

20091128
Heim's Mass Formula 1989 b

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hb = 1.0545887 × 10⁻³⁴

c = 2.99792458 × 10⁸

γ = 6.6732 × 10⁻¹¹

R = 376.73037659

μ = 2.25902134 × 10⁻³¹

KG2MEV = 5.60954107 × 10²⁹

ε = -1 N = 0

i := 0..14

$$T2_{i, \left(\frac{1-\epsilon}{2} \right)} =$$

		a1	a2	y	a3	x	L	H	B	g	A
	0	a1(T1 _{i,0} , T1 _{i,1} , T1 _{i,2} , T1 _{i,3} , T1 _{i,4} , T1 _{i,5} , T1 _{i,6} , T1 _{i,7} , T1 _{i,8} , T1 _{i,9}) = a2(T1 _{i,0} , T1 _{i,1} , T1 _{i,2} , T1 _{i,3} , T1 _{i,4} , T1 _{i,5} , T1 _{i,6} , T1 _{i,7} , T1 _{i,8} , T1 _{i,9}) = a3(T1 _{i,0} , T1 _{i,1} , T1 _{i,2} , T1 _{i,3} , T1 _{i,4} , T1 _{i,5} , T1 _{i,6} , T1 _{i,7} , T1 _{i,8} , T1 _{i,9}) = x(T1 _{i,0} , T1 _{i,1} , T1 _{i,2} , T1 _{i,3} , T1 _{i,4} , T1 _{i,5} , T1 _{i,6} , T1 _{i,7} , T1 _{i,8} , T1 _{i,9}) = L(T1 _{i,0} , T1 _{i,1} , T1 _{i,2} , T1 _{i,3} , T1 _{i,4} , T1 _{i,5} , T1 _{i,6} , T1 _{i,7} , T1 _{i,8} , T1 _{i,9}) = H(T1 _{i,0} , T1 _{i,1} , T1 _{i,2} , T1 _{i,3} , T1 _{i,4} , T1 _{i,5} , T1 _{i,6} , T1 _{i,7} , T1 _{i,8} , T1 _{i,9}) = B(T1 _{i,0} , T1 _{i,1} , T1 _{i,2} , T1 _{i,3} , T1 _{i,4} , T1 _{i,5} , T1 _{i,6} , T1 _{i,7} , T1 _{i,8} , T1 _{i,9}) = g(T1 _{i,0} , T1 _{i,1} , T1 _{i,2} , T1 _{i,3} , T1 _{i,4} , T1 _{i,5} , T1 _{i,6} , T1 _{i,7} , T1 _{i,8} , T1 _{i,9}) = A(T1 _{i,0} , T1 _{i,1} , T1 _{i,2} , T1 _{i,3} , T1 _{i,4} , T1 _{i,5} , T1 _{i,6} , T1 _{i,7} , T1 _{i,8} , T1 _{i,9}) =									
0	"/η"	28	33	0.82070944	48.65020478	1.26786277	0	9	27	38.71653131	2787.59025436
1	"/K0"	22	17	10.16509758	98.29474094	1.20831022	0	9	27	38.71653131	2787.59025436
2	"/K+"	16	31	0.07250499	7.26890935	1.15613871	0	9	27	38.71653131	2787.59025436
3	"/e-"	35	11	5	89.96774194	0.32711755	1	9	27	38.71653131	2787.59025436
4	"/e0"	34	28	2.5	77.11059908	0.3222001	1	9	27	38.71653131	2787.59025436
5	"/μ-"	1	23	0.07250499	7.26890935	0.01519221	0	9	27	38.71653131	2787.59025436
6	"/π+ -"	25	0	7.75	95.62488479	0.23170921	0	9	27	38.71653131	2787.59025436
7	"/n0"	22	2	0	-0.03225806	0.20421803	0	9	27	38.71653131	2787.59025436
8	"/Λ"	13	45	0	-0.03333333	0.13332095	0	104	26	14727.57867052	14727.57867052
9	"/Ω-"	47	3	2.03846154	69.73881857	0.45260181	0	104	26	14727.57867052	14727.57867052
10	"/n"	0	36	35.92307692	101.15	0.00683665	0	104	26	14727.57867052	14727.57867052
11	"/p"	0	23	4.26923077	84.22944039	0.00440272	0	104	26	14727.57867052	14727.57867052
12	"/Ξ-"	26	25	0.17711481	15.61504719	0.25465054	0	104	26	14727.57867052	14727.57867052
13	"/Ξ0"	26	22	2.21557635	71.62409767	0.25419539	0	104	26	14727.57867052	14727.57867052
14	"/Σ-"	21	47	9.98076923	94.49556334	0.21078192	0	104	26	14727.57867052	14727.57867052

i := 15..20

$$T2_{i, \left(\frac{1-\epsilon}{2} \right)} = \begin{pmatrix} "/\Sigma 0" \\ "/\Sigma +" \\ "/o- " \\ "/o0" \\ "/o+ " \\ "/o++ " \end{pmatrix}$$

		a1	a2	y	a3	x	L	H	B	g	A
		a1(T1 _{i,0} , T1 _{i,1} , T1 _{i,2} , T1 _{i,3} , T1 _{i,4} , T1 _{i,5} , T1 _{i,6} , T1 _{i,7} , T1 _{i,8} , T1 _{i,9}) = a2(T1 _{i,0} , T1 _{i,1} , T1 _{i,2} , T1 _{i,3} , T1 _{i,4} , T1 _{i,5} , T1 _{i,6} , T1 _{i,7} , T1 _{i,8} , T1 _{i,9}) = a3(T1 _{i,0} , T1 _{i,1} , T1 _{i,2} , T1 _{i,3} , T1 _{i,4} , T1 _{i,5} , T1 _{i,6} , T1 _{i,7} , T1 _{i,8} , T1 _{i,9}) = x(T1 _{i,0} , T1 _{i,1} , T1 _{i,2} , T1 _{i,3} , T1 _{i,4} , T1 _{i,5} , T1 _{i,6} , T1 _{i,7} , T1 _{i,8} , T1 _{i,9}) = L(T1 _{i,0} , T1 _{i,1} , T1 _{i,2} , T1 _{i,3} , T1 _{i,4} , T1 _{i,5} , T1 _{i,6} , T1 _{i,7} , T1 _{i,8} , T1 _{i,9}) = H(T1 _{i,0} , T1 _{i,1} , T1 _{i,2} , T1 _{i,3} , T1 _{i,4} , T1 _{i,5} , T1 _{i,6} , T1 _{i,7} , T1 _{i,8} , T1 _{i,9}) = B(T1 _{i,0} , T1 _{i,1} , T1 _{i,2} , T1 _{i,3} , T1 _{i,4} , T1 _{i,5} , T1 _{i,6} , T1 _{i,7} , T1 _{i,8} , T1 _{i,9}) = g(T1 _{i,0} , T1 _{i,1} , T1 _{i,2} , T1 _{i,3} , T1 _{i,4} , T1 _{i,5} , T1 _{i,6} , T1 _{i,7} , T1 _{i,8} , T1 _{i,9}) = A(T1 _{i,0} , T1 _{i,1} , T1 _{i,2} , T1 _{i,3} , T1 _{i,4} , T1 _{i,5} , T1 _{i,6} , T1 _{i,7} , T1 _{i,8} , T1 _{i,9}) =									
	"/Σ0"	21	46	4.17307692	83.86257745	0.2105781	0	104	26	14727.57867052	14727.57867052
	"/Σ+ "	21	30	0.33653846	26.15371703	0.20751692	0	104	26	14727.57867052	14727.57867052
	"/o- "	23	22	0.27884615	22.6433584	0.22526215	0	104	26	14727.57867052	14727.57867052
	"/o0"	23	39	9.19230769	93.76289308	0.22853209	0	104	26	14727.57867052	14727.57867052
	"/o+ "	23	27	3.94230769	82.92386511	0.22629389	0	104	26	14727.57867052	14727.57867052
	"/o++ "	21	27	2.03846154	69.73881857	0.20703968	0	104	26	14727.57867052	14727.57867052

i := 0..14

$$T2_{i, \left(\frac{1-\epsilon}{2} \right)} =$$

	0	k	n	m	p	σ	P	Q	εq	εC	κ	l	WN0	M
		$T1_{i,0} =$	$n(T1_{i,0},$	$m(T1_{i,0},$	$p(T1_{i,0},$	$σ(T1_{i,0},$	$T1_{i,1} =$	$T1_{i,2} =$	$ε \cdot ql(T1_i$	$ε \cdot C(T1_i$	$T1_{i,3} =$	$T1_{i,4} =$	$WN0(T1_{i,0}, T1_{i,1}, T1_{i,2},$	$M(T1_{i,0}, T1_{i,1}, T1_{i,2},$
0	"/η"	1	18	22	17	14	0	0	0	0	0	1	9905.00602463	548.80002508
1	"/K0"	1	18	5	5	2	1	0	0	1	1	1	9332.35821061	497.7230005
2	"/K+"	1	17	26	30	28	1	0	1	1	1	2	8857.95768621	493.71425225
3	"/e-"	1	0	0	0	0	1	1	-1	0	0	1	38.70293897	0.51100343
4	"/e0"	1	0	0	0	1	1	1	0	0	0	2	38.51308636	0.51617049
5	"/μ-"	1	11	6	11	6	1	1	-1	0	1	1	2830.26323296	105.6594852
6	"/π+"	1	12	9	2	3	2	0	-1	0	0	1	3514.46295282	139.56837122
7	"/π0"	1	12	3	6	4	2	0	0	0	0	2	3419.16218078	134.96004137
8	"/Λ"	2	1	3	0	-11	0	1	0	-1	0	1	16827.97669238	1115.5997914
9	"/Ω-"	2	4	4	-1	-15	0	3	-1	-3	0	1	23157.61439275	1672.17518902
10	"/n"	2	0	0	-2	17	1	1	0	0	0	1	14828.61091953	939.5733612
11	"/p"	2	0	0	0	0	1	1	1	0	0	2	14792.56299378	938.27959207
12	"/Ξ-"	2	2	7	-17	2	1	1	-1	-2	1	1	18998.73467029	1321.29325942
13	"/Ξ0"	2	2	6	-1	6	1	1	0	-2	1	2	18990.08936297	1314.9020623
14	"/Σ-"	2	2	-6	-5	-8	2	1	-1	-1	0	1	18183.3029723	1197.30443156

i := 15..20

$$T2_{i, \left(\frac{1-\epsilon}{2} \right)} = \begin{pmatrix} "/\Sigma 0" \\ "/\Sigma +" \\ "/o-" \\ "/o0" \\ "/o+" \\ "/o++" \end{pmatrix}$$

	k	n	m	p	σ	P	Q	εq	εC	κ	l	WN0	M
	$T1_{i,0} =$	$n(T1_{i,0},$	$m(T1_{i,0},$	$p(T1_{i,0},$	$σ(T1_{i,0},$	$T1_{i,1} =$	$T1_{i,2} =$	$ε \cdot ql(T1_i$	$ε \cdot C(T1_i$	$T1_{i,3} =$	$T1_{i,4} =$	$WN0(T1_{i,0}, T1_{i,1}, T1_{i,2},$	$M(T1_{i,0}, T1_{i,1}, T1_{i,2},$
	2	2	-7	-14	-2	2	1	0	-1	0	2	18179.5972907	1192.47794853
	2	2	-7	-12	10	2	1	1	-1	0	3	18124.03125772	1189.37409873
	2	2	-1	-16	-15	3	3	-1	0	0	1	18448.51702782	1229.99529778
	2	2	-1	-10	2	3	3	0	0	0	2	18508.94133072	1233.76682519
	2	2	-1	-1	-6	3	3	1	0	0	3	18467.56082197	1234.60980981
	2	2	1	9	4	3	3	2	0	0	4	18115.38381347	1232.916617

i := 0..14

$$T2_{i, \left(\frac{1-\epsilon}{2} \right)} =$$

		D	F	s	b1	b2	y	φ
	0	$D(T1_{i,0}, T1_{i,1}, T1_{i,2}, T1_{i,3})$	$F(T1_{i,0}, T1_{i,1}, T1_{i,2}, T1_{i,3})$	$s(T1_{i,0}, T1_{i,1}, T1_{i,2}, T1_{i,3})$	$b1(T1_{i,0}, T1_{i,1}, T1_{i,2}, T1_{i,3})$	$b2(T1_{i,0}, T1_{i,1}, T1_{i,2}, T1_{i,3})$	$y(T1_{i,0}, T1_{i,1}, T1_{i,2}, T1_{i,3})$	$\varphi(T1_{i,0}, T1_{i,1}, T1_{i,2}, T1_{i,3})$
0	"/η"	0	$1.08117012 \cdot 10^{-8}$	-5	0	7875.375	$2.62731223 \cdot 10^{-9}$	5.0661201
1	"/K0"	$1.59930372 \cdot 10^{-18}$	1	1	1	997	0.25356917	-12.73395845
2	"/K+ "	$1.59930372 \cdot 10^{-18}$	1	1	5	5945	184.84508113	-40.78574084
3	"/e- "	$1.59930372 \cdot 10^{-18}$	1	3	5	1809	-51.74063646	0
4	"/e0"	$1.59930372 \cdot 10^{-18}$	1	3	7	1809	-53.97104728	0
5	"/μ- "	$1.59930372 \cdot 10^{-18}$	1	2	303	1809	1086.93017266	2.57120917
6	"/π+ -"	$3.19860745 \cdot 10^{-18}$	1	1	14	2147	17.08389281	-2.32863274
7	"/π0"	$6.39721489 \cdot 10^{-18}$	$1.08117012 \cdot 10^{-8}$	1	2	250	$3.70003761 \cdot 10^{-8}$	-5.12094075
8	"/Λ"	0	1	0	0	1039.75108443	0.06178705	0
9	"/Ω- "	0	1	7	1	186.18139016	0.09369551	-137.03603953
10	"/n"	$1.59930372 \cdot 10^{-18}$	1	4	100	-39.49132459	1228.02192051	11.16885474
11	"/p"	$1.59930372 \cdot 10^{-18}$	1	4	1	-3228.5	17.31698088	9.28034065
12	"/Ξ- "	$1.59930372 \cdot 10^{-18}$	1	1	0	18138.5	0.10666705	23.44132327
13	"/Ξ0"	$1.59930372 \cdot 10^{-18}$	1	1	0	18740.50867541	0.20184737	90.44613386
14	"/Σ- "	$3.19860745 \cdot 10^{-18}$	1	3	2	1027	0.06836882	-2.01125286

i := 15..20

$$T2_{i, \left(\frac{1-\epsilon}{2} \right)} = \begin{pmatrix} "/\Sigma 0" \\ "/\Sigma +" \\ "/o- " \\ "/o0" \\ "/o+ " \\ "/o++ " \end{pmatrix}$$

D	F	s	b1	b2	y	φ
$D(T1_{i,0}, T1_{i,1}, T1_{i,2}, T1_{i,3})$	$F(T1_{i,0}, T1_{i,1}, T1_{i,2}, T1_{i,3})$	$s(T1_{i,0}, T1_{i,1}, T1_{i,2}, T1_{i,3})$	$b1(T1_{i,0}, T1_{i,1}, T1_{i,2}, T1_{i,3})$	$b2(T1_{i,0}, T1_{i,1}, T1_{i,2}, T1_{i,3})$	$y(T1_{i,0}, T1_{i,1}, T1_{i,2}, T1_{i,3})$	$\varphi(T1_{i,0}, T1_{i,1}, T1_{i,2}, T1_{i,3})$
$6.39721489 \cdot 10^{-18}$	$-1.08117013 \cdot 10^{-8}$	3	15.28571429	17283.9042795	$2.11633901 \cdot 10^{-6}$	11.78154012
$3.19860745 \cdot 10^{-18}$	1	3	1	3784.5	0.04603481	-6.00947748
$4.79791117 \cdot 10^{-18}$	0	13	2	-25578.66305902	0	-520.30313618
$1.43937335 \cdot 10^{-17}$	0	13	1	-1305.79179019	0	-957.16132713
$4.79791117 \cdot 10^{-18}$	0	13	1	-761.16305902	0	-595.90428409
$3.94889808 \cdot 10^{-20}$	0	13	1	-6103.9604332	0	-1336.23658467