9	0.66	1.18×10^{-1}	3.5×10^{-2}	1.44×10^{-2}	7.2×10^{-3}
EGRET γ -ray limits							
All cosmic SNe	3.4×10^3	28.	1.65	2.54×10^{-1}	6.8×10^{-2}	2.56×10^{-2}	1.21×10^{-2}
Cas A	7.7×10^2	14.5	1.24	2.34×10^{-1}	7.0×10^{-2}	2.80×10^{-2}	1.37×10^{-2}
PSR J0953+0755 } RX J185635-3754 }	2.93×10^3	38.6	2.65	0.43	0.116	4.31×10^{-2}	1.98×10^{-2}
Neutron-star excess heat							
PSR J0952+0755	1.61×10^5	7.01×10^2	25.5	2.77	0.57	0.17	6.84×10^{-2}

[1] M. Casse, J. Paul, G. Bertone, and G. Sigl, ‘‘Gamma rays from the galactic bulge and large extra dimensions,’’ hep-ph/0309173.