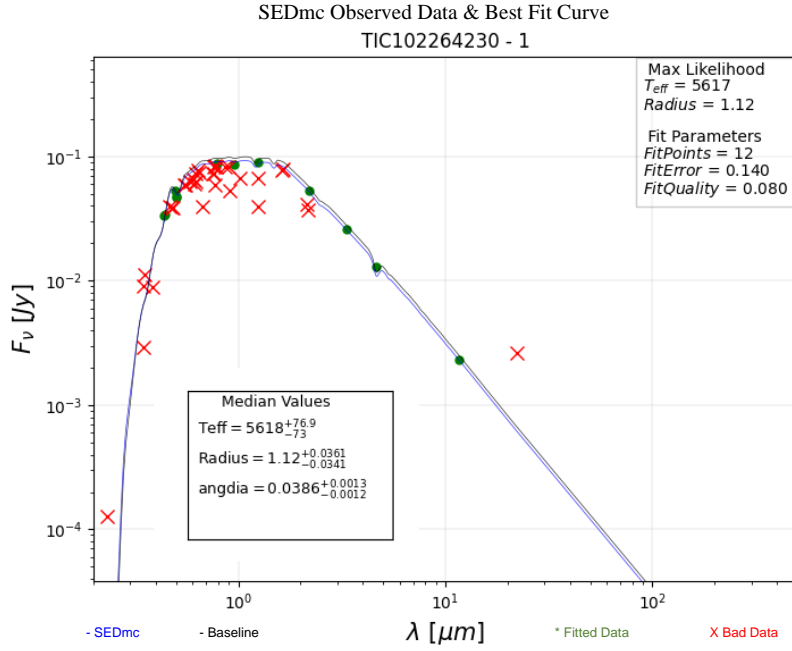# SEDmc

Star Summary Report

TIC102264230

11/02/2024

Astrometry Data: ID = TIC102264230; RA,DEC = (331.203092, -12.019067); Best Parallax (Simbad) = 3.701 (+/-0.0201)

Stellar Parameters: Baseline Data Source = NASA

Data Type	Teff [K]	Rstar [Rsun]	Angular Diameter [arcsec]
Baseline Values {SEDmc residuals}	5565 (+/-60.0) {0.9%}	1.16 (+/-0.01) {-3.4%}	0.0405 (+/-0.0008) {-4.7%}
SEDmc Results {fractional error}	5617 (+76, -72) {1.4%}	1.12 (+0.0361, -0.0341) {3.2%}	0.0386 (+0.0013, -0.0012) {3.4%}

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

Min Wavelength = 0.436; Max Wavelength = 11.6; # of Fit Points = 12; # of Bad Points = 36; Fit Error = 0.14
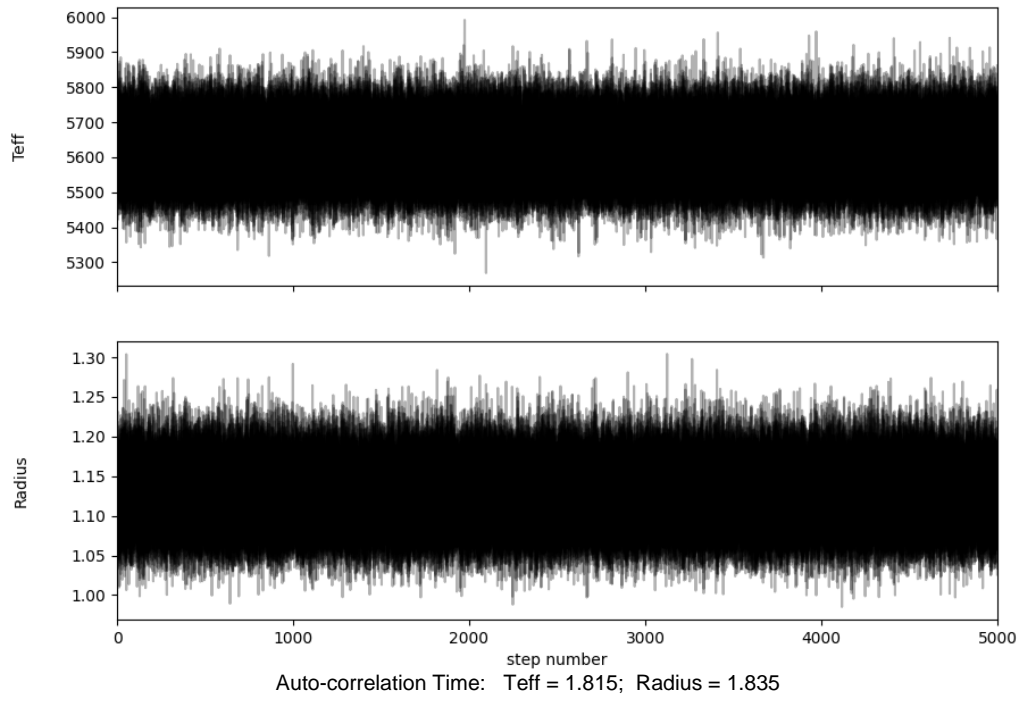
SEDmc Observed Data & Best Fit Curve

TIC102264230 - 1

Max Likelihood
T_{eff} = 5617
Radius = 1.12

Fit Parameters
FitPoints = 12
FitError = 0.140
FitQuality = 0.080

Median Values

Teff = $5618^{+76.9}_{-73}$

Radius = $1.12^{+0.0361}_{-0.0341}$

angdia = $0.0386^{+0.0013}_{-0.0012}$

- 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	0.44	0.03	0.00	V/360/syntphot	Cousins:B
1	0.44	0.03	0.00	II/336/apass9	Johnson:B
2	0.50	0.05	0.00	II/358/smss	SkyMapper/SkyMapper:g
3	0.50	0.05	0.00	V/350/gaiaedr3	GAIA/GAIA3:Gbp
4	0.50	0.05	0.00	V/345/gaia2	GAIA/GAIA2:Gbp
5	0.79	0.09	0.01	V/360/syntphot	Cousins:I
6	0.96	0.09	0.01	II/349/ps1	PAN-STARRS/PS1:y
7	1.25	0.09	0.00	II/246/out	Johnson:J
8	2.19	0.05	0.00	II/246/out	Johnson:K
9	3.35	0.03	0.00	II/363/unwise	WISE:W1
10	4.60	0.01	0.00	II/363/unwise	WISE:W2
11	11.57	0.00	0.00	II/311/wise	WISE:W3
12	4.60	0.01	0.00	II/363/unwise	WISE:W2
13	11.57	0.00	0.00	II/311/wise	WISE:W3

	wl	fl	efl	src	band
0	0.15	0.00	nan	II/312/ais	GALEX:FUV
1	0.23	0.00	0.00	V/353/gsc242	GALEX:NUV
2	0.35	0.00	0.00	II/358/smss	SkyMapper/SkyMapper:u
3	0.35	0.01	nan	V/360/syntphot	Cousins:U
4	0.35	0.01	0.00	V/353/gsc242	SDSS:u
5	0.39	0.01	0.00	II/358/smss	SkyMapper/SkyMapper:v
6	0.47	0.04	0.01	V/305/out	POSS-II:J
7	0.48	0.04	nan	II/349/ps1	PAN-STARRS/PS1:g
8	0.48	0.04	0.00	V/353/gsc242	SDSS:g
9	0.55	0.06	nan	V/360/syntphot	Cousins:V
10	0.55	0.06	0.00	IV/34/epic	Johnson:V
11	0.58	0.06	0.00	V/350/gaiaedr3	GAIA/GAIA3:G
12	0.60	0.07	0.00	II/358/smss	SkyMapper/SkyMapper:r
13	0.61	0.06	nan	II/349/ps1	PAN-STARRS/PS1:r
14	0.62	0.06	0.00	V/345/gaia2	GAIA/GAIA2:G
15	0.63	0.07	0.00	J/AJ/164/26/table1	SDSS:r
16	0.64	0.08	0.03	V/305/out	POSS-II:F
17	0.65	0.07	nan	V/360/syntphot	Cousins:R
18	0.67	0.04	0.00	V/353/gsc242	Gaia:G
19	0.75	0.07	nan	II/349/ps1	PAN-STARRS/PS1:i
20	0.76	0.08	0.00	V/350/gaiaedr3	GAIA/GAIA3:Grp
21	0.76	0.07	0.00	V/353/gsc242	SDSS:i
22	0.77	0.06	0.00	II/358/smss	SkyMapper/SkyMapper:i
23	0.77	0.08	0.00	V/345/gaia2	GAIA/GAIA2:Grp
24	0.78	0.08	0.03	V/305/out	POSS-II:i
25	0.87	0.08	nan	II/349/ps1	PAN-STARRS/PS1:z
26	0.90	0.08	0.00	V/353/gsc242	SDSS:z
27	0.91	0.05	0.00	II/358/smss	SkyMapper/SkyMapper:z
28	1.02	0.07	0.00	V/353/gsc242	VISTA:Y
29	1.24	0.04	0.00	V/353/gsc242	2MASS:J

SEDmc Sampler Behavior - Markov Chain Plot

Auto-correlation Time: Teff = 1.815; Radius = 1.835

SEDmc Posterior Spread - Corner Plot

$Teff = 5618^{+76.9}_{-73}$

$Radius = 1.12^{+0.0361}_{-0.0341}$