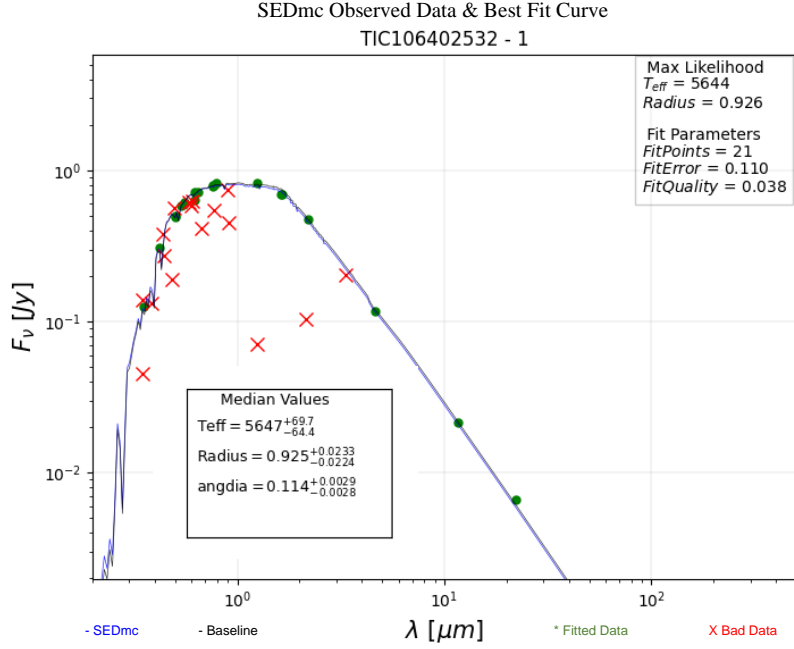# SEDmc
Star Summary Report

TIC106402532
11/02/2024

Astrometry Data: ID = TIC106402532; RA,DEC = (159.4093183, -40.888259); Best Parallax (Simbad) = 13.28 (+/-0.0127)

Stellar Parameters: Baseline Data Source = NASA

Data Type	Teff [K]	Rstar [Rsun]	Angular Diameter [arcsec]
Baseline Values {SEDmc residuals}	5585 (+/-60.0) {1.1%}	0.95 (+/-0.01) {-2.6%}	0.1172 (+/-0.0013) {-2.7%}
SEDmc Results {fractional error}	5647 (+69, -64) {1.2%}	0.925 (+0.0233, -0.0224) {2.5%}	0.114 (+0.0029, -0.0028) {2.5%}

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

Min Wavelength = 0.352; Max Wavelength = 22.1; # of Fit Points = 21; # of Bad Points = 19; Fit Error = 0.11

SEDmc Observed Data & Best Fit Curve
TIC106402532 - 1

Max Likelihood
T_{eff} = 5644
Radius = 0.926

Fit Parameters
FitPoints = 21
FitError = 0.110
FitQuality = 0.038

Median Values

Teff = $5647^{+69.7}_{-64.4}$

Radius = $0.925^{+0.0233}_{-0.0224}$

angdia = $0.114^{+0.0029}_{-0.0028}$

- SEDmc   - Baseline   * Fitted Data   X Bad Data

Observed Data

Good Data Points (Used in Sampler)

	wl	fl	efl	src	band
0	0.35	0.13	0.01	V353/gsc242	SDSS:u
1	0.42	0.31	0.01	V239/tyc_main	HIP:BT
2	0.50	0.50	0.00	V350/gaiaedr3	GAIA/GAIA3:Gbp
3	0.50	0.49	0.05	V345/gaia2	GAIA/GAIA2:Gbp
4	0.53	0.58	0.01	V337/tgasptyc	HIP:VT
5	0.55	0.60	0.06	V360/syntphot	Cousins:V
6	0.55	0.61	0.00	IV/38/tic	Johnson:V
7	0.62	0.63	0.06	V345/gaia2	GAIA/GAIA2:G
8	0.63	0.71	0.01	V353/gsc242	SDSS:r
9	0.65	0.72	0.07	V360/syntphot	Cousins:R
10	0.76	0.78	0.00	V350/gaiaedr3	GAIA/GAIA3:Grp
11	0.76	0.80	0.02	V353/gsc242	SDSS:i
12	0.77	0.80	0.08	V345/gaia2	GAIA/GAIA2:Grp
13	0.79	0.83	0.08	V360/syntphot	Cousins:I
14	1.25	0.83	0.01	J/PASP/120/1128/catalog	Johnson:J
15	1.63	0.69	0.03	II/246/out	Johnson:H
16	1.65	0.70	0.02	J/ApJ/867/105/refcat2	2MASS:H
17	2.19	0.48	0.01	J/PASP/120/1128/catalog	Johnson:K
18	4.60	0.12	0.01	II/363/unwise	WISE:W2
19	11.57	0.02	0.00	V353/gsc242	WISE:W3
20	22.11	0.01	0.00	II/311/wise	WISE:W4

Bad Data Points (All not shown)

	wl	fl	efl	src	band
0	0.35	0.05	0.00	II/358/smss	SkyMapper/SkyMapper:u
1	0.35	0.14	nan	V360/syntphot	Cousins:U
2	0.39	0.13	0.00	II/358/smss	SkyMapper/SkyMapper:v
3	0.44	0.38	nan	V360/syntphot	Cousins:B
4	0.44	0.27	0.00	II/336/apass9	Johnson:B
5	0.48	0.19	nan	V353/gsc242	SDSS:g
6	0.50	0.56	0.01	II/358/smss	SkyMapper/SkyMapper:g
7	0.58	0.62	0.00	V350/gaiaedr3	GAIA/GAIA3:G
8	0.60	0.58	nan	J/MNRAS/471/770/table1	Subaru/Suprime:IA598
9	0.60	0.62	0.01	II/358/smss	SkyMapper/SkyMapper:r
10	0.67	0.42	0.00	V353/gsc242	Gaia:G
11	0.77	0.55	0.01	II/358/smss	SkyMapper/SkyMapper:i
12	0.90	0.74	0.04	V353/gsc242	SDSS:z
13	0.91	0.45	0.02	II/358/smss	SkyMapper/SkyMapper:z
14	1.24	0.04	0.00	V353/gsc242	2MASS:J
15	1.25	0.07	0.00	II/359/vhs_dr4	VISTA:J
16	2.14	0.10	0.00	II/359/vhs_dr4	VISTA:Ks
17	2.17	0.04	0.00	V353/gsc242	2MASS:Ks
18	3.35	0.20	0.00	II/363/unwise	WISE:W1

SEDmc Sampler Behavior - Markov Chain Plot

Auto-correlation Time: Teff = 1.824; Radius = 1.816
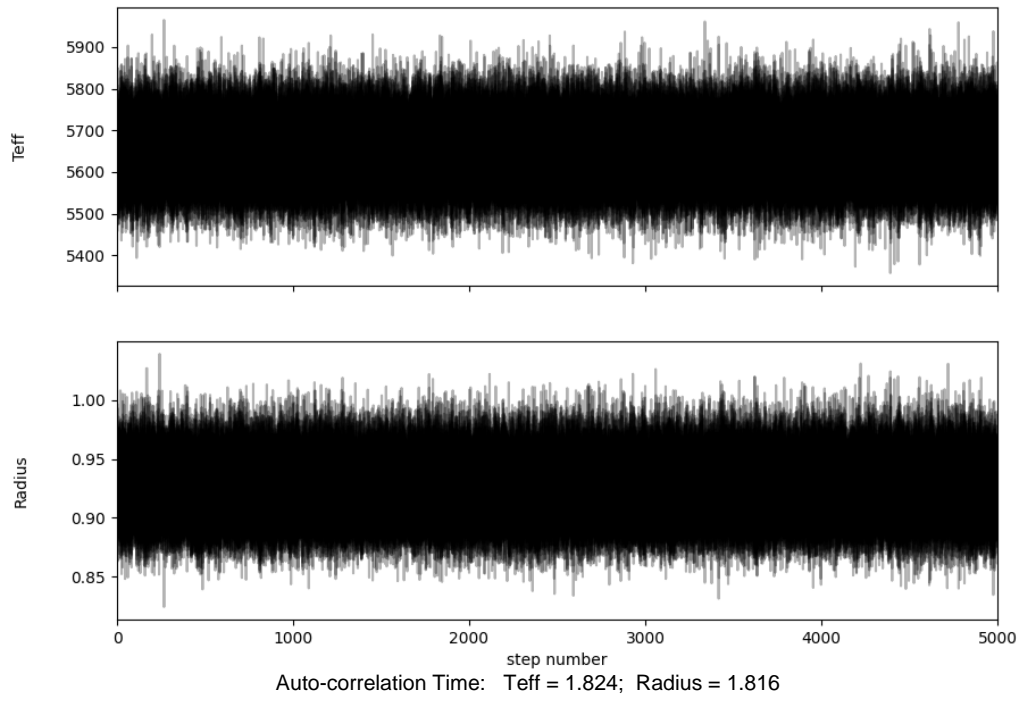
SEDmc Posterior Spread - Corner Plot

$Teff = 5647^{+69.7}_{-64.4}$

$Radius = 0.925^{+0.0233}_{-0.0224}$