

KIC 012104197

Q1-17 DR25 TCE Parameters

TCE	Run Type	KOI?	Period (Days)	Epoch (BKJD)	Depth (ppm)	Duration (Hours)	MES	SNR	R_{\star} (R_{\odot})	T_{\star} (K)	R_p (R_{\oplus})	S_p (S_{\oplus})
012104197-01	OBS	No	329.342187	145.925697	339.5	12.399	8.2	7.9	0.91	5955	1.90	1.07

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
012104197-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_FEW_DIFFS

Notes: OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.

N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.

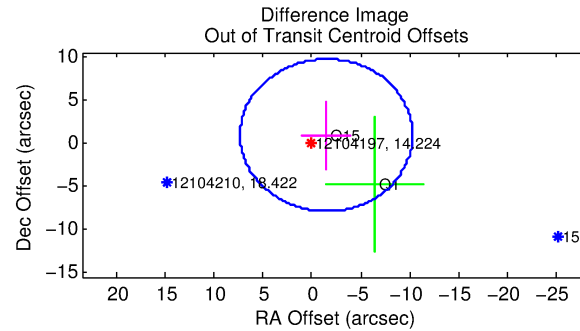
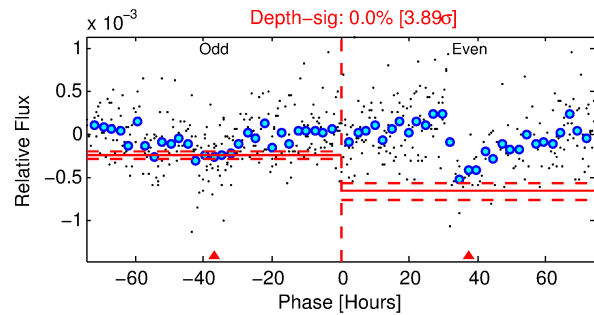
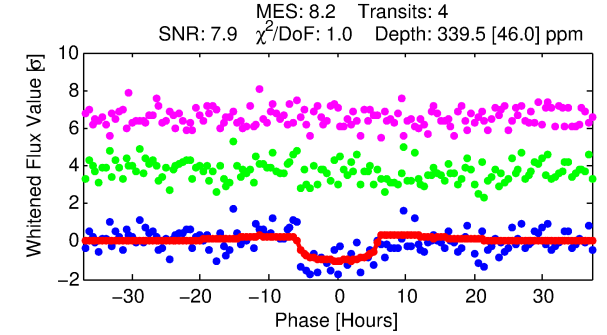
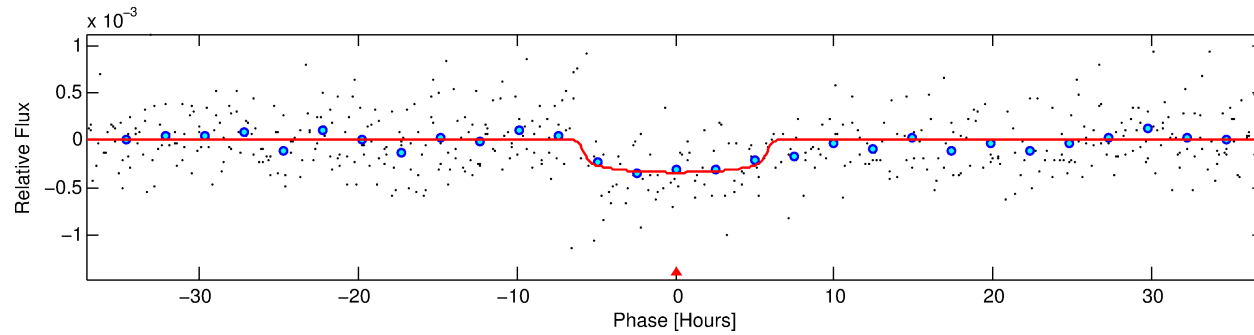
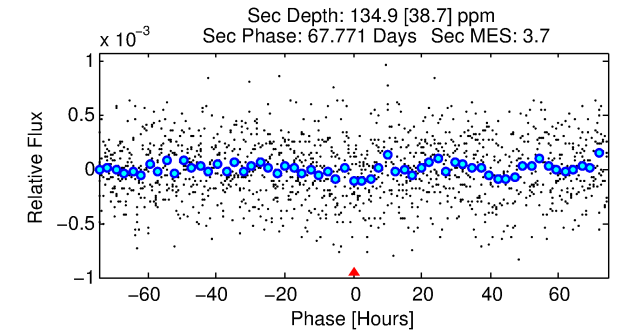
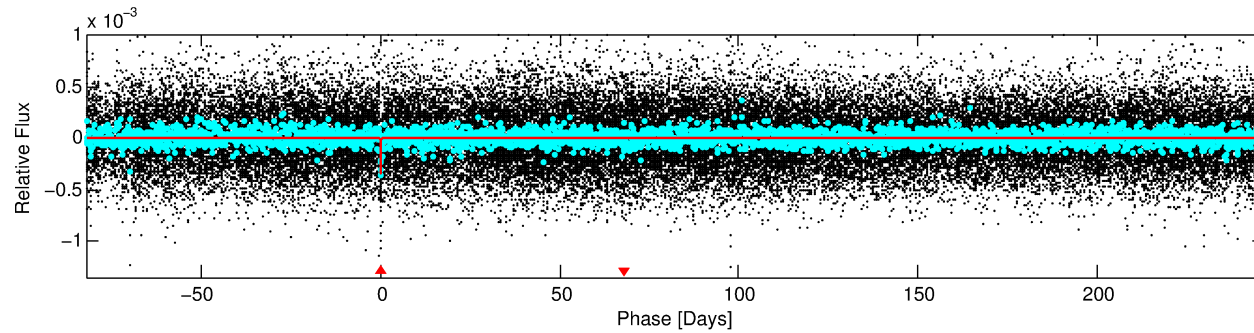
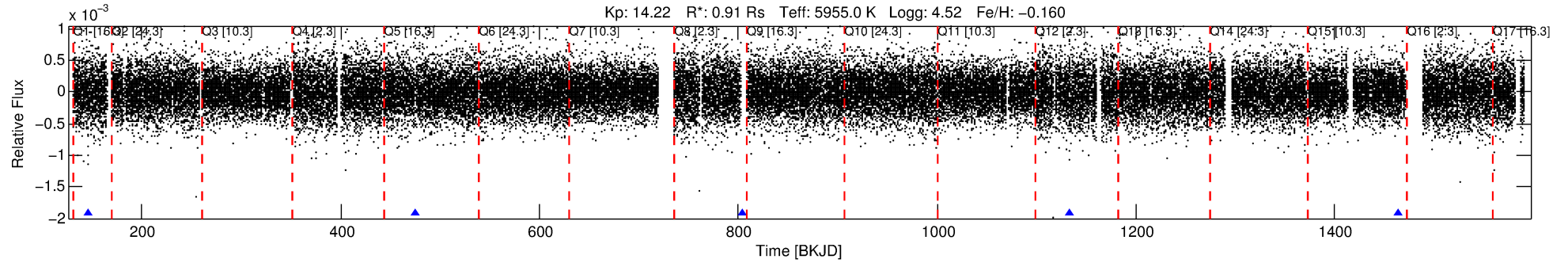
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 012104197-01

No Significant Match Found

DV One-Page Summary

KIC: 12104197 Candidate: 1 of 1 Period: 329.342 d



DV Fit Results:

Period = 329.34219 [0.00788] d
Epoch = 145.9257 [0.0249] BKJD
Rp/R* = 0.0191 [0.0048]
a/R* = 115.65 [136.00]
b = 0.84 [0.40]
Seff = 1.07 [0.38]
Teff = 259 [23] K
Rp = 1.90 [0.71] Re
a = 0.9336 [0.2170] AU
Ag = 17907.32 [11991.27] [1.49 σ]
Teffp = 4639 [682] K [6.41 σ]

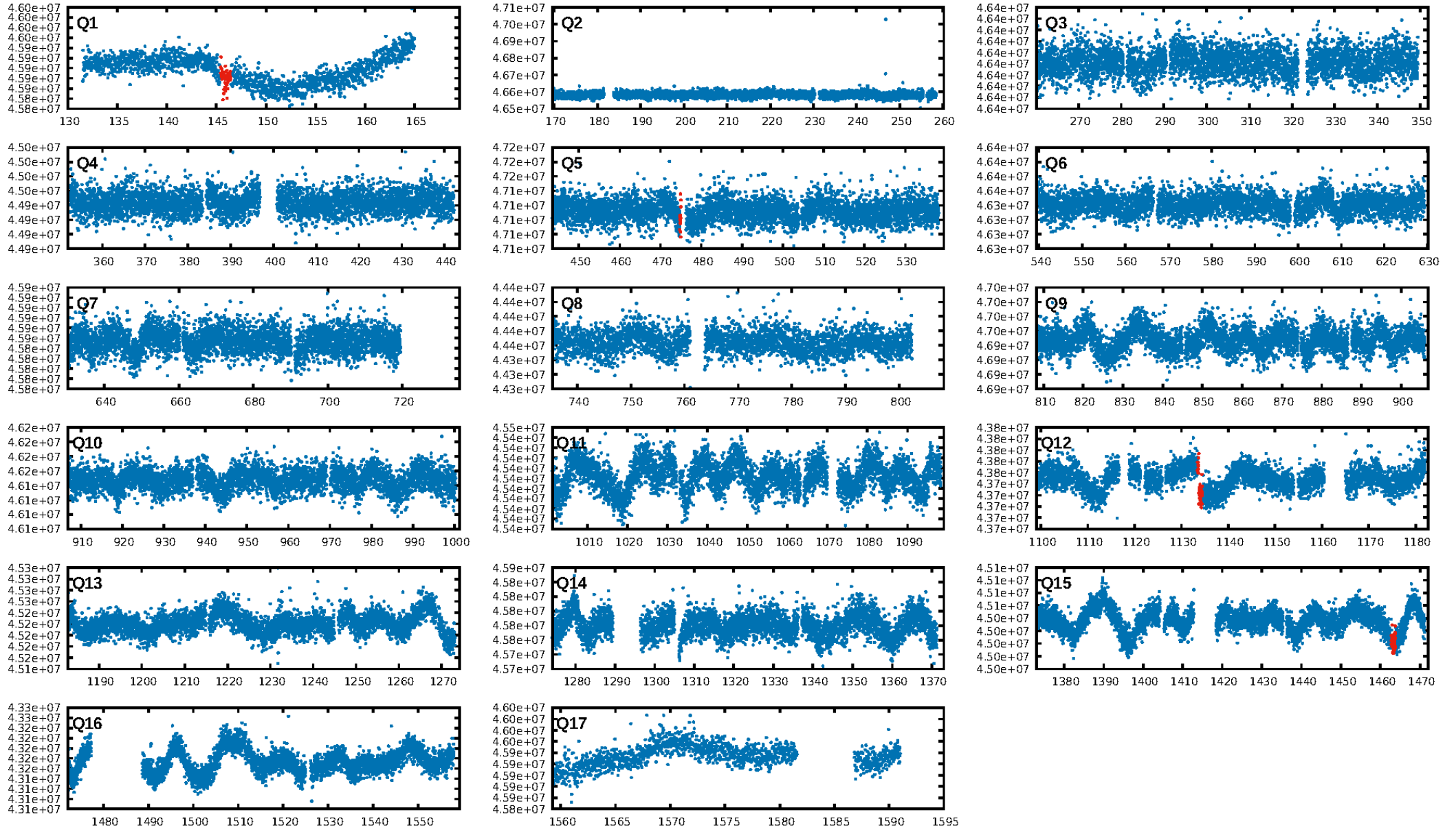
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 1.4%
ModelChiSquareGof-sig: 99.3%
Bootstrap-pfa: 4.18e-16
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 3.776
Centroid-sig: 11.3%
Centroid-so: 2.229 arcsec [1.37 σ]
OotOffset-rm: 1.727 arcsec [0.59 σ]
KicOffset-rm: 1.656 arcsec [0.61 σ]
OotOffset-st: 0/1/0/1 [2]
KicOffset-st: 0/1/0/1 [2]
DiffImageQuality-fgm: 0.50 [1/2]
DiffImageOverlap-fno: 1.00 [2/2]

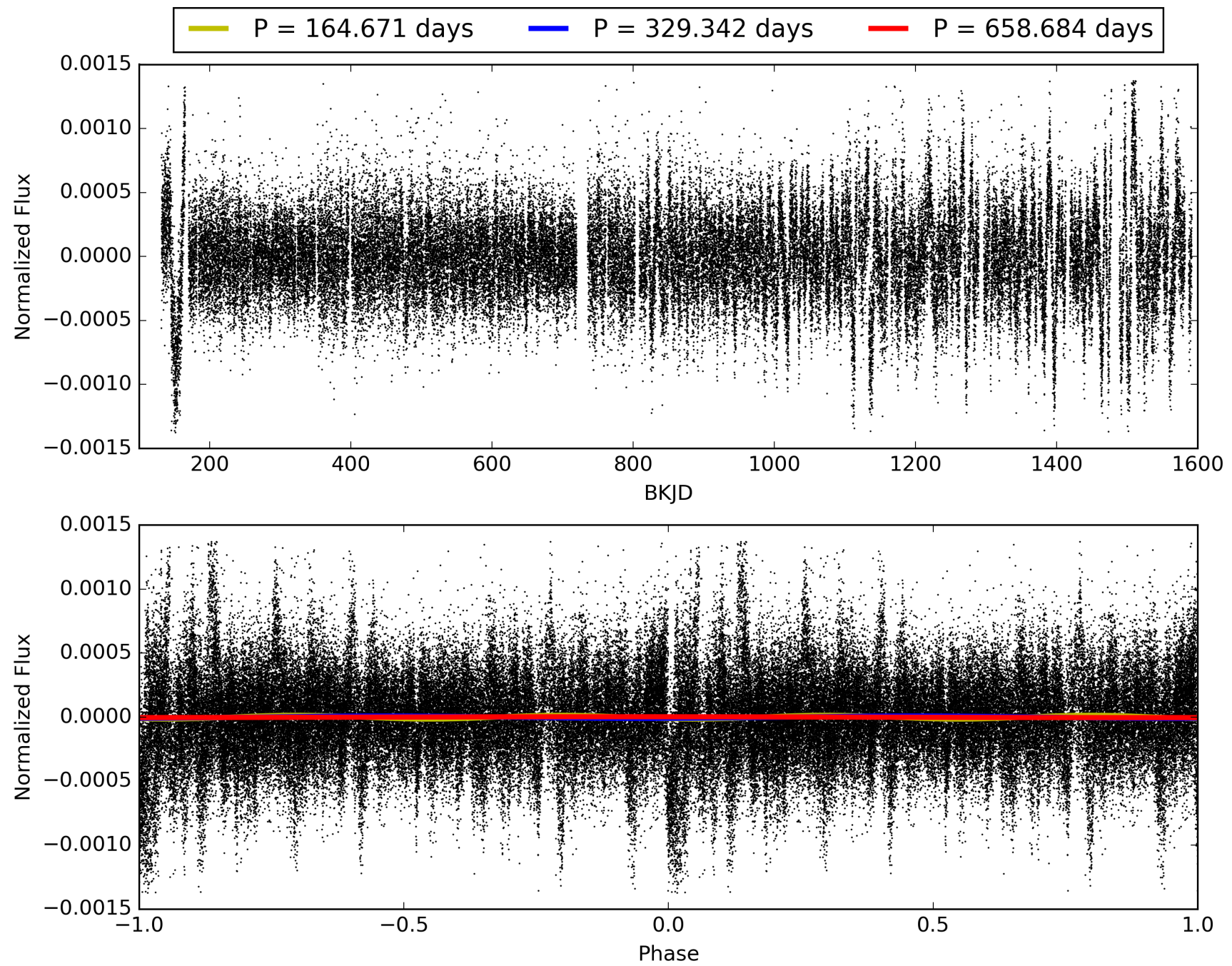
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 28-Jan-2016 18:29:46 Z

This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 012104197-01, PDC Light Curves

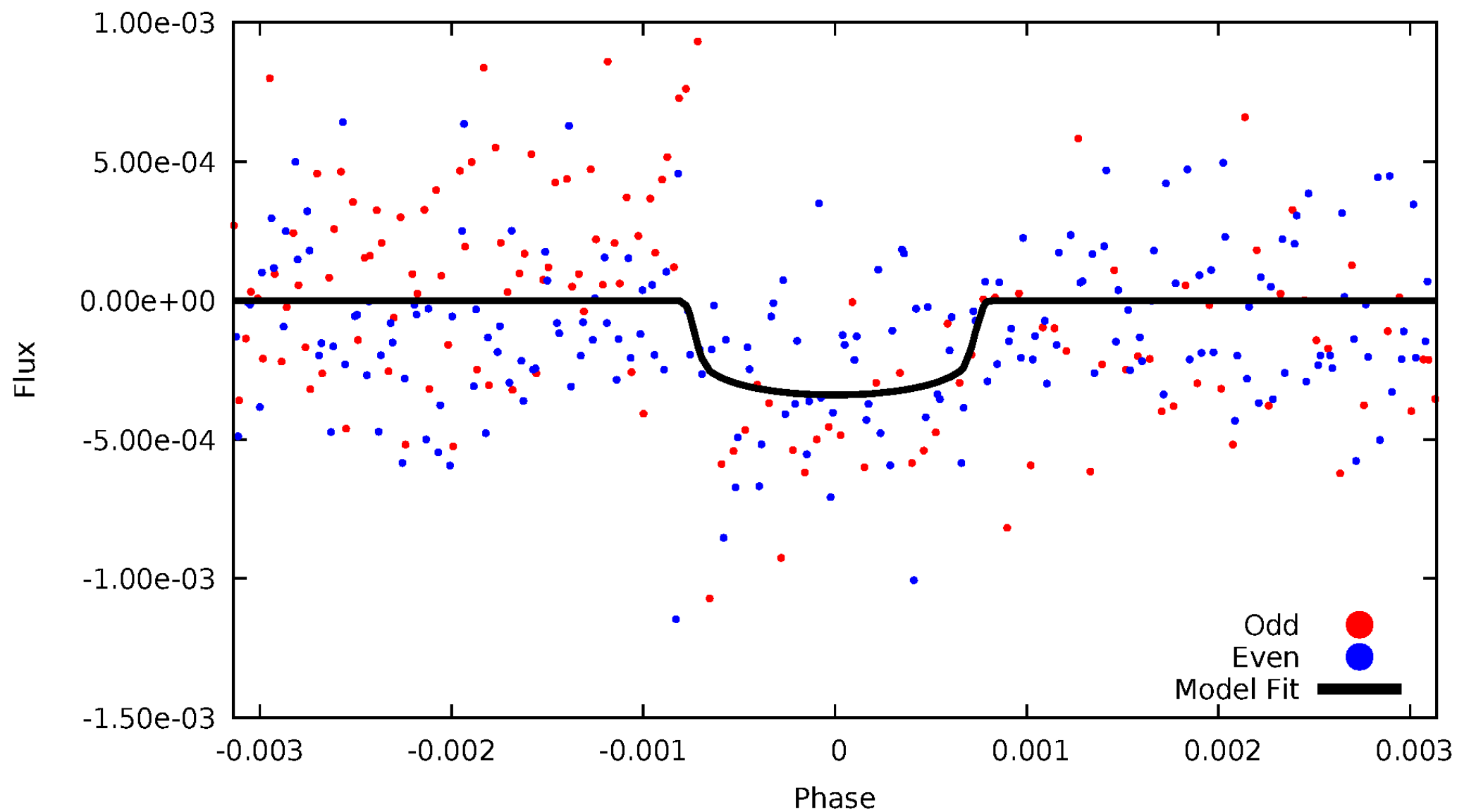


TCE 012104197-01



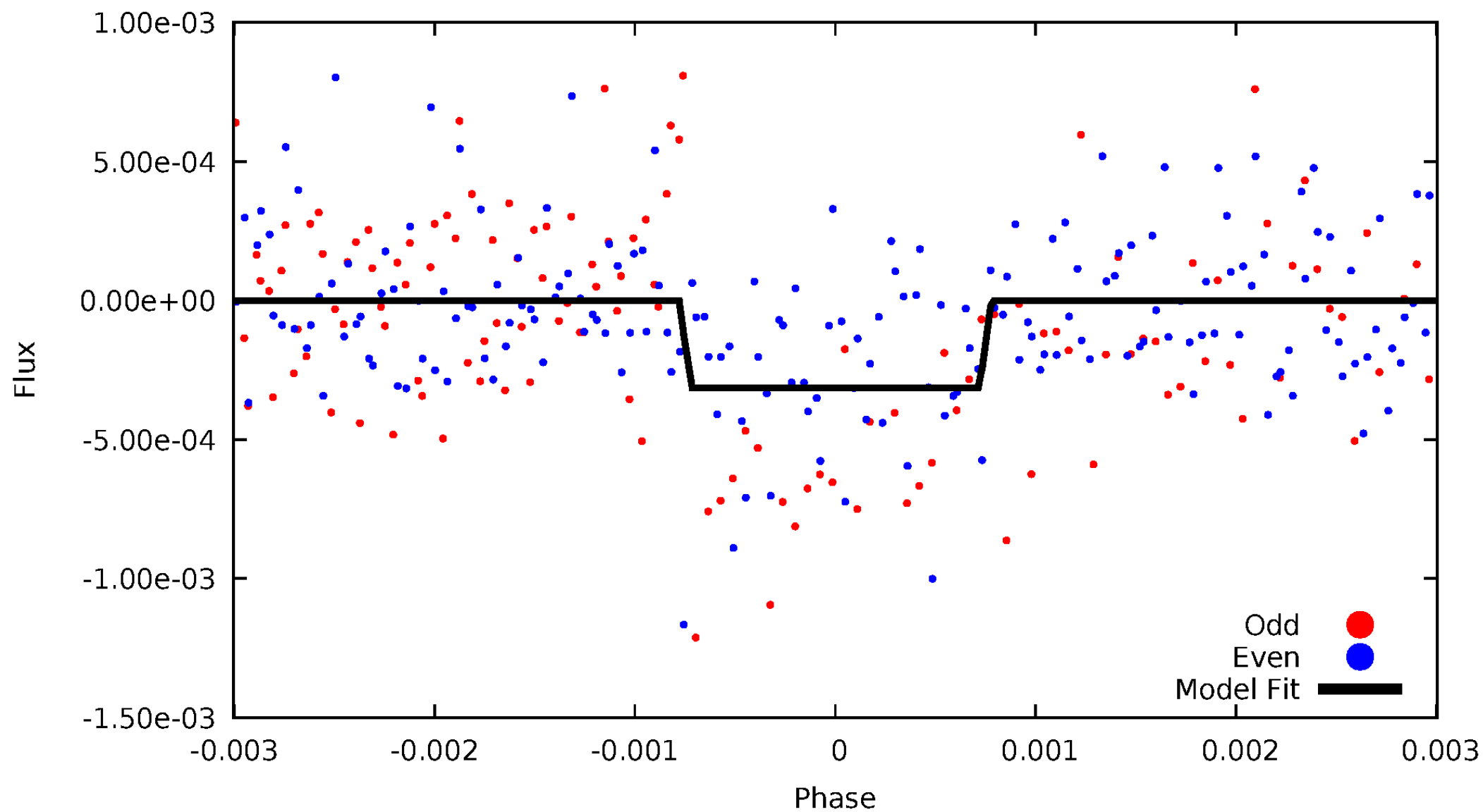
DV Odd/Even

TCE 012104197-01

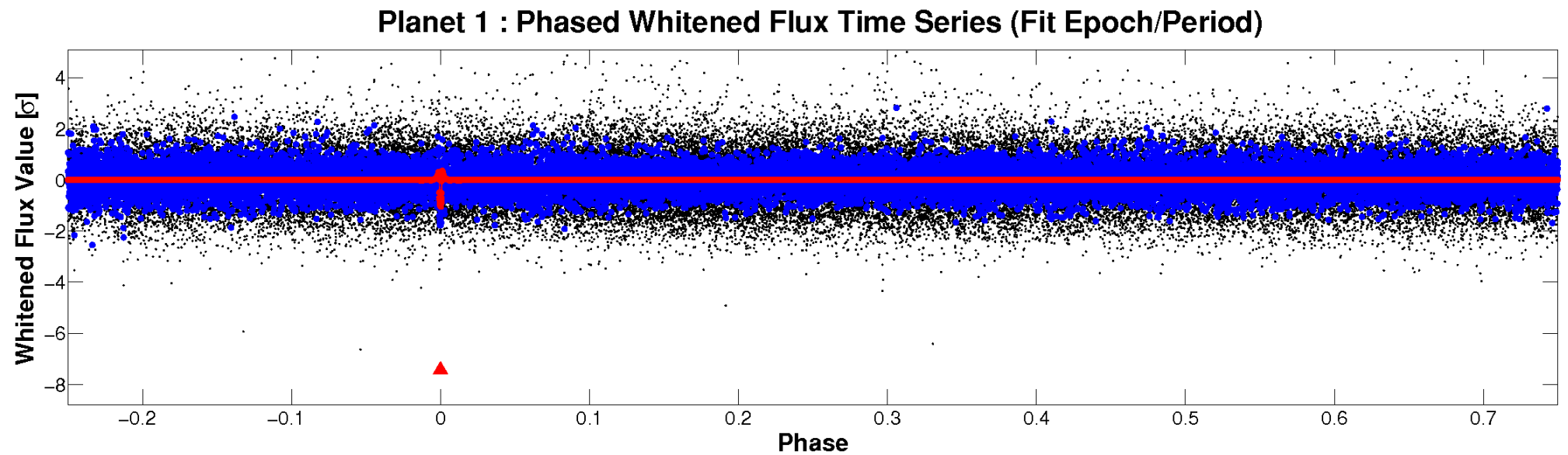
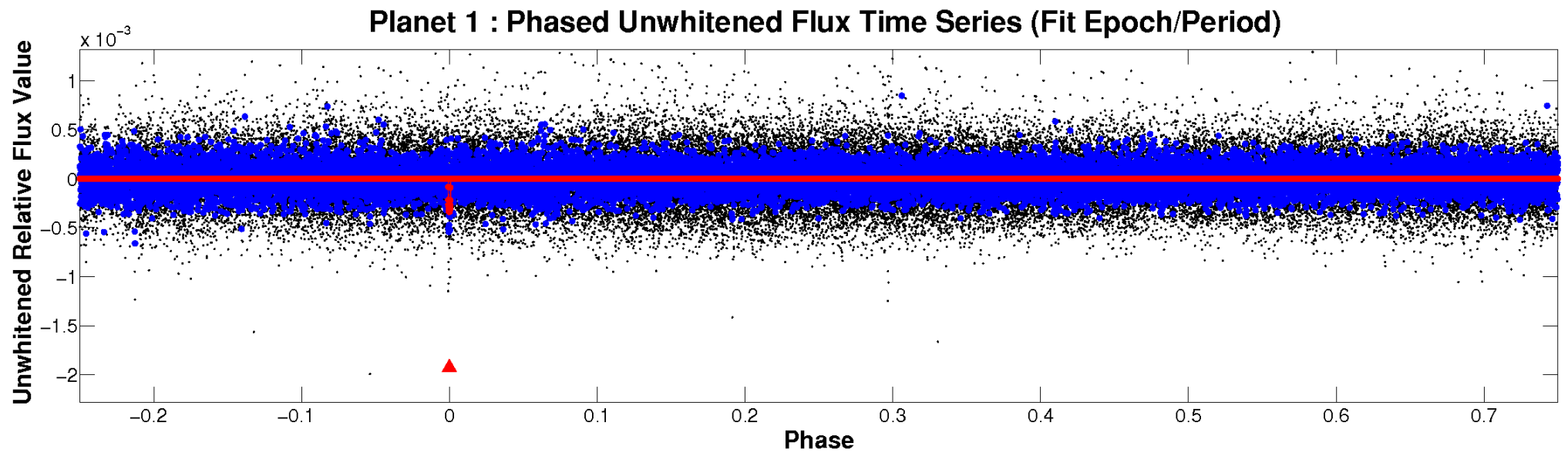


ALT Odd/Even

TCE 012104197-01



Non-Whitened Vs. Whitened Light Curve



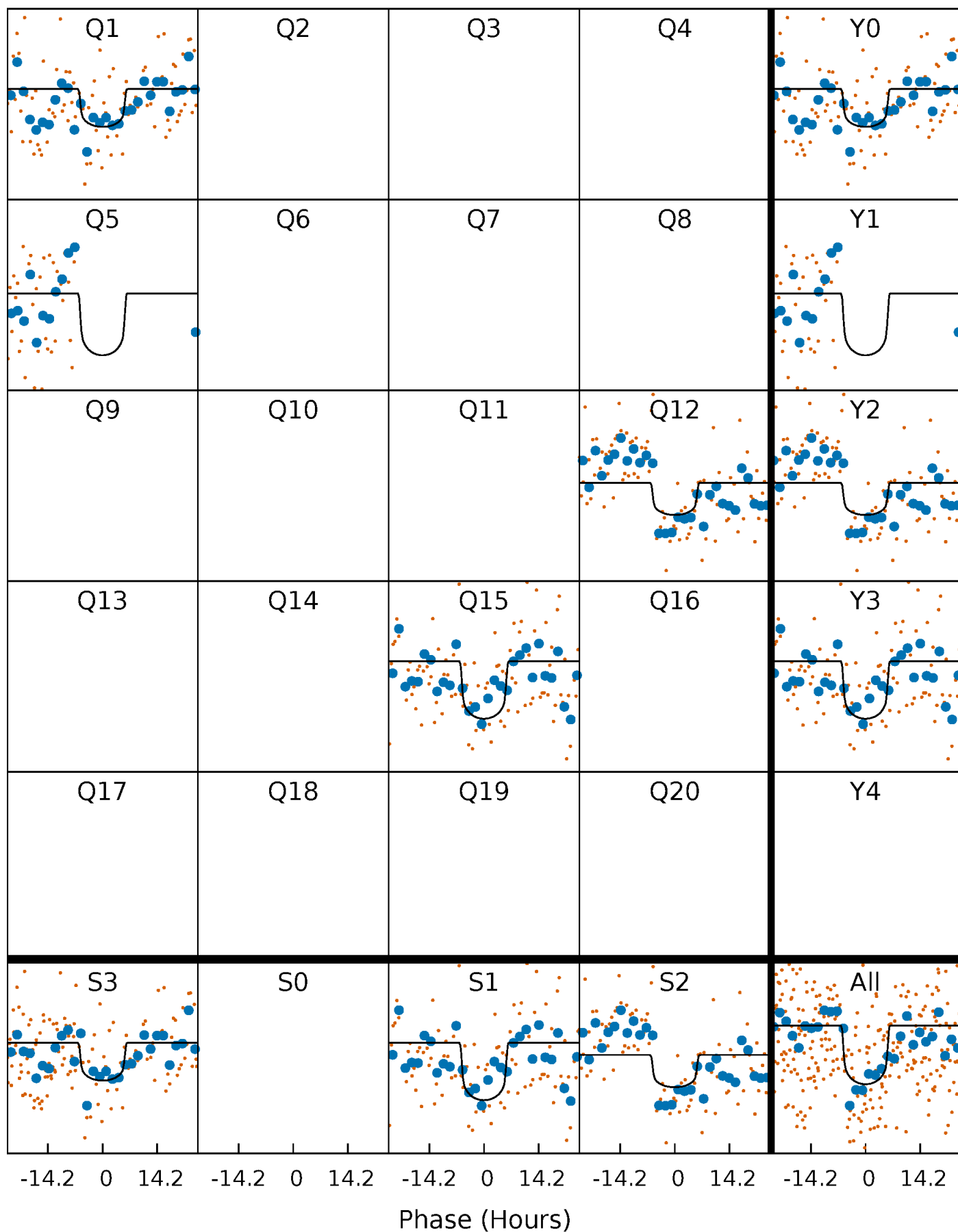
PDC Quarter-Phased Transit Curves

TCE 012104197-01 P=329.342187 Days $T_0=145.925697$ (BKJD)



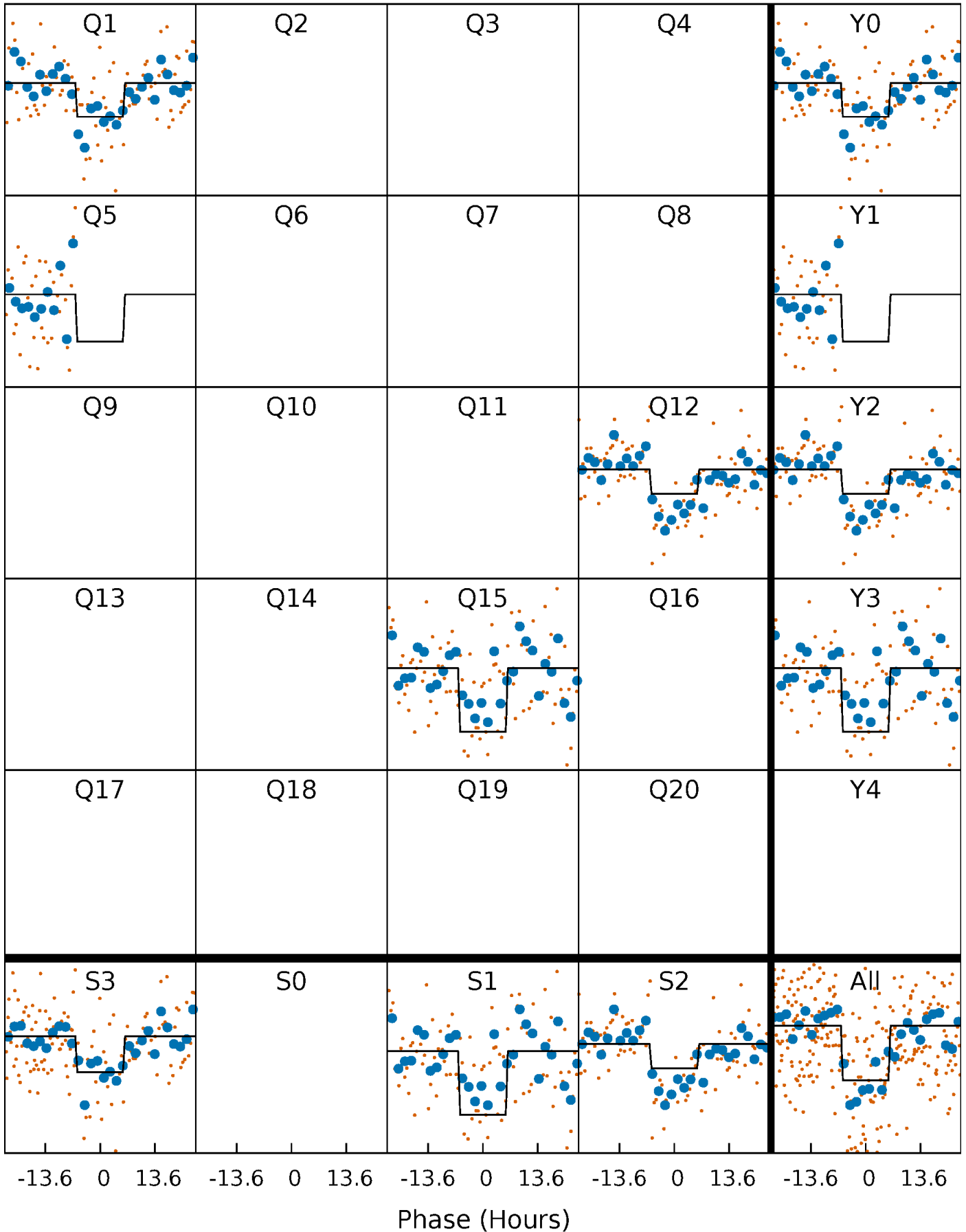
DV Quarter-Phased Transit Curves

TCE 012104197-01 $P=329.342187$ Days $T_0=145.925697$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

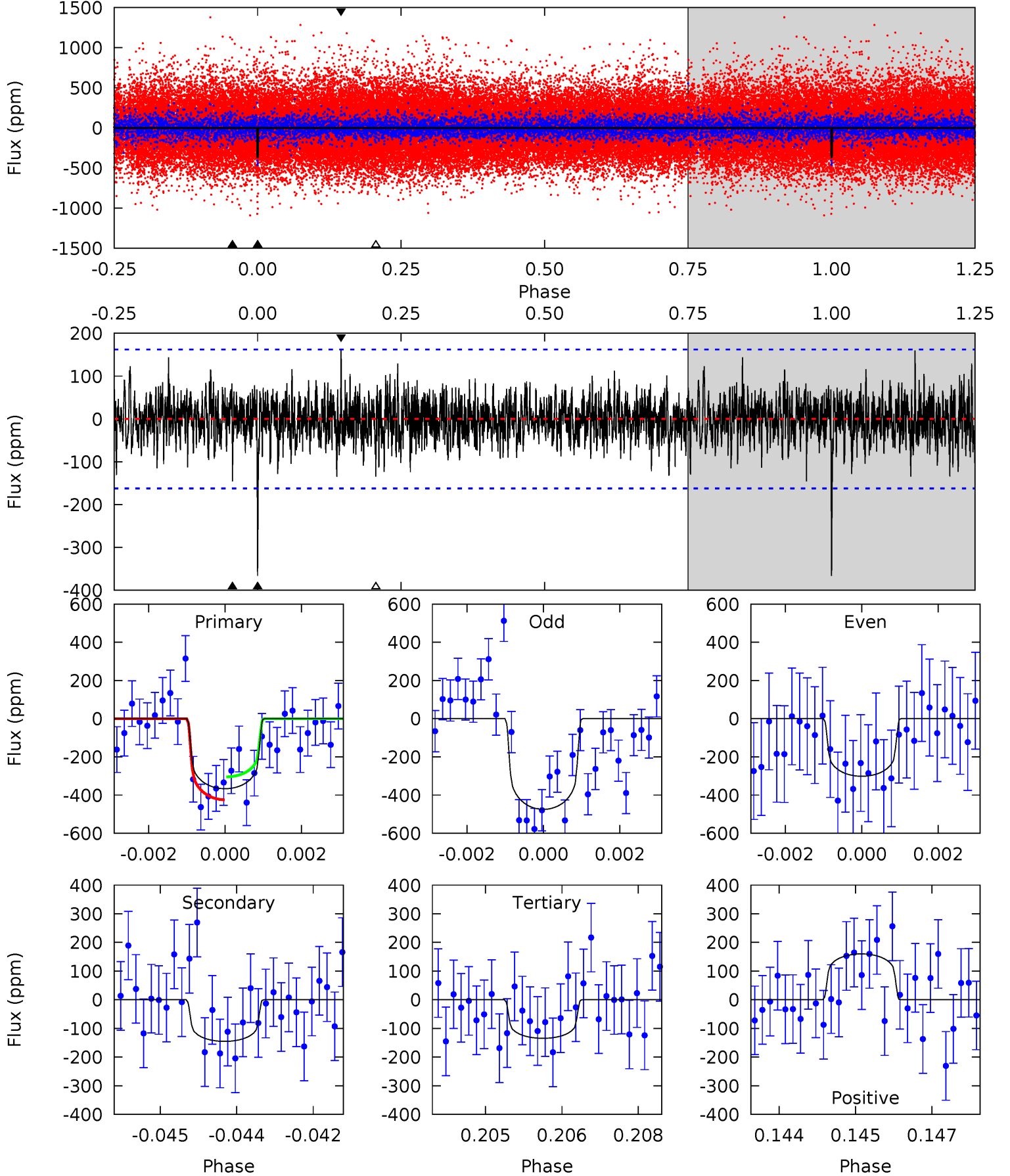
TCE 012104197-01 P=329.354931 Days $T_0=145.901835$ (BKJD)



DV Model-Shift Uniqueness Test

012104197-01, P = 329.342187 Days, E = 145.925697 Days

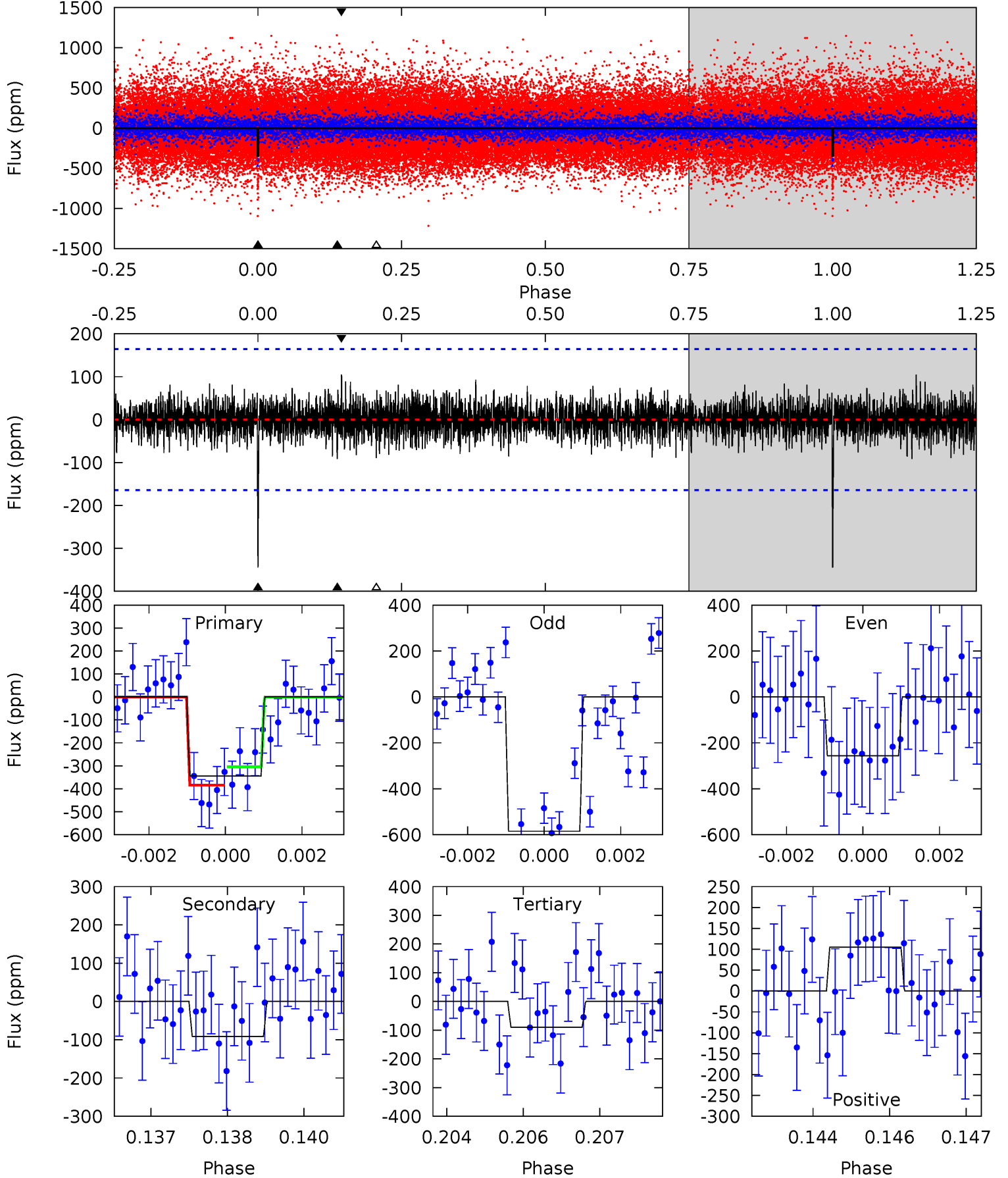
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.1	4.81	4.45	5.30	5.37	3.15	1.28	7.68	6.84	0.36	-0.49	2.67	1.02	0.30	1.99



Alt Model-Shift Uniqueness Test

012104197-01, P = 329.354931 Days, E = 145.901835 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.3	2.99	2.93	3.44	5.37	3.17	0.85	8.34	7.84	0.06	-0.44	5.05	1.05	0.23	1.30



Stellar Parameters For KIC 012104197

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5955^{+161}_{-161}	$4.520^{+0.046}_{-0.184}$	$-0.160^{+0.300}_{-0.300}$	$0.910^{+0.252}_{-0.084}$	$0.999^{+0.122}_{-0.122}$	$1.869^{+0.434}_{-0.864}$
	+3%/-3%	+1%/-4%	+188%/-188%	+28%/-9%	+12%/-12%	+23%/-46%
Source	PHO1	KIC0	KIC0	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

Secondary Eclipse Parameters for KIC 012104197-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-145 ± 30	$1.95^{+0.56}_{-0.46}$	369^{+22}_{-15}	4858^{+642}_{-480}	18018^{+14027}_{-7503}
Alt.	-91 ± 31	$1.85^{+0.57}_{-0.56}$	370^{+22}_{-16}	4516^{+757}_{-504}	12280^{+14302}_{-5689}

T_{max} = Theoretical Maximum Planetary Temperature

T_{obs} = Observed Planetary Temperature (Assuming $A=0.3$)

A_{obs} = Observed Albedo (Assuming $T=0$)

If a secondary eclipse is present, the system is likely an EB if $T_{obs} \gg T_{max}$ AND $A_{obs} \gg 1.0$

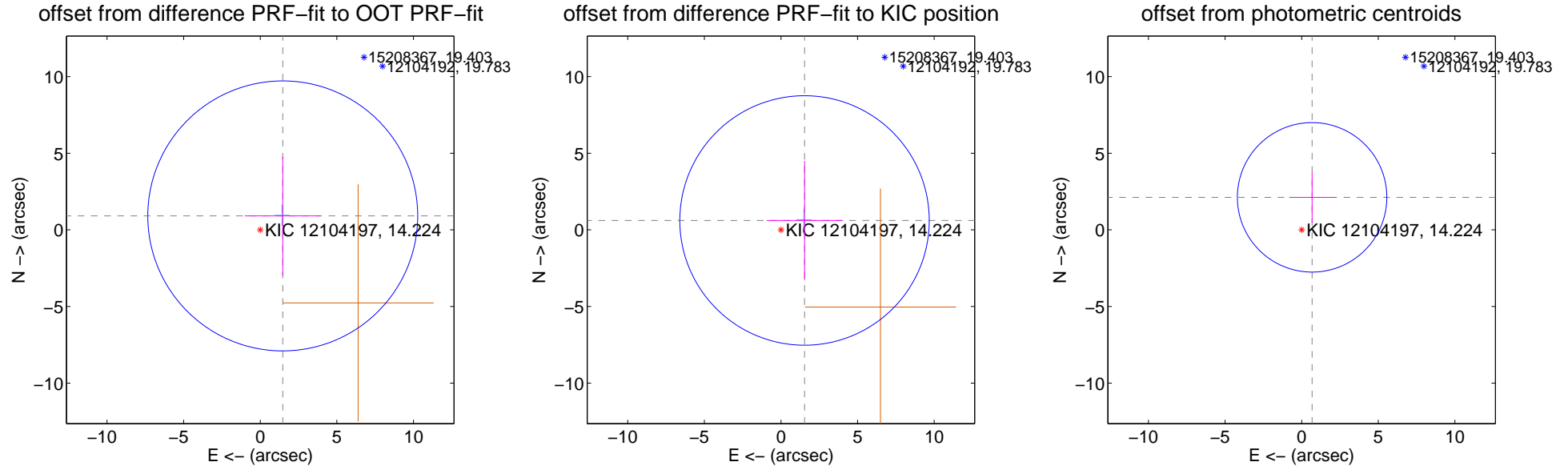
DV Centroid Data

Supplemental centroid analysis for 012104197-01. Kepler magnitude: 14.22. Transit SNR 7.87

There are 1 quarters with good PRF difference image offsets

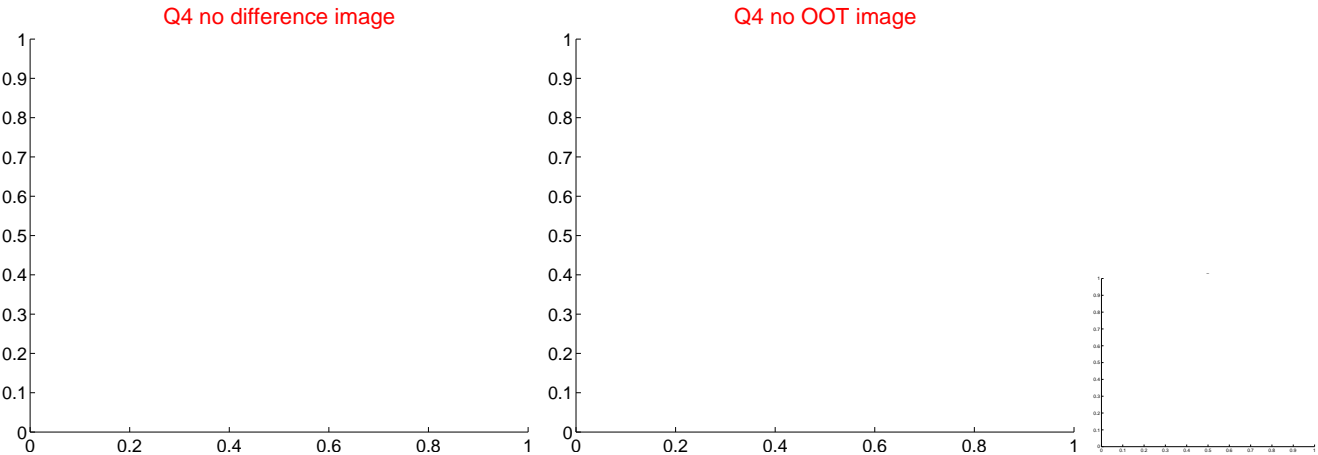
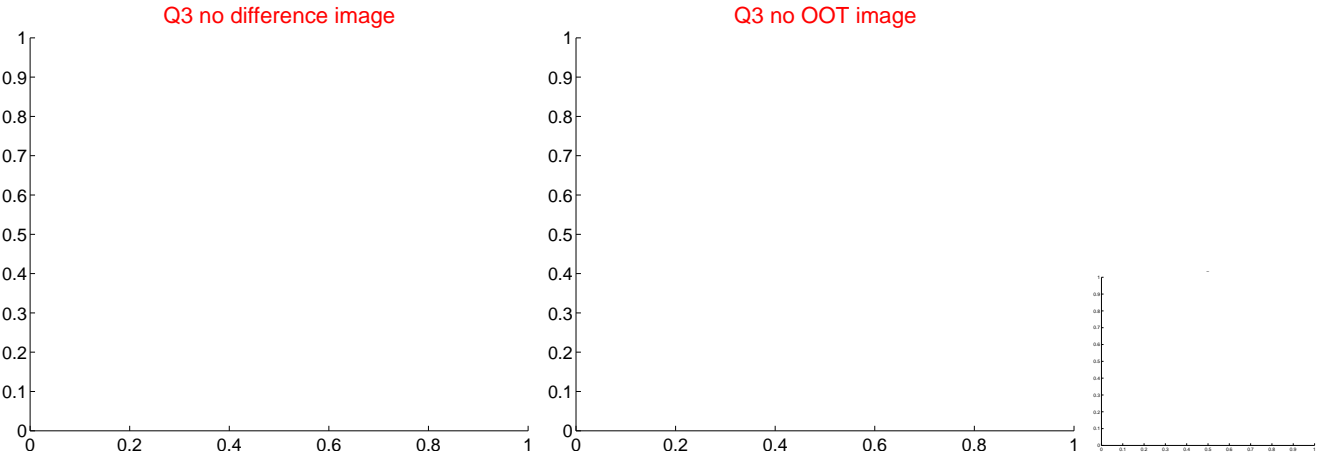
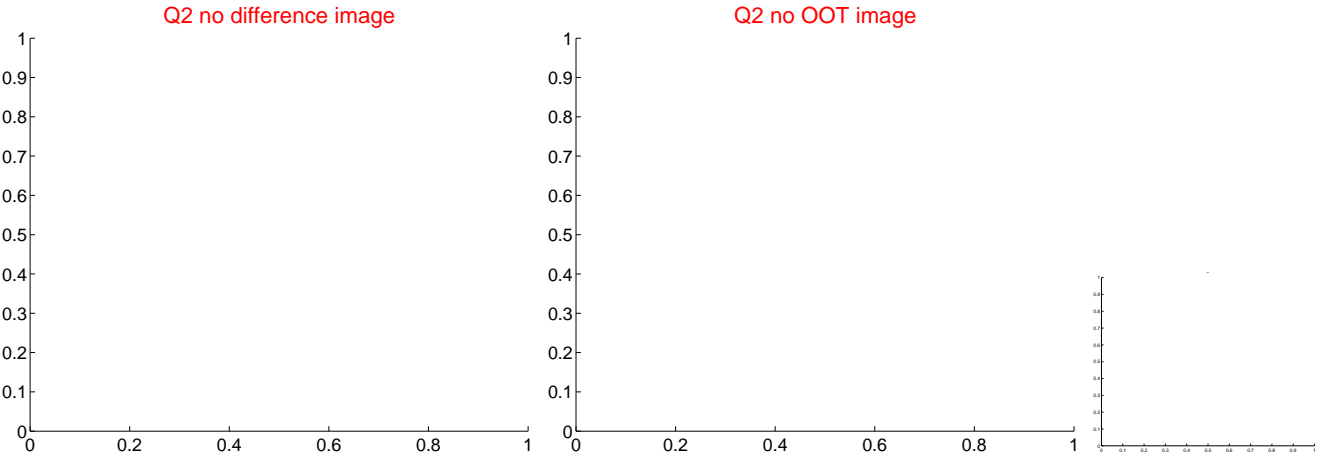
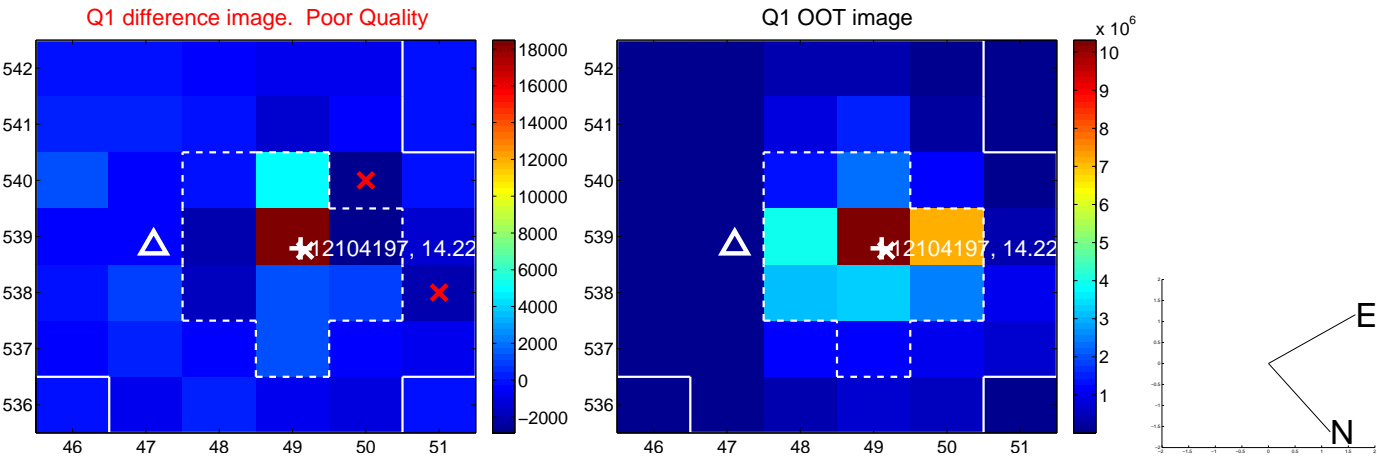
The direct PRF centroid is offset from the target star catalog position by about 0.31 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.727 ± 2.936	0.59	-1.468 ± 2.476	0.911 ± 3.881
PRF-fit source offset from KIC position	1.656 ± 2.713	0.61	-1.538 ± 2.476	0.614 ± 3.881
photometric centroid source offset	2.23 ± 1.63	1.37	-0.68 ± 1.50	2.12 ± 1.64



Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ . Red *: target star. Blue *: Other stars. Text next to a star gives its KIC ID and kepmag. KIC IDs > 15,000,000 are from the UKIRT catalog.

white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



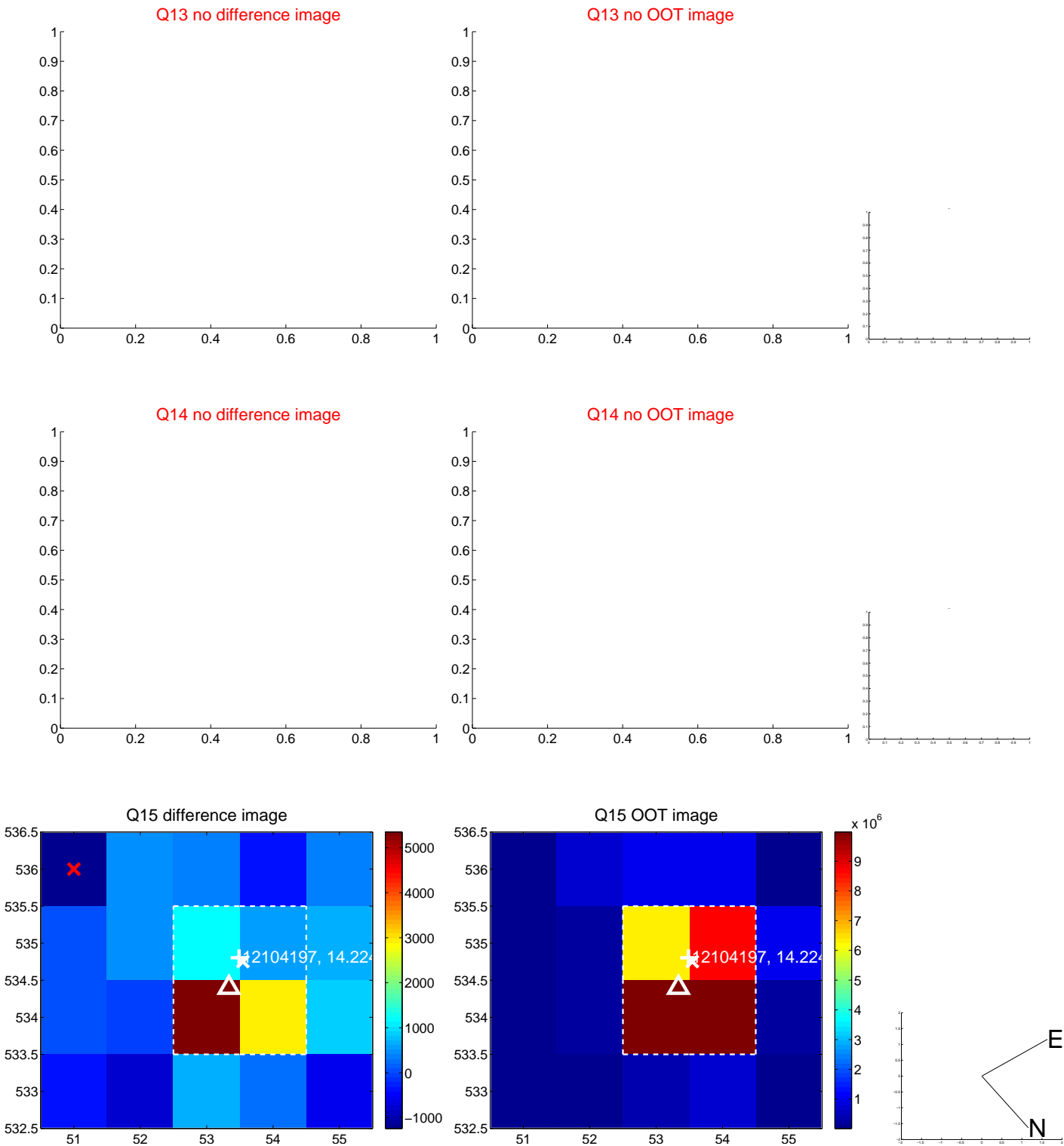
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



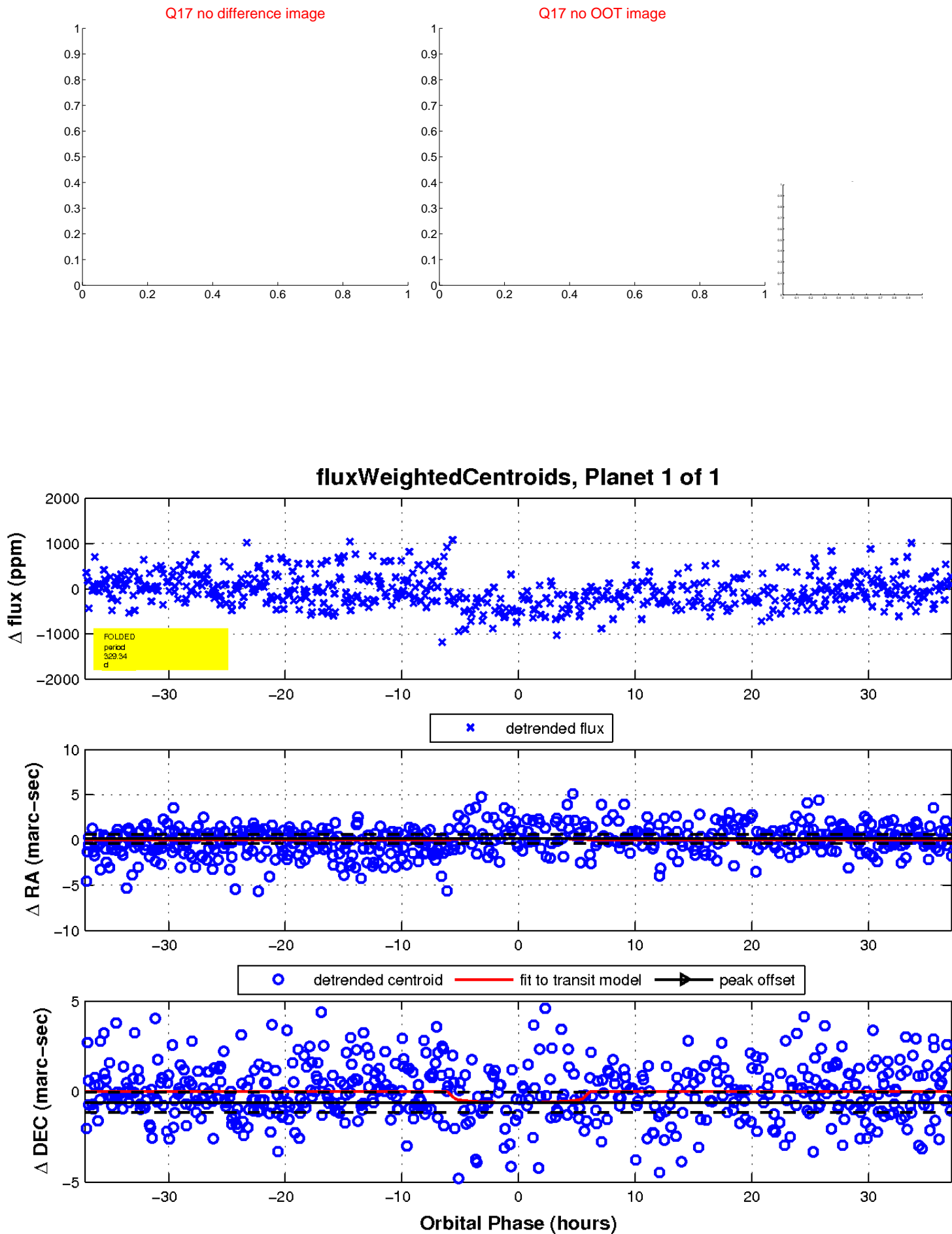
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination

