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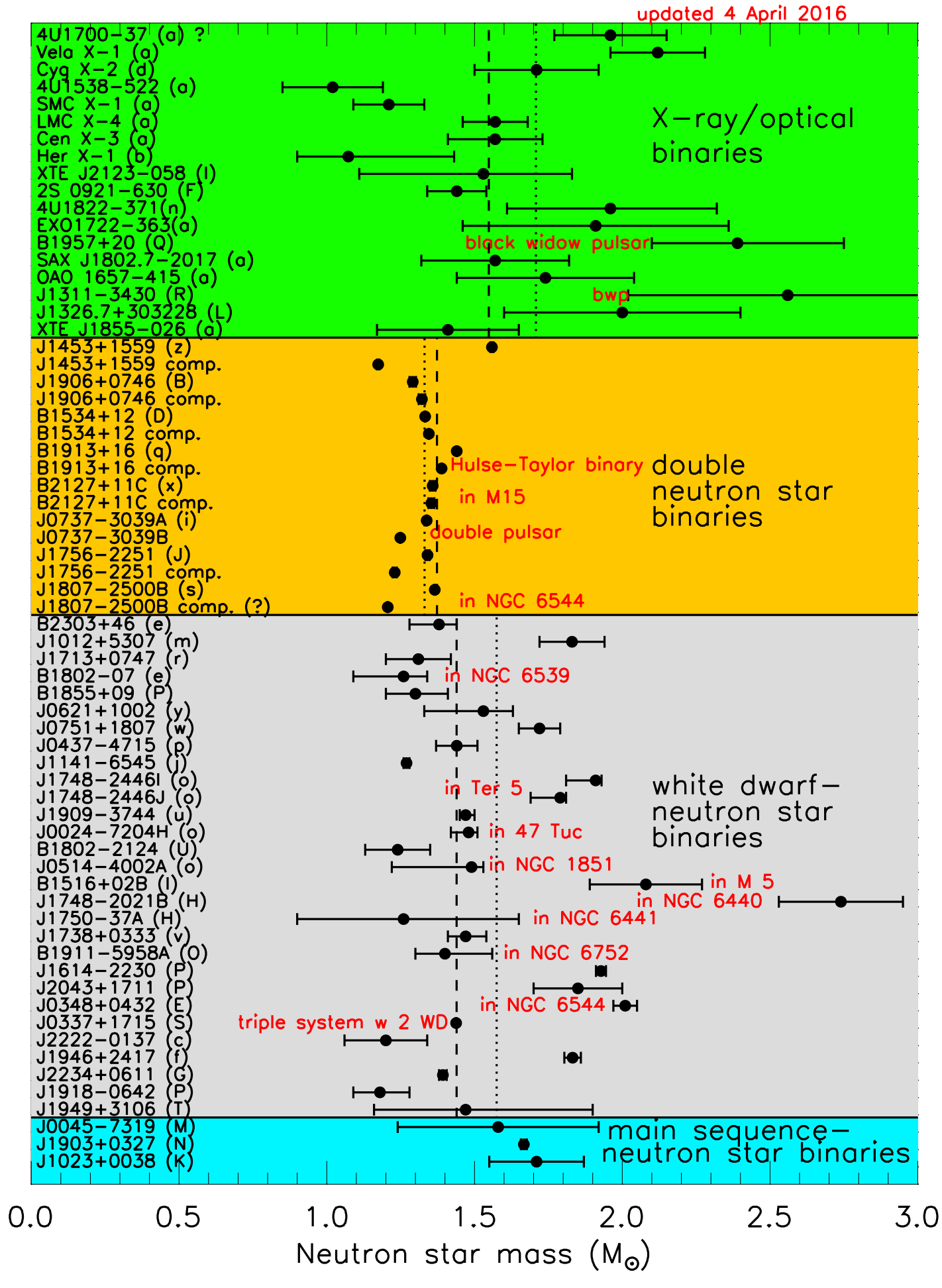
updated 4 April 2016
4U1700−37 (a) ?
Vela X−1 (a)
Cyg X−2 (d)
4U1538−522 (a)
SMC X−1 (a)
LMC X−4 (a)
Cen X−3 (a)
Her X−1 (b)
XTE J2123−058 (I)
2S 0921−630 (F)
4U1822−371(n)
EXO1722−363(a)
B1957+20 (Q)
SAX J1802.7−2017 (a)
OAO 1657−415 (a)
J1311−3430 (R)
J1326.7+303228 (L)
XTE J1855−026 (a)
X−ray/optical binaries
black widow pulsar
bwp
J1453+1559 (z)
J1453+1559 comp.
J1906+0746 (B)
J1906+0746 comp.
B1534+12 (D)
B1534+12 comp.
B1913+16 (q)
B1913+16 comp.
B2127+11C (x)
B2127+11C comp.
J0737−3039A (i)
J0737−3039B
J1756−2251 (J)
J1756−2251 comp.
J1807−2500B (s)
J1807−2500B comp. (?)
Hulse−Taylor binary
in M15
double pulsar
in NGC 6544
double neutron star binaries
B2303+46 (e)
J1012+5307 (m)
J1713+0747 (r)
B1802−07 (e)
B1855+09 (P)
J0621+1002 (y)
J0751+1807 (w)
J0437−4715 (p)
J1141−6545 (j)
J1748−2446I (o)
J1748−2446J (o)
J1909−3744 (u)
J0024−7204H (o)
B1802−2124 (U)
J0514−4002A (o)
B1516+02B (I)
J1748−2021B (H)
J1750−37A (H)
J1738+0333 (v)
B1911−5958A (O)
J1614−2230 (P)
J2043+1711 (P)
J0348+0432 (E)
J0337+1715 (S)
J2222−0137 (c)
J1946+2417 (f)
J2234+0611 (G)
J1918−0642 (P)
J1949+3106 (T)
in NGC 6539
in Ter 5
in 47 Tuc
in NGC 1851
in M 5
in NGC 6440
in NGC 6441
in NGC 6752
in NGC 6544
triple system w 2 WD
white dwarf−neutron star binaries
J0045−7319 (M)
J1903+0327 (N)
J1023+0038 (K)
main sequence−neutron star binaries
0.0
0.5
1.0
1.5
2.0
2.5
3.0
Neutron star mass (M⊙)

Table 1:: Neutron star mass measurements, 1σ uncertainties, $M > 0.9$ $M_\odot$ assumed. Reference letters correspond to Fig. 1.

Object	Mass ($M_\odot$)	Refs.	Object	Mass ($M_\odot$)	Refs.
X-Ray/Optical Binaries (mean 1.708 $M_\odot$, error-weighted mean 1.548 $M_\odot$)					
4U1700-377†	1.96 ± 0.19	a (1)	Vela X-1	2.12 ± 0.16	a (1)
Cyg X-2	1.71 ± 0.21	d (3)	4U1538-522	1.02 ± 0.17	a (1)
SMC X-1	1.21 ± 0.12	a (1)	LMC X-4	1.57 ± 0.11	a (1)
Cen X-3	1.57 ± 0.16	a (1)	Her X-1	$1.073^{+0.358}_{-0.173}$	b (2)
XTE J2123-058	$1.53^{+0.30}_{-0.42}$	l (4)	2S 0921-630	1.44 ± 0.1	F (5)
4U 1822-371	$1.96^{+0.36}_{-0.35}$	n (6)	EXO 1722-363	1.91 ± 0.45	a (1)
B1957+20	$2.39^{+0.36}_{-0.29}$	Q (7)	SAX J1802.7-2017	1.57 ± 0.25	a (1)
OAO 1657-415	1.74 ± 0.30	a (1)	J1311-3430	2.56 ± 0.52	R (8)
J01326.7+303228	2.0 ± 0.4	L (9)	XTE J1855-026	1.41 ± 0.24	a (1)
NS – NS Binaries (mean 1.331 $M_\odot$, error-weighted mean 1.373 $M_\odot$)					
J1453+1559‡	1.559 ± 0.004	z (10)	companion	1.174 ± 0.004	z (10)
J1906+0746	1.291 ± 0.011	B (11)	companion	1.322 ± 0.011	B (11)
B1534+12	1.3332 ± 0.0010	D (12)	companion	1.3452 ± 0.0010	D (12)
B1913+16	1.4398 ± 0.0002	q (13)	companion	1.3886 ± 0.0002	q (13)
B2127+11C♣	1.358 ± 0.010	x (14)	companion	1.354 ± 0.010	x (14)
J0737-3039A	1.3381 ± 0.0007	i (15)	J0737-3039B	1.2489 ± 0.0007	i (15)
J1756-2251	1.312 ± 0.017	J (16)	companion	1.258 ± 0.017	J (16)
J1807-2500B♣	1.3655 ± 0.0021	s (17)	companion ?	1.2064 ± 0.0020	s (17)
NS – WD Binaries (mean 1.575 $M_\odot$, error-weighted mean 1.439 $M_\odot$)					
B2303+46	$1.38^{+0.06}_{-0.10}$	e (18)	J1012+5307	1.83 ± 0.11	m (19)
J1713+0747	1.31 ± 0.11	r (20)	B1802-07♣	$1.26^{+0.08}_{-0.17}$	e (18)
B1855+09	$1.30^{+0.11}_{-0.10}$	P (31)	J0621+1002	$1.53^{+0.10}_{-0.20}$	y (21)
J0751+1807	1.72 ± 0.07	w (37)	J0437-4715	1.44 ± 0.07	p (22)
J1141-6545	1.27 ± 0.01	j (23)	J1748-2446I♣	$1.91^{+0.02}_{-0.10}$	o (24)
J1748-2446J♣	$1.79^{+0.02}_{-0.10}$	o (24)	J1909-3744	1.55 ± 0.03	P (31)
J0024-7204H♣	$1.48^{+0.03}_{-0.06}$	o (24)	B1802-2124	1.24 ± 0.11	U (26)
J0514-4002A♣	$1.49^{+0.04}_{-0.27}$	o (24)	B1516+02B♣	2.08 ± 0.19	I (27)
J1748-2021B♣	2.74 ± 0.21	H (28)	J1750-37A♣	$1.26^{+0.39}_{-0.36}$	H (28)
J1738+0333	$1.47^{+0.07}_{-0.06}$	v (29)	B1911-5958A♣	1.34 ± 0.08	O (30)
J1614-2230	1.928 ± 0.017	P (31)	J2043+1711	$1.41^{+0.21}_{-0.18}$	P (31)
J0348+0432	2.01 ± 0.04	E (32)	J0337+1715♠	1.4378 ± 0.0013	S (34)
J2222-0137	1.20 ± 0.14	c (38)	J1946+2417	1.832 ± 0.028	f (39)
J2234+0611	1.393 ± 0.013	G (40)	J1918-0642	$1.18^{+0.10}_{-0.09}$	P (31)
J1949+3106	$1.47^{+0.43}_{-0.31}$	T (41)			
NS – Main Sequence Binaries					
J0045-7319	1.58 ± 0.34	M (35)	J1903+0327♡	1.667 ± 0.021	N (36)
J1023+0038	1.71 ± 0.16	K (33)			

† Possibly a black hole due to lack of pulsations ‡ Uses method of Ref. (18) to estimate companion mass
* Reflects binary period-white dwarf mass constraint from Ref. (42) ♣ Binary in globular cluster
♡ 3σ error ♠ Triple system with 2 WD companions

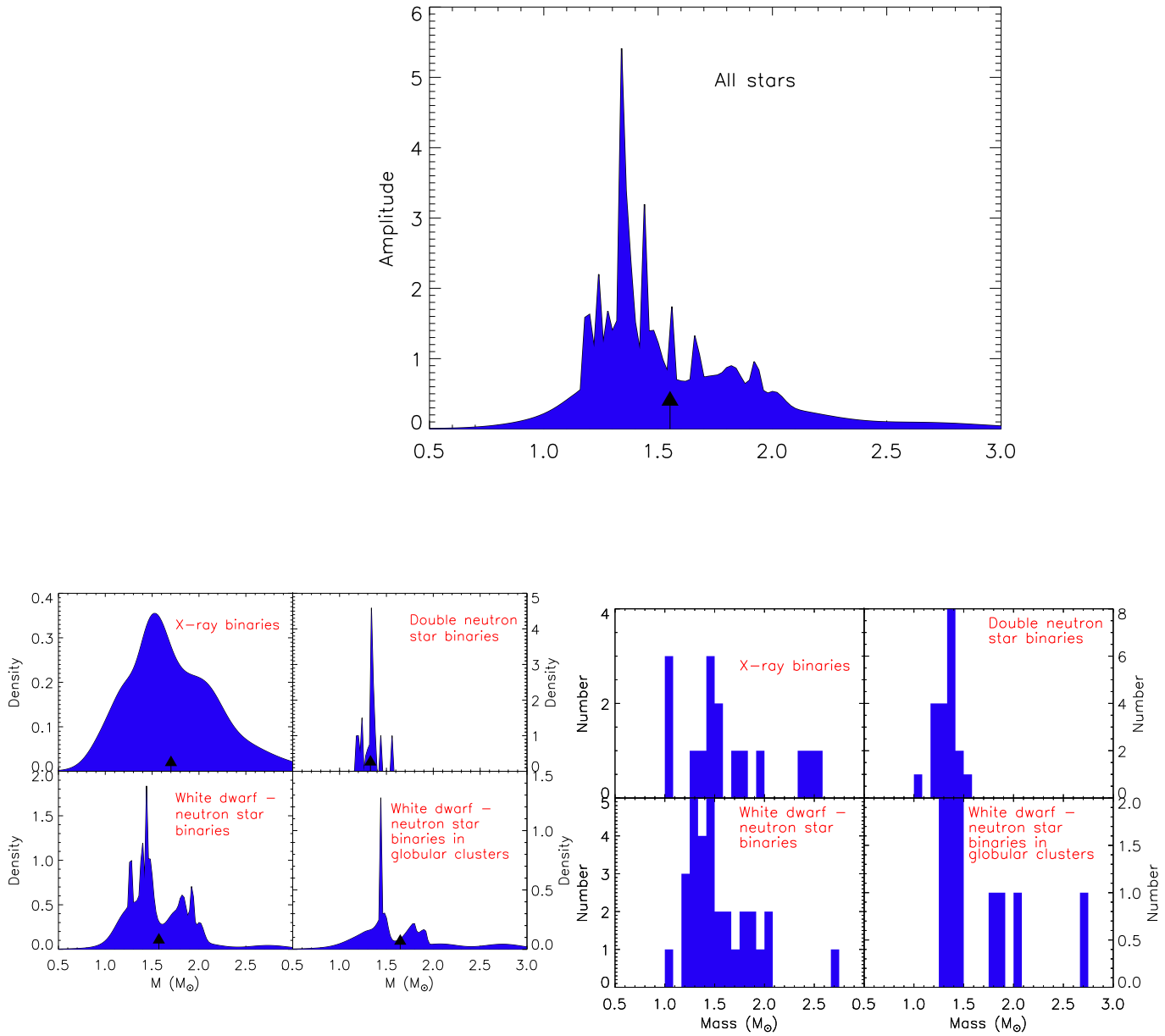

Fig. 2.— Top: Distribution of neutron star masses. Each star is approximated by an asymmetric Gaussian with equal weight; thus units of the y-axis, representing the number of stars per mass interval, are arbitrary. Bottom: Distributions and histograms of subsets of neutron star masses.