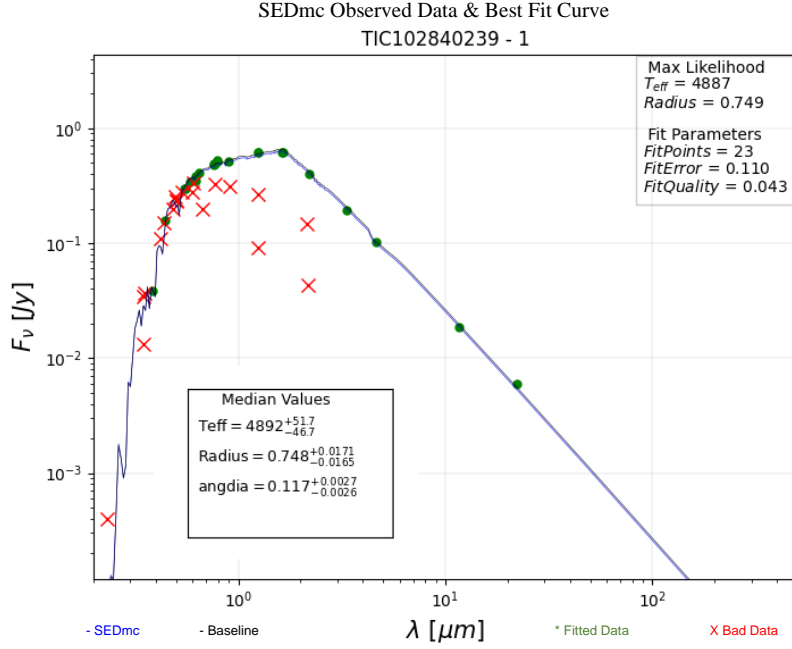# SEDmc
Star Summary Report

TIC102840239

11/02/2024

Astrometry Data: ID = TIC102840239; RA,DEC = (155.8719377, -43.8349248); Best Parallax (Simbad) = 16.82 (+/-0.0128)

Stellar Parameters: Baseline Data Source = NASA

Data Type	T_{eff} [K]	Rstar [Rsun]	Angular Diameter [arcsec]
Baseline Values {SEDmc residuals}	4869 (+/-77.0) {0.5%}	0.77 (+/-0.01) {-2.9%}	0.1197 (+/-0.0016) {-2.3%}
SEDmc Results {fractional error}	4891 (+51, -46) {1.0%}	0.748 (+0.0171, -0.0165) {2.3%}	0.117 (+0.0027, -0.0026) {2.3%}

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

Min Wavelength = 0.387; Max Wavelength = 22.1; # of Fit Points = 23; # of Bad Points = 21; Fit Error = 0.11

SEDmc Observed Data & Best Fit Curve

TIC102840239 - 1

Max Likelihood
T_{eff} = 4887
Radius = 0.749

Fit Parameters
FitPoints = 23
FitError = 0.110
FitQuality = 0.043

Median Values

Teff = $4892^{+51.7}_{-46.7}$

Radius = $0.748^{+0.0171}_{-0.0165}$

angdia = $0.117^{+0.0027}_{-0.0026}$

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

Observed Data

Good Data Points (Used in Sampler) Bad Data Points (All not shown)

	wl	fl	efl	src	band
0	0.39	0.04	0.00	II/358/smss	SkyMapper/SkyMapper:v
1	0.44	0.16	0.00	II/336/apass9	Johnson:B
2	0.55	0.30	0.03	V/360/syntphot	Cousins:V
3	0.55	0.30	0.00	IV/38/tic	Johnson:V
4	0.58	0.34	0.00	I/350/gaiaedr3	GAIA/GAIA3:G
5	0.62	0.35	0.03	I/345/gaia2	GAIA/GAIA2:G
6	0.63	0.38	0.04	I/353/gsc242	SDSS:r
7	0.65	0.41	0.04	V/360/syntphot	Cousins:R
8	0.76	0.49	0.00	I/350/gaiaedr3	GAIA/GAIA3:Grp
9	0.76	0.48	0.01	I/353/gsc242	SDSS:i
10	0.77	0.49	0.05	I/345/gaia2	GAIA/GAIA2:Grp
11	0.79	0.52	0.05	V/360/syntphot	Cousins:I
12	0.79	0.51	0.01	III/279/rave_dr5	DENIS:I
13	0.90	0.51	0.01	I/353/gsc242	SDSS:z
14	1.24	0.62	0.03	III/279/rave_dr5	DENIS:J
15	1.25	0.62	0.01	J/PASP/120/1128/catalog	Johnson:J
16	1.63	0.62	0.02	II/246/out	Johnson:H
17	1.65	0.62	0.01	J/ApJ/867/105/refcat2	2MASS:H
18	2.19	0.40	0.01	II/246/out	Johnson:K
19	3.35	0.19	0.00	II/365/catwise	WISE:W1
20	4.60	0.10	0.01	II/363/unwise	WISE:W2
21	11.57	0.02	0.00	I/311/wise	WISE:W3
22	22.11	0.01	0.00	I/311/wise	WISE:W4

	wl	fl	efl	src	band
0	0.15	0.00	nan	II/312/ais	GALEX:FUV
1	0.23	0.00	0.00	I/353/gsc242	GALEX:NUV
2	0.35	0.01	0.00	II/358/smss	SkyMapper/SkyMapper:u
3	0.35	0.03	nan	V/360/syntphot	Cousins:U
4	0.35	0.04	0.00	I/353/gsc242	SDSS:u
5	0.42	0.11	0.00	I/337/tgasptyc	HIP:BT
6	0.44	0.15	nan	V/360/syntphot	Cousins:B
7	0.48	0.20	0.02	I/353/gsc242	SDSS:g
8	0.50	0.26	0.00	II/358/smss	SkyMapper/SkyMapper:g
9	0.50	0.24	0.00	I/350/gaiaedr3	GAIA/GAIA3:Gbp
10	0.50	0.23	0.00	I/345/gaia2	GAIA/GAIA2:Gbp
11	0.53	0.28	0.01	I/337/tgasptyc	HIP:VT
12	0.60	0.28	nan	J/MNRAS/471/770/table5	Subaru/Suprime:IA598
13	0.60	0.33	0.00	II/358/smss	SkyMapper/SkyMapper:r
14	0.67	0.20	0.00	I/353/gsc242	Gaia:G
15	0.77	0.33	0.00	II/358/smss	SkyMapper/SkyMapper:i
16	0.91	0.31	0.01	II/358/smss	SkyMapper/SkyMapper:z
17	1.24	0.09	0.00	I/353/gsc242	2MASS:J
18	1.25	0.26	0.00	II/359/vhs_dr4	VISTA:J
19	2.14	0.15	0.00	II/359/vhs_dr4	VISTA:Ks
20	2.17	0.04	0.00	I/353/gsc242	2MASS:Ks

SEDmc Sampler Behavior - Markov Chain Plot

Auto-correlation Time: Teff = 1.845; Radius = 1.821
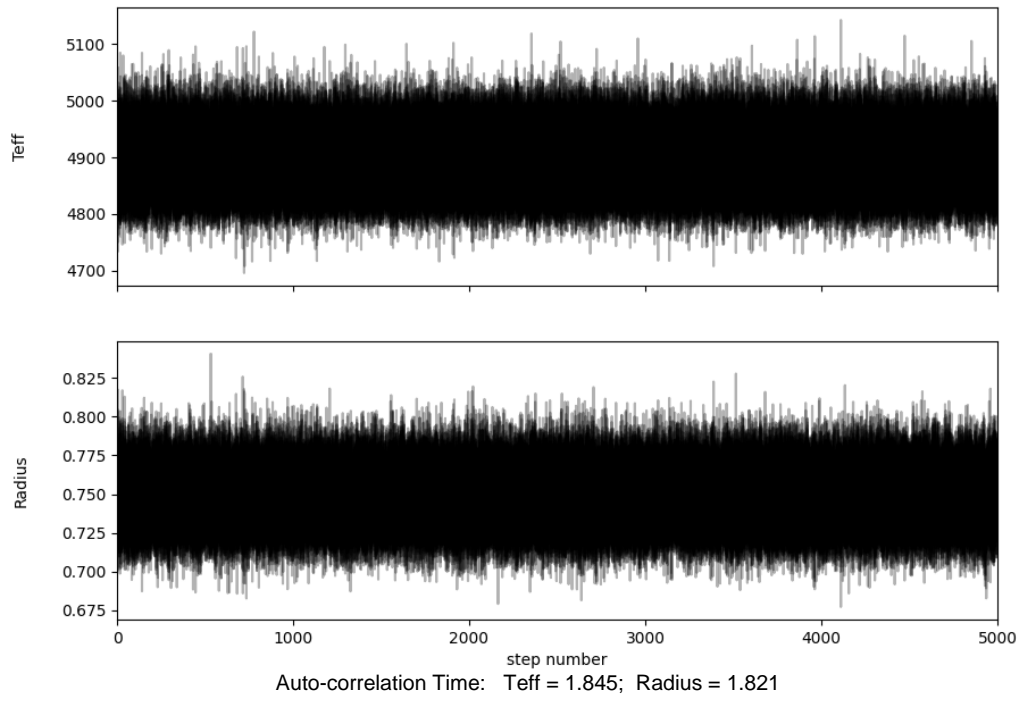
SEDmc Posterior Spread - Corner Plot

$Teff = 4892^{+51.7}_{-46.7}$

$Radius = 0.748^{+0.0171}_{-0.0165}$