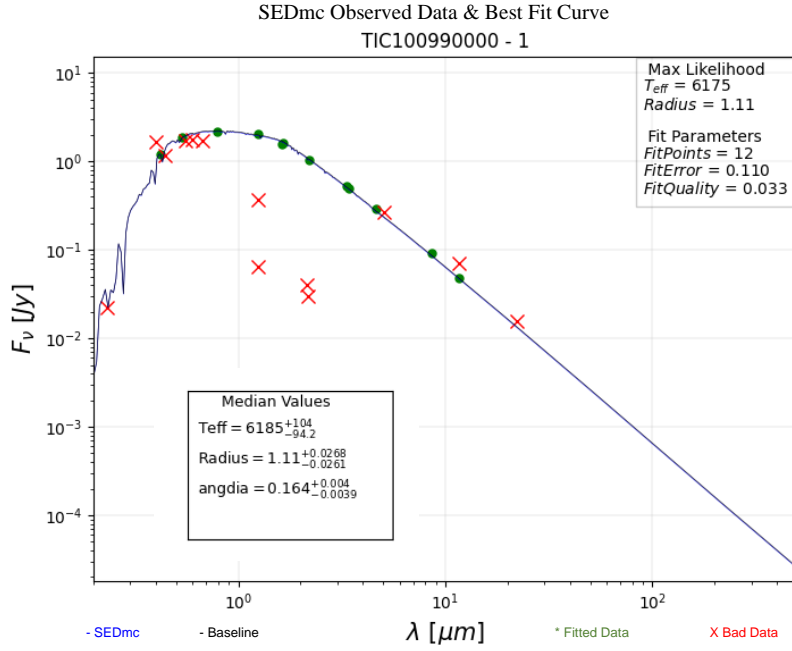# SEDmc
Star Summary Report

TIC100990000
11/03/2024

Astrometry Data: ID = TIC100990000; RA,DEC = (54.819538, -42.7630276); Best Parallax (Simbad) = 15.9 (+/-0.017)

Stellar Parameters: Baseline Data Source = NASA

Data Type	Teff [K]	Rstar [Rsun]	Angular Diameter [arcsec]
Baseline Values {SEDmc residuals}	6169 (+/-64.0) {0.3%}	1.12 (+/-0.01) {-0.9%}	0.1656 (+/-0.0015) {-1.0%}
SEDmc Results {fractional error}	6185 (+104, -94) {1.7%}	1.11 (+0.0268, -0.0261) {2.4%}	0.164 (+0.004, -0.0039) {2.4%}

Sampling Parameters: Observed Data = New; Model = ck04; # of Walkers = 50; # of Iterations = 5000; Burn In = 1000

Min Wavelength = 0.421; Max Wavelength = 11.6; # of Fit Points = 12; # of Bad Points = 14; Fit Error = 0.11

SEDmc Observed Data & Best Fit Curve
TIC100990000 - 1

Max Likelihood
T_{eff} = 6175
Radius = 1.11

Fit Parameters
FitPoints = 12
FitError = 0.110
FitQuality = 0.033

Median Values

Teff = $6185^{+104}_{-94.2}$

Radius = $1.11^{+0.0268}_{-0.0261}$

angdia = $0.164^{+0.004}_{-0.0039}$

- SEDmc   - Baseline $\lambda\ [\mu m]$ * Fitted Data   X Bad Data

Observed Data

Good Data Points (Used in Sampler)

	wl	fl	efl	src	band
0	0.42	1.19	0.02	II/346/jsdc_v2	HIP:BT
1	0.53	1.85	0.02	II/346/jsdc_v2	HIP:VT
2	0.79	2.18	0.22	J/AJ/147/86/table4	Cousins:I
3	1.25	2.03	0.04	J/PASP/120/1128/catalog	Johnson:J
4	1.63	1.59	0.06	II/246/out	Johnson:H
5	1.65	1.60	0.06	J/322A/out	2MASS:H
6	2.19	1.05	0.03	II/246/out	Johnson:K
7	3.35	0.53	0.03	IV/38/tic	WISE:W1
8	3.40	0.50	0.03	II/346/jsdc_v2	Johnson:L
9	4.60	0.29	0.00	IV/38/tic	WISE:W2
10	8.62	0.09	0.01	J/MNRAS/471/770/table2	AKARI:S9W
11	11.57	0.05	0.00	IV/38/tic	WISE:W3

Bad Data Points (All not shown)

	wl	fl	efl	src	band
0	0.15	0.00	0.00	J/353/gsc242	GALEX:FUV
1	0.23	0.02	0.00	J/353/gsc242	GALEX:NUV
2	0.40	1.66	0.00	J/A+A/657/A7/tablea1	HIP:Hp
3	0.44	1.17	0.02	J/305/out	Johnson:B
4	0.55	1.71	0.02	V/136/tycdwarf	Johnson:V
5	0.60	1.77	nan	J/MNRAS/471/770/table2	Subaru/Suprime:IA598
6	0.67	1.73	0.00	J/339/hsoy	Gaia:G
7	1.24	0.06	0.00	J/353/gsc242	2MASS:J
8	1.25	0.37	0.00	II/359/vhs_dr4	VISTA:J
9	2.14	0.04	0.00	II/359/vhs_dr4	VISTA:Ks
10	2.17	0.03	0.00	J/353/gsc242	2MASS:Ks
11	5.03	0.27	0.00	II/346/jsdc_v2	Johnson:M
12	11.60	0.07	nan	V/98/msx	IRAS:12
13	22.11	0.02	0.00	IV/38/tic	WISE:W4

SEDmc Sampler Behavior - Markov Chain Plot

Auto-correlation Time: Teff = 1.876; Radius = 1.842
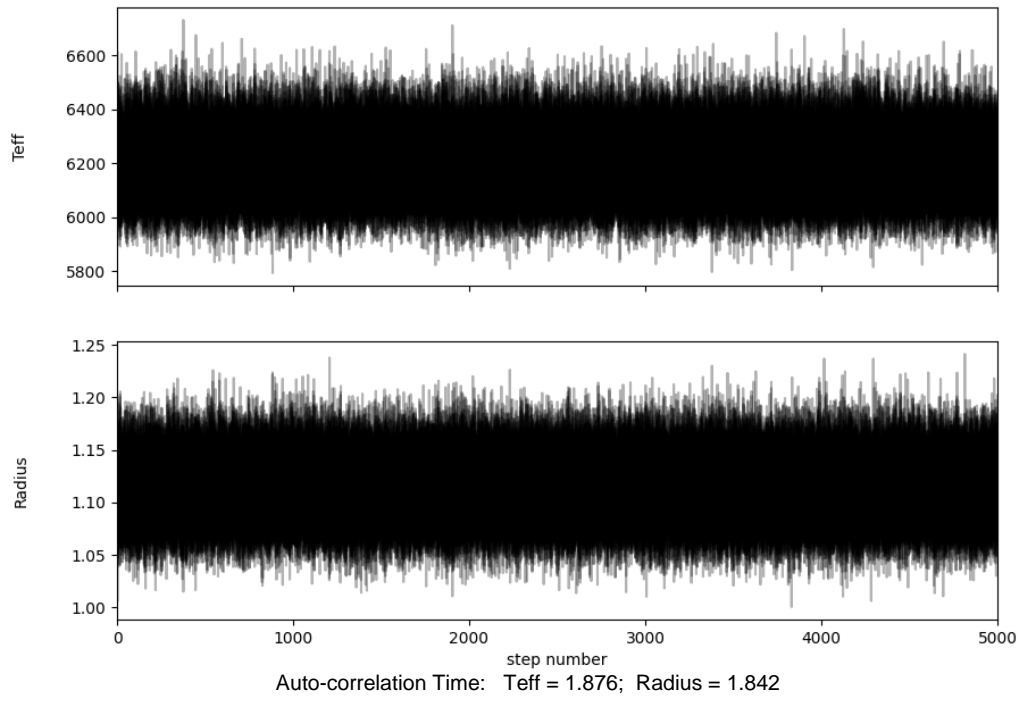
SEDmc Posterior Spread - Corner Plot

$Teff = 6185^{+104}_{-94.2}$

$Radius = 1.11^{+0.0268}_{-0.0261}$