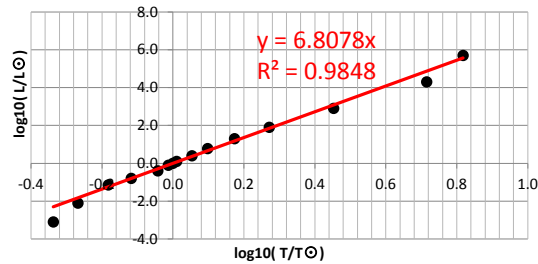


MAIN SEQUENCE EXAMPLE STARS

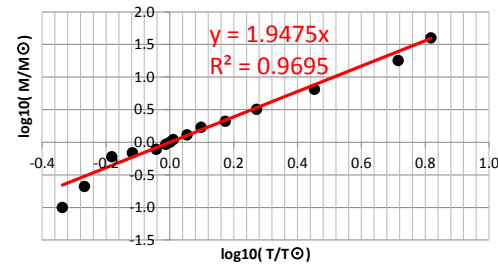
https://en.wikipedia.org/wiki/Main_sequence

Stellar classification	Radius R/R _⊙	Mass M/M _⊙	Luminosity L/L _⊙	Surface temperature /K	Star	log10(L/L _⊙)	log10(T/T _⊙)	log10(M/M _⊙)	log10((R/R _⊙)^2 * (T/5780K)^4)
M8	0.13	0.1	8.00E-04	2,660	Van Biesbroeck's star	-3.097	-0.337	-1.000	-3.120
M5	0.32	0.21	7.90E-03	3,120	EZ Aquarii A	-2.102	-0.268	-0.678	-2.061
M0	0.51	0.6	7.20E-02	3,800	Lacaille 8760	-1.143	-0.182	-0.222	-1.313
K5	0.74	0.69	1.60E-01	4,410	61 Cygni A	-0.796	-0.117	-0.161	-0.731
K0	0.85	0.78	4.00E-01	5,240	70 Ophiuchi A	-0.398	-0.043	-0.108	-0.312
G5	0.93	0.93	7.90E-01	5,610	Alpha Mensae	-0.102	-0.013	-0.032	-0.115
G2	1	1	1.00E+00	5,780	Sun	0.000	0.000	0.000	0.000
G0	1.05	1.1	1.26E+00	5,920	Beta Comae Berenices	0.100	0.010	0.041	0.084
F5	1.2	1.3	2.50E+00	6,540	Eta Arietis	0.398	0.054	0.114	0.373
F0	1.3	1.7	6.00E+00	7,240	Gamma Virginis	0.778	0.098	0.230	0.619
A5	1.7	2.1	2.00E+01	8,620	Beta Pictoris	1.301	0.174	0.322	1.155
A0	2.5	3.2	8.00E+01	10,800	Alpha Coronae Borealis A	1.903	0.271	0.505	1.882
B5	3.8	6.5	8.00E+02	16,400	Pi Andromedae A	2.903	0.453	0.813	2.971
B0	7.4	18	2.00E+04	30,000	Phi1 Orionis	4.301	0.715	1.255	4.599
O6	18	40	5.00E+05	38,000	Theta1 Orionis C	5.699	0.818	1.602	5.782

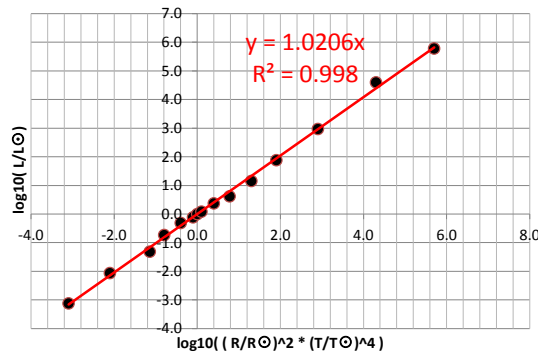
log10(L/L_⊙) vs log10(T/T_⊙) for main sequence stars



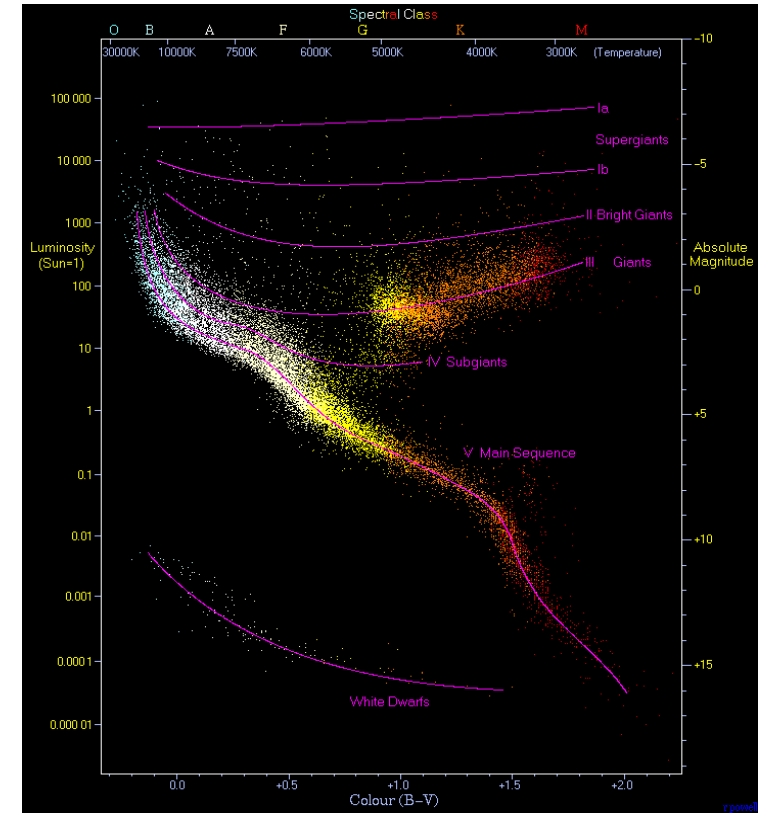
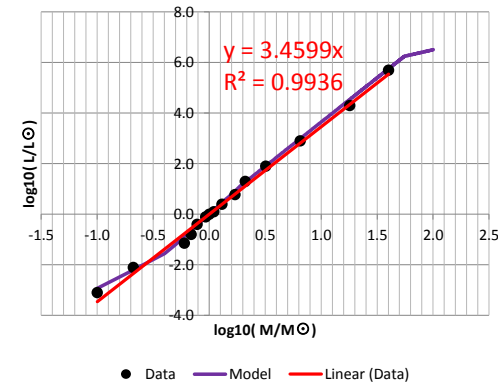
log10(M/M_⊙) vs log10(T/T_⊙) for main sequence stars



log10(L/L_⊙) vs log10((R/R_⊙)^2 * (T/5780K)^4) for main sequence stars



log10(L/L_⊙) vs log10(M/M_⊙) for main sequence stars



https://en.wikipedia.org/wiki/Mass%E2%80%93luminosity_relation

$$\frac{L}{L_{\odot}} \approx 0.23 \left(\frac{M}{M_{\odot}} \right)^{2.3} \quad (M < 0.43M_{\odot})$$

$$\frac{L}{L_{\odot}} = \left(\frac{M}{M_{\odot}} \right)^4 \quad (0.43M_{\odot} < M < 2M_{\odot})$$

$$\frac{L}{L_{\odot}} \approx 1.4 \left(\frac{M}{M_{\odot}} \right)^{3.5} \quad (2M_{\odot} < M < 55M_{\odot})$$

$$\frac{L}{L_{\odot}} \approx 32000 \frac{M}{M_{\odot}} \quad (M > 55M_{\odot})$$