

## Annexe 2 Calculs de la masse des planètes extrasolaires

Tableau 2  
Calculs de la masse des planètes extrasolaires

Planète	M <sub>p</sub> réelle	Demi-grand axe	Eccentricité de l'orbite	T	M <sub>E</sub>	V <sub>E</sub>
	(kg)	(UA)		(s)	(kg)	(m/s)
51 Peg	8,7400E+26	0,050	0,01	3,6556E+05	2,1094E+30	5,5450E+01
55 Cancri b	1,5960E+27	0,115	0,02	1,2660E+06	1,8905E+30	7,2200E+01
55 Cancri c	3,9900E+26	0,240	0,34	3,8258E+06	1,8905E+30	1,3000E+01
55 Cancri d	7,6950E+27	5,900	0,16	4,6310E+08	1,8905E+30	4,9300E+01
BD103166	9,1200E+26	0,050	0,06	3,0136E+05	2,1890E+30	5,9960E+01
Gliese 876 b	3,5910E+27	0,210	0,10	5,2721E+06	6,3680E+29	2,1000E+02
Gliese 876 c	1,0640E+27	0,130	0,27	2,6024E+06	6,3680E+29	8,1000E+01
HD16141	4,3700E+26	0,350	0,21	6,5275E+06	1,9900E+30	1,1180E+01
HD168443 b	1,4687E+28	0,295	0,53	5,0198E+06	2,0099E+30	4,7270E+02
HD168443 c	3,2680E+28	2,870	0,20	1,5305E+08	2,0099E+30	2,8900E+02
HD179949	1,8620E+27	0,040	0,00	2,6715E+05	2,4676E+30	1,1856E+02
HD187123	9,6900E+26	0,040	0,02	2,6758E+05	2,0895E+30	6,7910E+01
HD195019	6,7830E+27	0,140	0,02	1,5727E+06	2,0298E+30	2,7135E+02
HD209458*	1,2540E+27	0,050	0,10	3,0456E+05	2,0895E+30	8,6100E+01
HD217107	2,4510E+27	0,070	0,15	6,1577E+05	1,9502E+30	1,3955E+02
HD27442	2,3750E+27	1,170	0,05	3,6329E+07	2,3880E+30	2,9990E+01
HD37124 b	1,4250E+27	0,540	0,10	1,3167E+07	1,8109E+30	3,0200E+01
HD37124 c	2,2800E+27	2,500	0,69	1,2917E+08	1,8109E+30	3,2800E+01
HD38529 b	1,4820E+27	0,129	0,28	1,2364E+06	2,7661E+30	5,4700E+01
HD38529 c	2,4320E+28	3,710	0,33	1,9072E+08	2,7661E+30	1,6910E+02
HD46375	4,7500E+26	0,040	0,03	2,6127E+05	1,9900E+30	3,4910E+01
HD49674	2,0900E+26	0,060	0,13	4,2751E+05	1,9900E+30	1,3550E+01
HD68988	3,6100E+27	0,070	0,14	5,4225E+05	2,3880E+30	1,8715E+02
HD76700	3,8000E+26	0,050	0,08	3,4309E+05	1,9900E+30	2,5590E+01
HD83443	7,7900E+26	0,040	0,05	2,5799E+05	1,5721E+30	5,8010E+01
Rho Corona Borealis	2,0330E+27	0,220	0,05	3,4426E+06	1,8905E+30	6,5650E+01
Tau Boo	7,7520E+27	0,050	0,01	2,8616E+05	2,5870E+30	4,6606E+02
Y Andromedae b	1,3110E+27	0,059	0,01	3,9892E+05	2,5870E+30	7,0200E+01
Y Andromedae c	3,5910E+27	0,829	0,28	2,0866E+07	2,5870E+30	5,3900E+01
Y Andromedae d	7,1250E+27	2,530	0,27	1,1094E+08	2,5870E+30	6,1100E+01

Tableau 2 (suite)  
Calculs de la masse des planètes extrasolaires

G	Équation 1	M <sub>p</sub> équation 1	a	b	c	Équation 2	M <sub>p</sub> équation 2
(Nm <sup>2</sup> /kg <sup>2</sup> )		(kg)					(kg)
6,6700E-11	1,0005E+00	8,7150E+26	1,1299E+74	5,4688E+77	6,6172E+80	0,0000E+00	8,7165E+26
6,6700E-11	1,0003E+00	1,5965E+27	2,8985E+75	6,8638E+78	4,0635E+81	0,0000E+00	1,5967E+27
6,6700E-11	1,0003E+00	4,1542E+26	3,4618E+72	3,1505E+76	7,1680E+79	0,0000E+00	4,1546E+26
6,6700E-11	1,0002E+00	7,8136E+27	8,0850E+78	3,9120E+81	4,7322E+83	0,0000E+00	7,8142E+27
6,6700E-11	1,0005E+00	9,0575E+26	1,2721E+74	6,1478E+77	7,4278E+80	0,0000E+00	9,0589E+26
6,6700E-11	1,0004E+00	3,6283E+27	1,5341E+78	5,3843E+80	4,7244E+82	0,0000E+00	3,6288E+27
6,6700E-11	1,0005E+00	1,1031E+27	4,0167E+75	4,6369E+78	1,3382E+81	0,0000E+00	1,1033E+27
6,6700E-11	1,0000E+00	4,4179E+26	4,2483E+72	3,8271E+76	8,6193E+79	0,0000E+00	4,4180E+26
6,6700E-11	1,0002E+00	1,7323E+28	3,7970E+80	8,8104E+82	5,1108E+84	0,0000E+00	1,7324E+28
6,6700E-11	1,0006E+00	3,3256E+28	9,7527E+81	1,1786E+84	3,5611E+85	0,0000E+00	3,3262E+28
6,6700E-11	1,0001E+00	1,8641E+27	3,6918E+75	9,7736E+78	6,4686E+81	0,0000E+00	1,8642E+27
6,6700E-11	1,0000E+00	9,5604E+26	1,8277E+74	7,9891E+77	8,7304E+80	0,0000E+00	9,5604E+26
6,6700E-11	1,0007E+00	6,7735E+27	3,4417E+78	2,0622E+81	3,0892E+83	0,0000E+00	6,7751E+27
6,6700E-11	1,0001E+00	1,2656E+27	7,4308E+74	2,4535E+78	2,0252E+81	0,0000E+00	1,2657E+27
6,6700E-11	1,0006E+00	2,4780E+27	2,4529E+76	3,8601E+79	1,5187E+82	0,0000E+00	2,4785E+27
6,6700E-11	1,0002E+00	2,3726E+27	1,3165E+76	2,6498E+79	1,3334E+82	0,0000E+00	2,3728E+27
6,6700E-11	1,0000E+00	1,4165E+27	1,7365E+75	4,4398E+78	2,8379E+81	0,0000E+00	1,4165E+27
6,6700E-11	1,0000E+00	3,2956E+27	1,1813E+77	1,2982E+80	3,5666E+82	0,0000E+00	3,2957E+27
6,6700E-11	1,0001E+00	1,5464E+27	1,1548E+75	4,1310E+78	3,6944E+81	0,0000E+00	1,5465E+27
6,6700E-11	1,0002E+00	2,5788E+28	1,4635E+81	3,1395E+83	1,6837E+85	0,0000E+00	2,5789E+28
6,6700E-11	1,0001E+00	4,7189E+26	5,9066E+72	4,9816E+76	1,0504E+80	0,0000E+00	4,7190E+26
6,6700E-11	1,0001E+00	2,1581E+26	1,1820E+71	2,1798E+75	1,0050E+79	0,0000E+00	2,1582E+26
6,6700E-11	1,0005E+00	3,6466E+27	1,1281E+77	1,4773E+80	4,8365E+82	0,0000E+00	3,6471E+27
6,6700E-11	1,0000E+00	3,7879E+26	1,9684E+72	2,0682E+76	5,4328E+79	0,0000E+00	3,7879E+26
6,6700E-11	1,0000E+00	6,6738E+26	5,3526E+73	2,5217E+77	2,9701E+80	0,0000E+00	6,6739E+26
6,6700E-11	1,0006E+00	2,0263E+27	9,5470E+75	1,7811E+79	8,3069E+81	0,0000E+00	2,0267E+27
6,6700E-11	1,0002E+00	7,7490E+27	4,1511E+78	2,7715E+81	4,6261E+83	0,0000E+00	7,7495E+27
6,6700E-11	1,0002E+00	1,3017E+27	5,5804E+74	2,2180E+78	2,2038E+81	0,0000E+00	1,3018E+27
6,6700E-11	1,0008E+00	3,7394E+27	1,0907E+77	1,5088E+80	5,2178E+82	0,0000E+00	3,7404E+27
6,6700E-11	1,0001E+00	7,4071E+27	3,3129E+78	2,3141E+81	4,0410E+83	0,0000E+00	7,4073E+27

Tableau 2 (suite)  
Calculs de la masse des planètes extrasolaires

1/2q Partie A	1/2q Partie B	1/2q Partie C	Racine carrée Partie A	Racine carrée Partie B	Reste	M <sub>p</sub> calculée  (kg)
1,2182E+59	1,5551E+70	3,3086E+80	1,1434E+150	1,0947E+161	4,9572E+19	8,7165E+26
5,4435E+61	8,1461E+71	2,0317E+81	3,6779E+152	4,1280E+162	3,7899E+20	1,5967E+27
2,9880E+56	2,5348E+68	3,5840E+79	2,0188E+147	1,2845E+159	6,6854E+18	4,1546E+26
8,5976E+67	1,1048E+76	2,3661E+83	5,8091E+158	5,5985E+166	4,4136E+22	7,8142E+27
1,3796E+59	1,7533E+70	3,7139E+80	1,4470E+150	1,3793E+161	5,1671E+19	9,0589E+26
5,8567E+67	2,8811E+75	2,3622E+82	1,5124E+157	5,5799E+164	3,8834E+22	3,6288E+27
1,3310E+63	2,3116E+72	6,6910E+80	3,4372E+152	4,4770E+161	1,1000E+21	1,1033E+27
3,8189E+56	3,1424E+68	4,3097E+79	3,0095E+147	1,8573E+159	7,2552E+18	4,4180E+26
7,5000E+70	1,0723E+78	2,5554E+84	6,0895E+161	6,5301E+168	4,2172E+23	1,7324E+28
2,5371E+73	5,2062E+79	1,7805E+85	2,0600E+164	3,1703E+170	2,9384E+24	3,3262E+28
4,4404E+61	9,2828E+71	3,2343E+81	6,6719E+152	1,0461E+163	3,5411E+20	1,8642E+27
2,9613E+59	2,7850E+70	4,3652E+80	2,7016E+150	1,9055E+161	6,6654E+19	9,5604E+26
1,5612E+67	3,8038E+75	1,5446E+83	1,3056E+158	2,3858E+166	2,4993E+22	6,7751E+27
3,6963E+60	1,4986E+71	1,0126E+81	3,3720E+151	1,0253E+162	1,5462E+20	1,2657E+27
2,3580E+63	1,0365E+73	7,5933E+81	1,7490E+154	5,7659E+163	1,3310E+21	2,4785E+27
4,7344E+62	4,3518E+72	6,6668E+81	6,4472E+153	4,4446E+163	7,7939E+20	2,3728E+27
2,4004E+61	4,5207E+71	1,4190E+81	1,4255E+152	2,0135E+162	2,8846E+20	1,4165E+27
4,7648E+64	7,1403E+73	1,7833E+82	2,8296E+155	3,1802E+164	3,6253E+21	3,2957E+27
4,1693E+60	2,1496E+71	1,8472E+81	8,8241E+151	3,4122E+162	1,6095E+20	1,5465E+27
3,9464E+71	4,4646E+78	8,4183E+84	8,3522E+162	7,0868E+169	7,3350E+23	2,5789E+28
6,9112E+56	4,6667E+68	5,2519E+79	5,4465E+147	2,7582E+159	8,8413E+18	4,7190E+26
6,0535E+53	4,2721E+66	5,0250E+78	4,7705E+144	2,5250E+157	8,4593E+17	2,1582E+26
2,2595E+64	5,7258E+73	2,4182E+82	3,0770E+155	5,8479E+164	2,8271E+21	3,6471E+27
9,5630E+55	1,2484E+68	2,7164E+79	7,5362E+146	7,3789E+158	4,5730E+18	3,7879E+26
6,4277E+58	7,5678E+69	1,4850E+80	2,4974E+149	2,2053E+160	4,0058E+19	6,6739E+26
4,6504E+62	3,4043E+72	4,1535E+81	3,1421E+153	1,7251E+163	7,7476E+20	2,0267E+27
1,2232E+67	4,1202E+75	2,3131E+83	2,1179E+158	5,3502E+166	2,3041E+22	7,7495E+27
1,3225E+60	9,3509E+70	1,1019E+81	2,2898E+151	1,2142E+162	1,0977E+20	1,3018E+27
1,7551E+64	5,2415E+73	2,6089E+82	3,0388E+155	6,8063E+164	2,5988E+21	3,7404E+27
8,1532E+66	3,1439E+75	2,0205E+83	1,4116E+158	4,0824E+166	2,0127E+22	7,4073E+27