

KIC 008631504

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})
008631504-01	OBS	2503.01	14.820125	133.396114	195.3	4.984	17.1	18.9	0.73	4825	1.66	21.95

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008631504-01	OBS	PC	1.00	0	0	0	0	NO_COMMENT

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

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

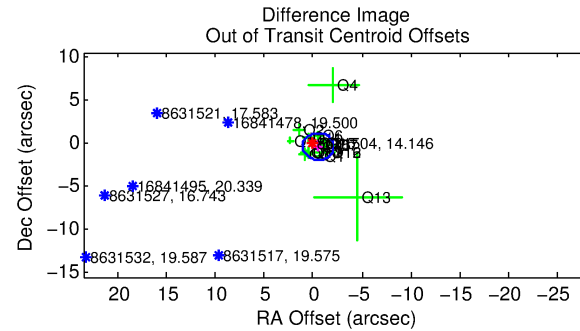
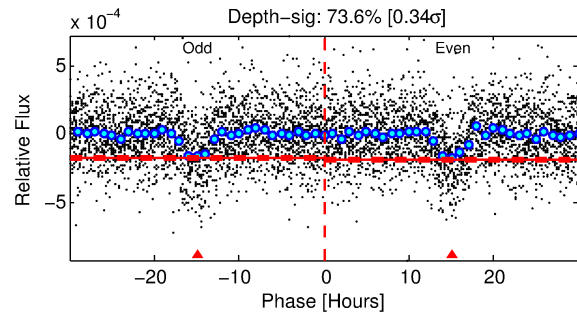
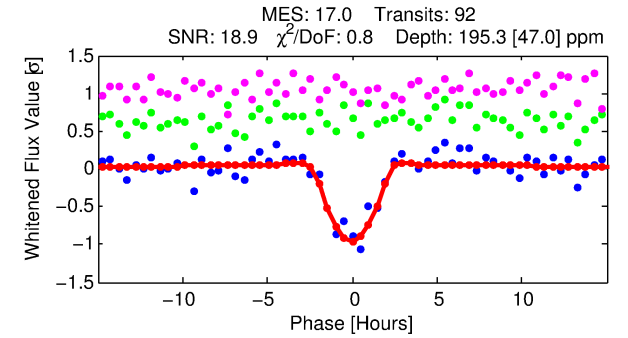
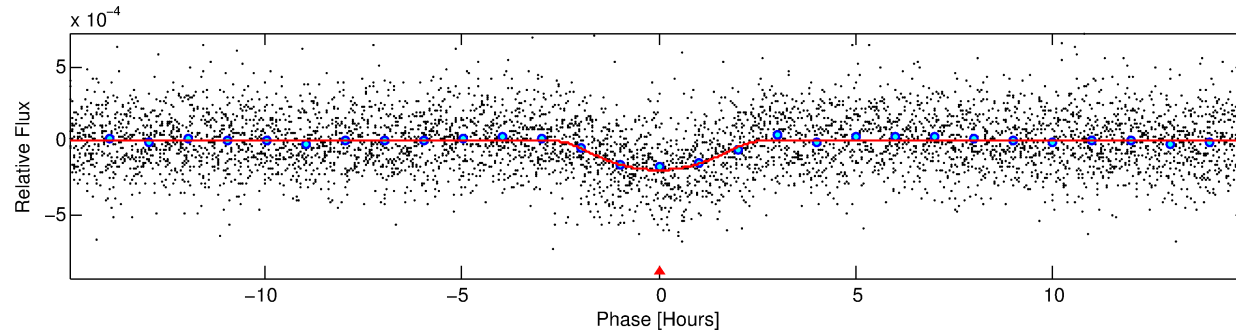
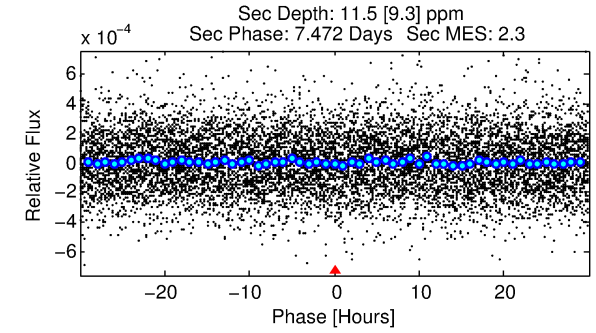
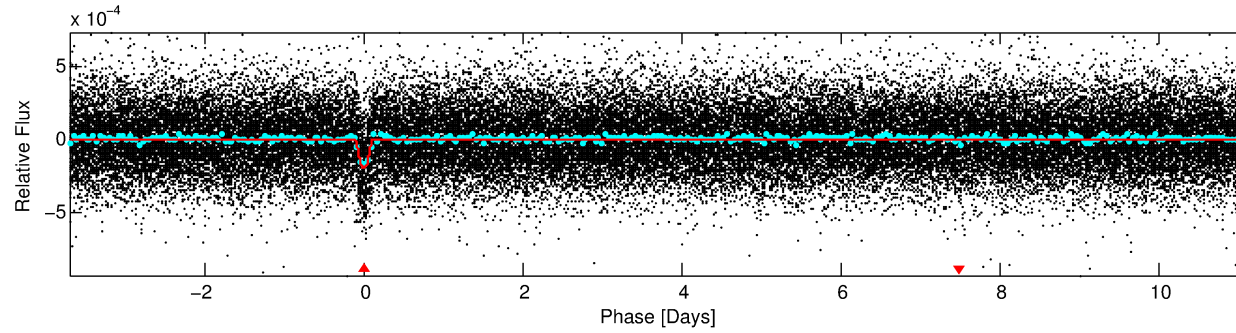
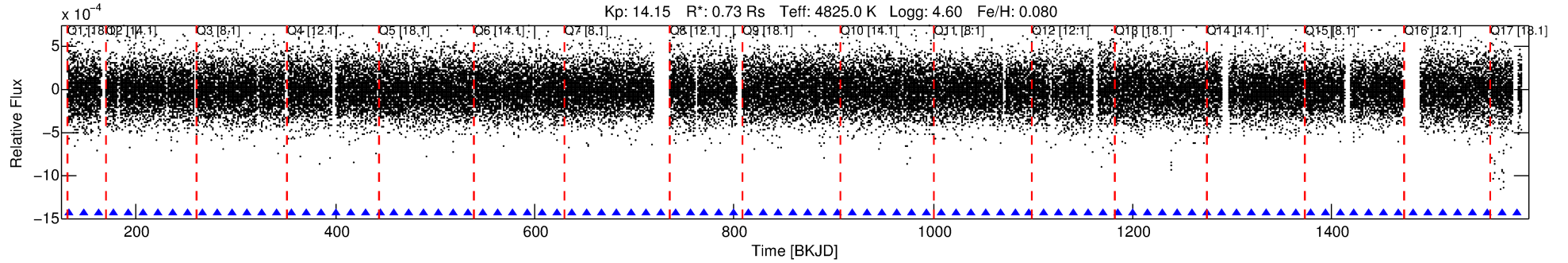
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008631504-01

No Significant Match Found

DV One-Page Summary

KIC: 8631504 Candidate: 1 of 1 Period: 14.820 d
KOI: K02503.01 Corr: 0.891



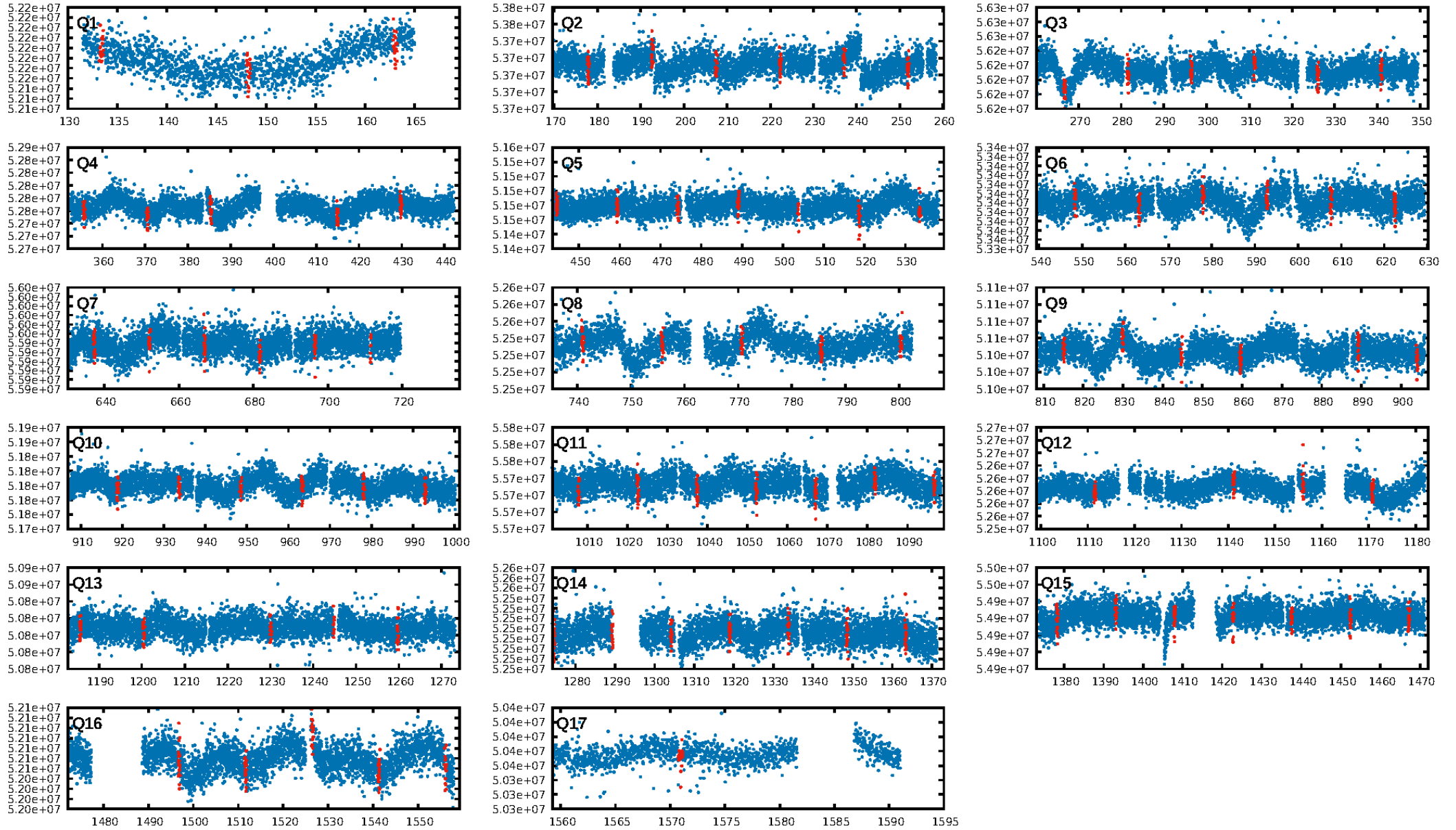
DV Fit Results:

Period = 14.82012 [0.00011] d
Epoch = 133.3961 [0.0060] BKJD
Rp/R* = 0.0208 [0.0099]
a/R* = 5.97 [1.41]
b = 0.99 [0.02]
Seff = 21.95 [2.47]
Teq = 552 [16] K
Rp = 1.66 [0.80] Re
a = 0.1089 [0.0057] AU
Ag = 27.08 [33.97] [0.77σ]
Teffp = 1947 [611] K [2.28σ]

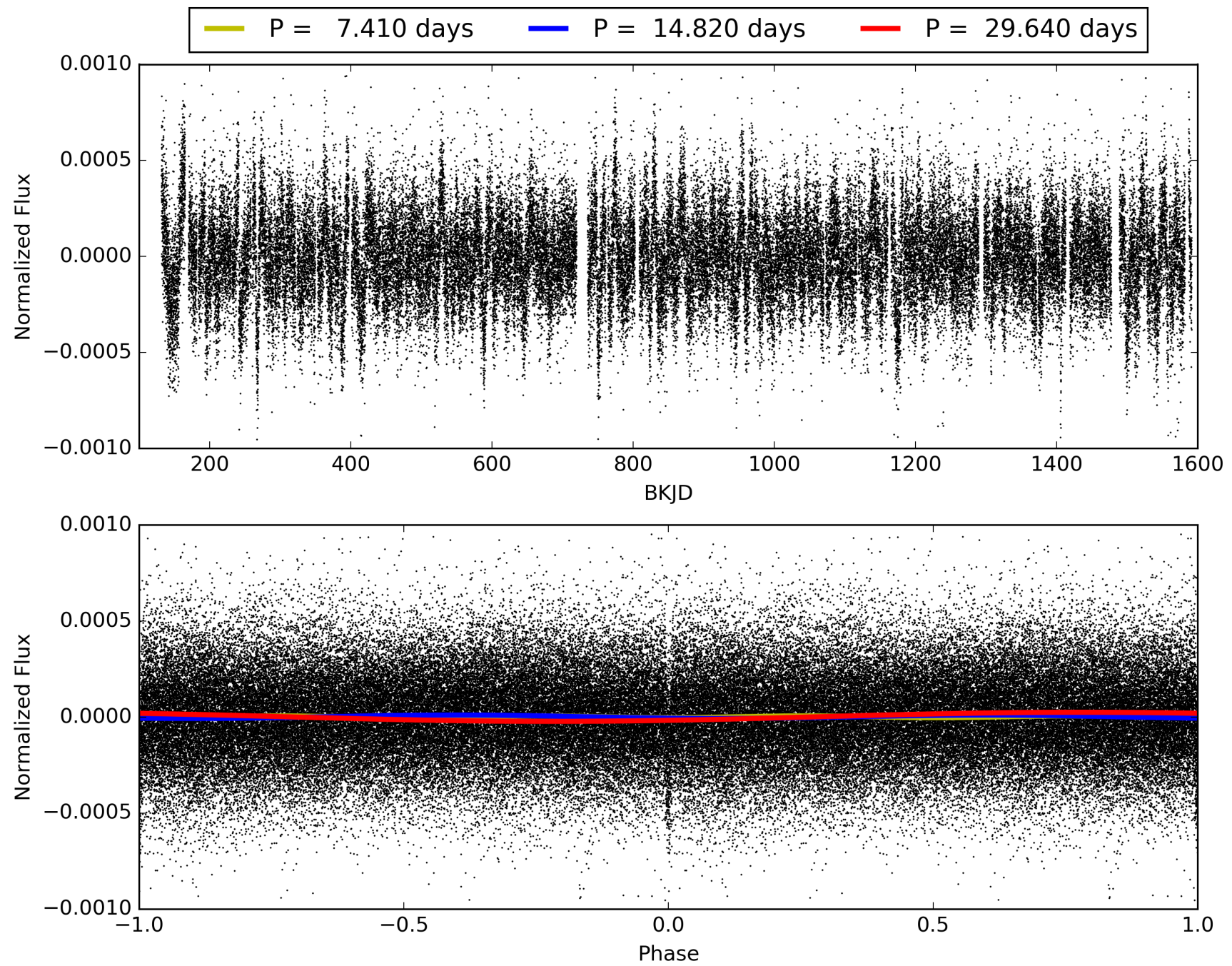
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 99.7%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 1.56e-62
RollingBand-fgt: 1.00 [88/88]
GhostDiagnostic-chr: 12.89
Centroid-sig: 9.5%
Centroid-so: 0.635 arcsec [1.00σ]
OotOffset-rm: 0.633 arcsec [1.21σ]
KicOffset-rm: 0.860 arcsec [1.86σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.88 [15/17]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 008631504-01, PDC Light Curves

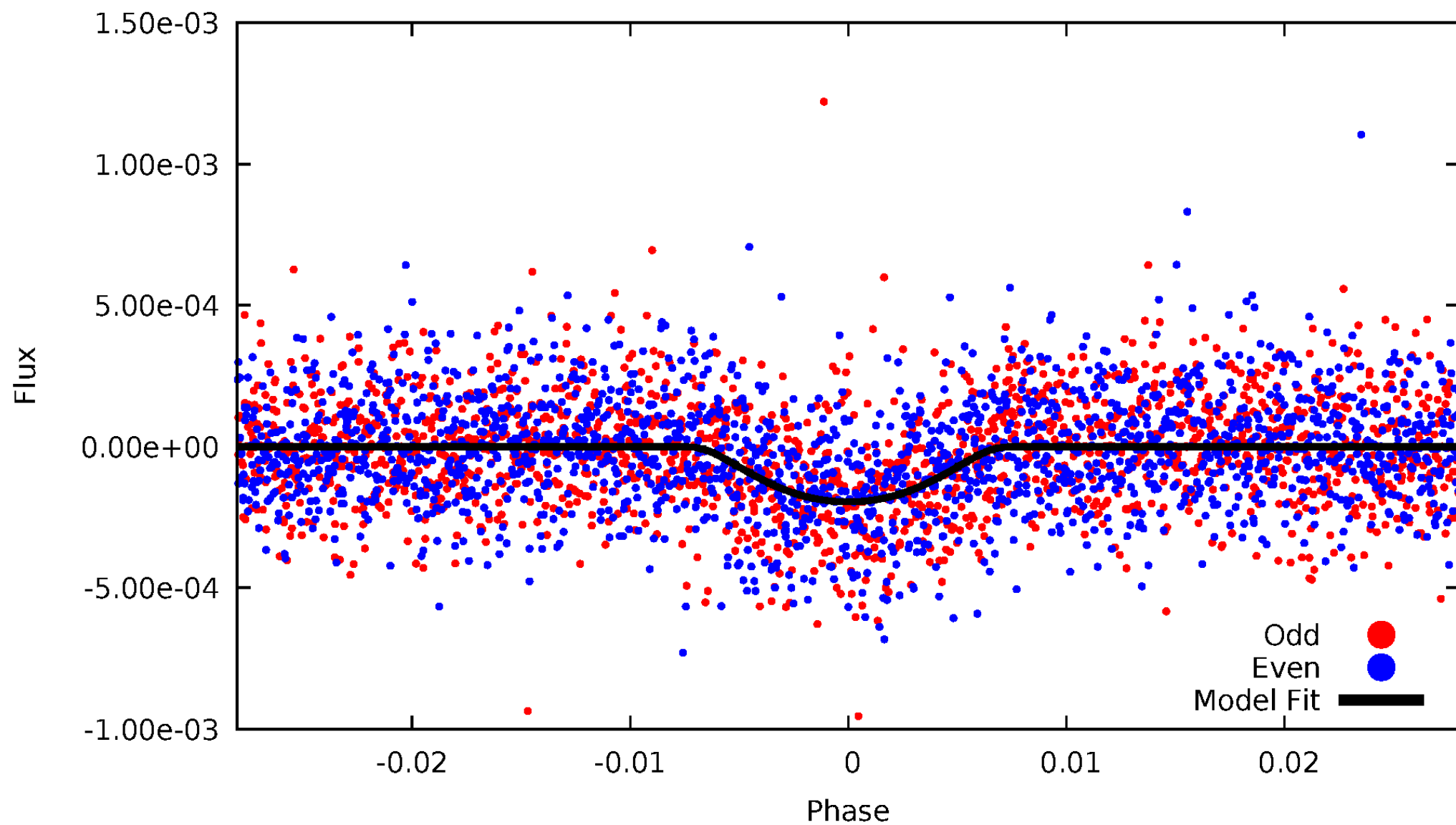


TCE 008631504-01



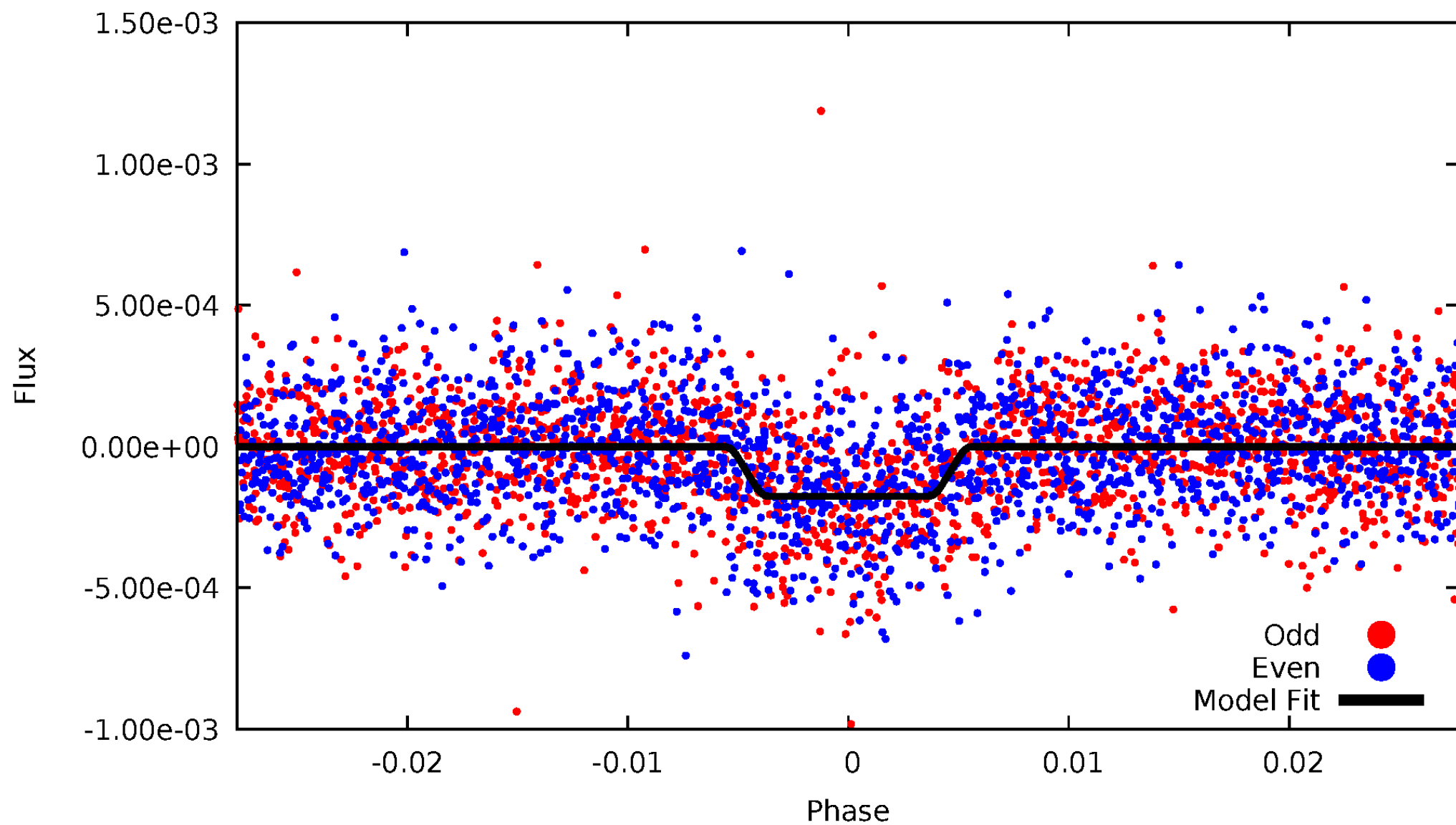
DV Odd/Even

TCE 008631504-01

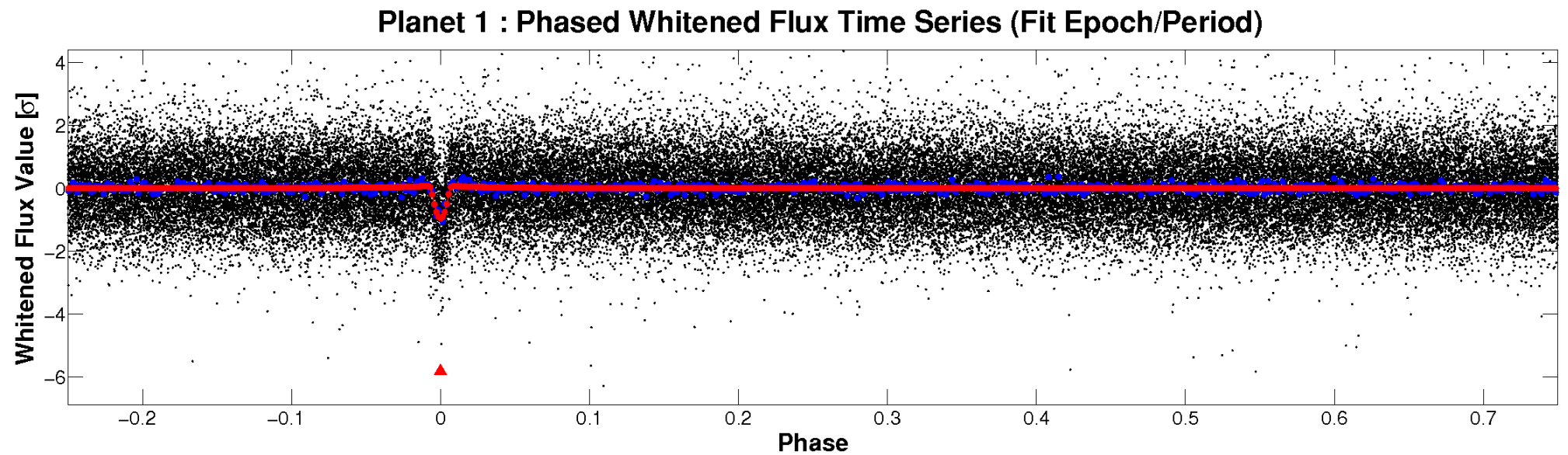
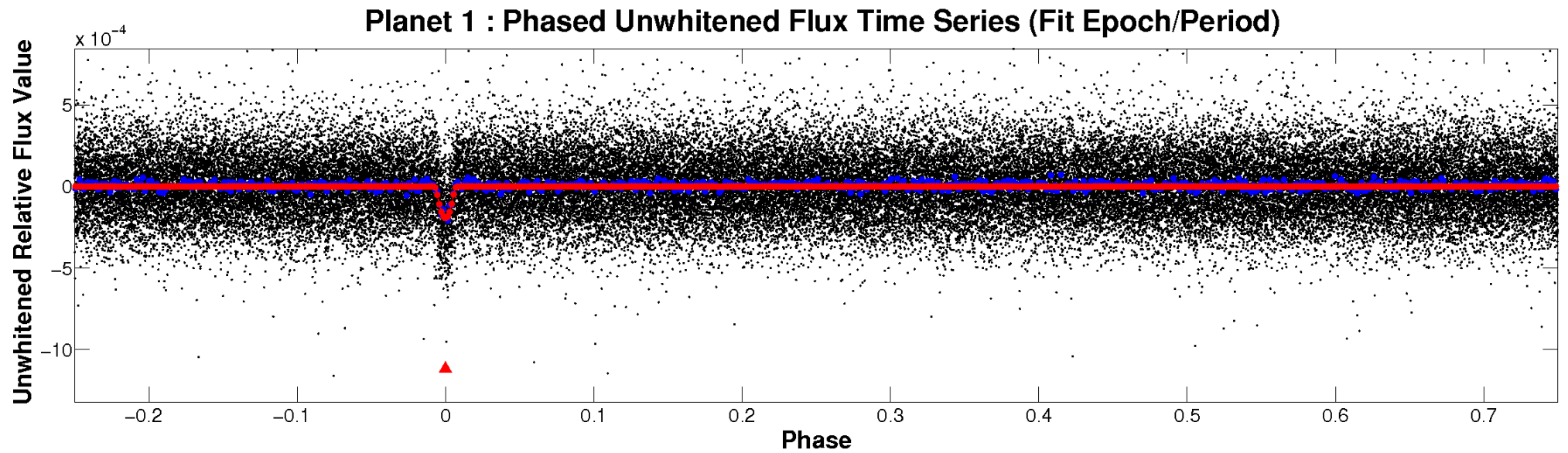


ALT Odd/Even

TCE 008631504-01

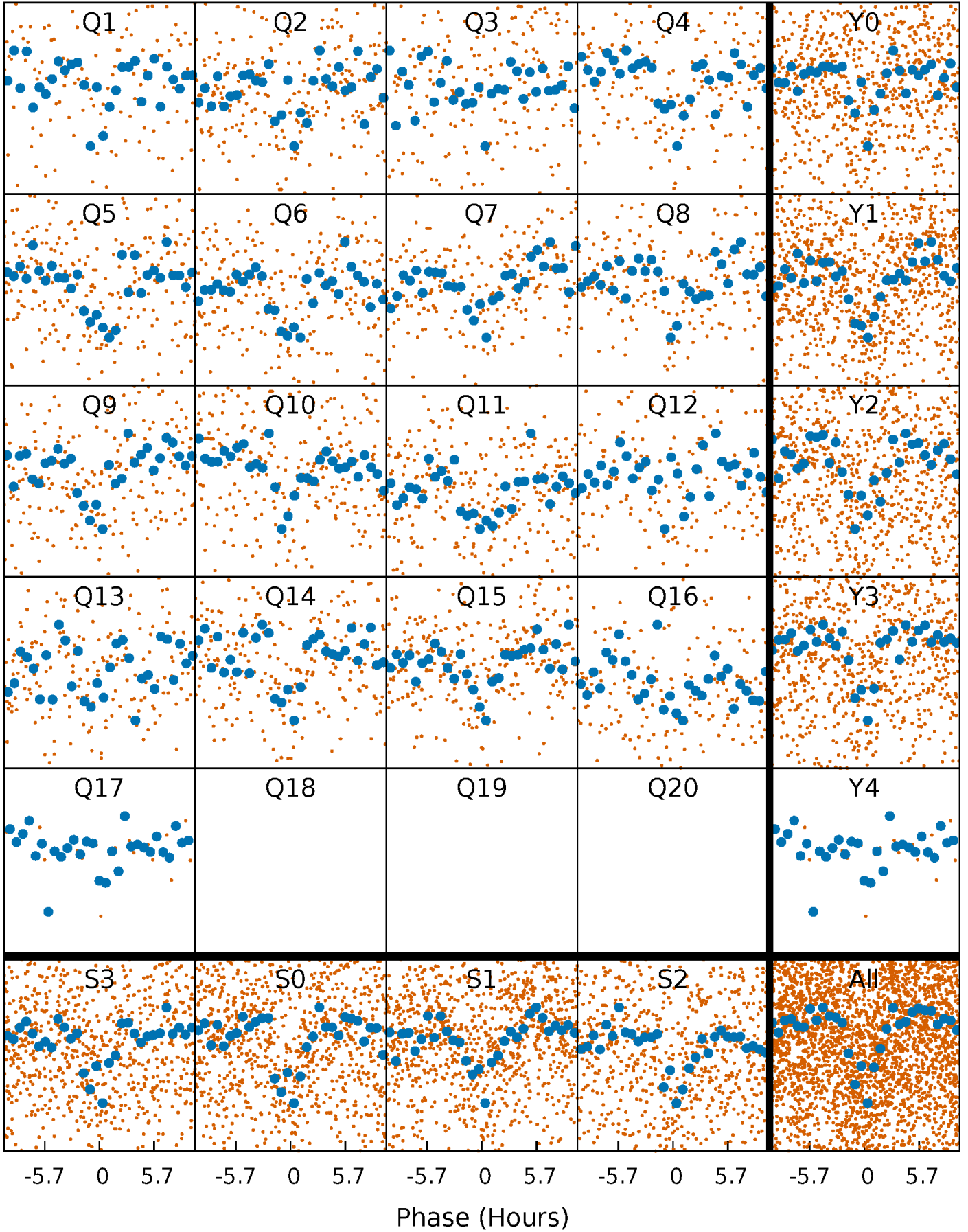


Non-Whitened Vs. Whitened Light Curve



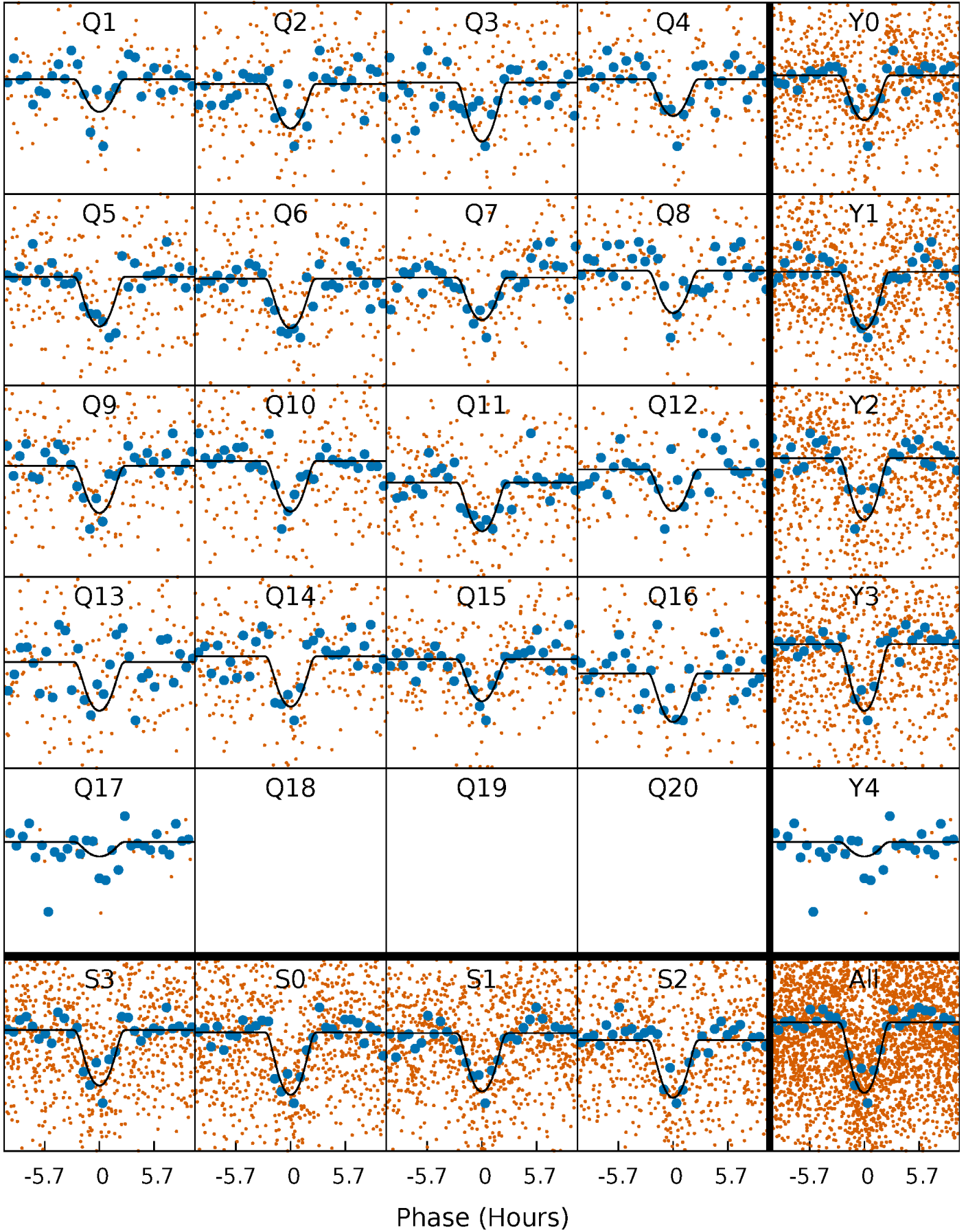
PDC Quarter-Phased Transit Curves

TCE 008631504-01 P= 14.820125 Days $T_0=133.396114$ (BKJD)



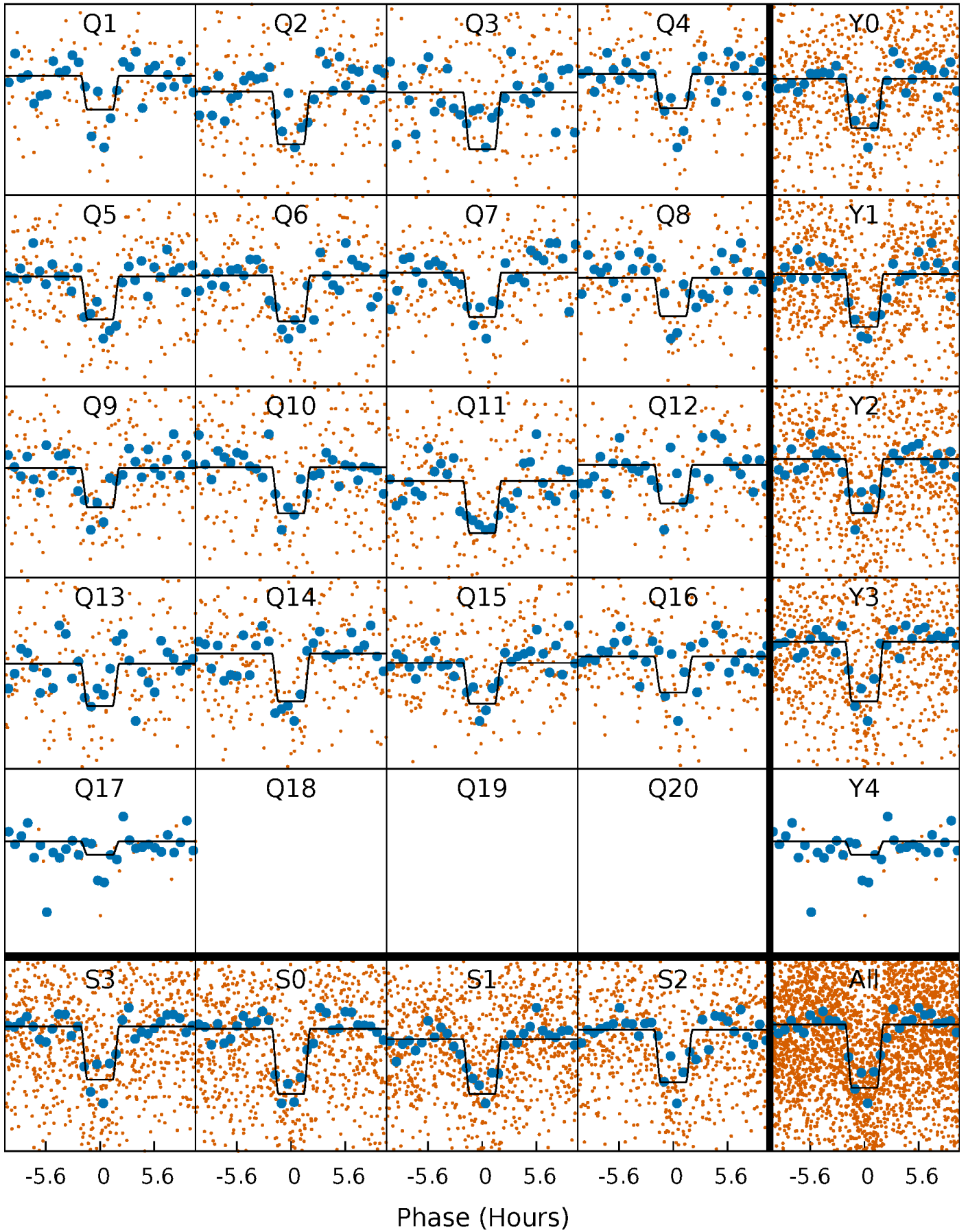
DV Quarter-Phased Transit Curves

TCE 008631504-01 P= 14.820125 Days $T_0=133.396114$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

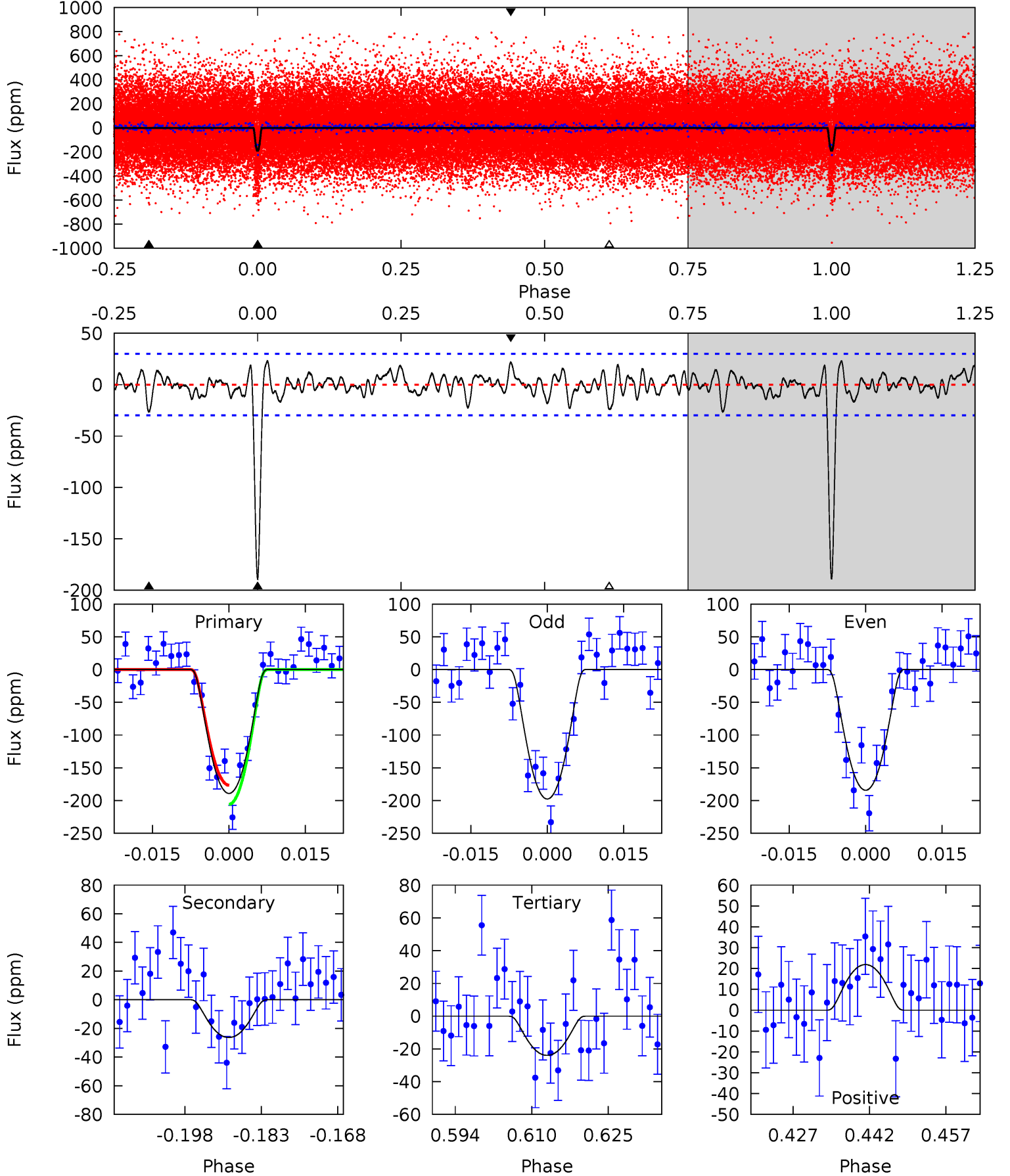
TCE 008631504-01 P= 14.820240 Days $T_0=133.389968$ (BKJD)



DV Model-Shift Uniqueness Test

008631504-01, P = 14.820125 Days, E = 118.575989 Days

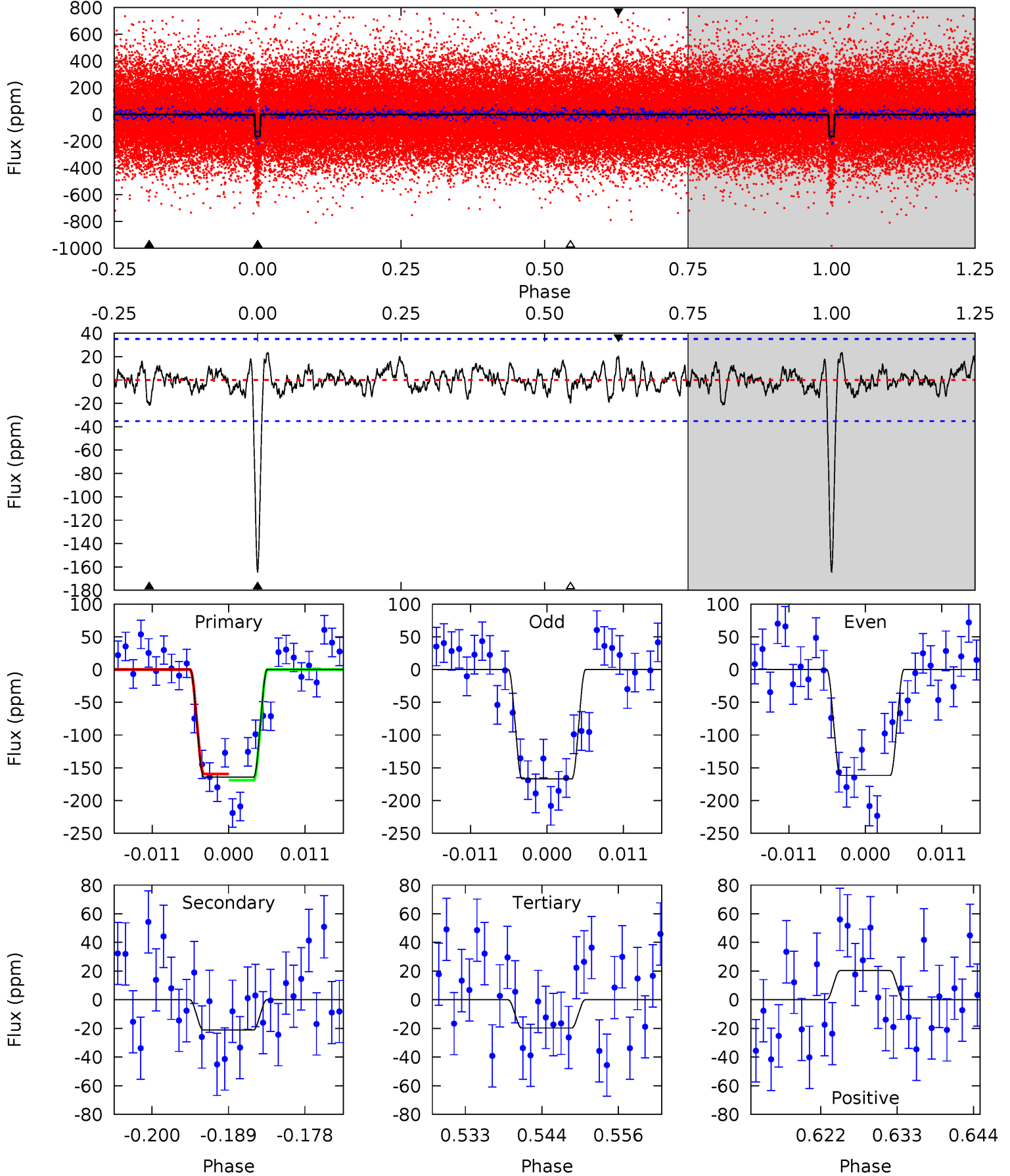
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
31.3	4.36	3.96	3.62	4.94	2.43	1.32	27.3	27.7	0.40	0.74	1.10	0.93	0.11	2.42



Alt Model-Shift Uniqueness Test

008631504-01, $P = 14.820240$ Days, $E = 118.569728$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
23.3	3.01	2.80	2.89	5.01	2.54	1.04	20.5	20.5	0.21	0.12	0.37	0.95	0.12	0.68



Stellar Parameters For KIC 008631504

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	4825^{+96}_{-96}	$4.603^{+0.018}_{-0.045}$	$0.080^{+0.150}_{-0.150}$	$0.732^{+0.043}_{-0.029}$	$0.785^{+0.035}_{-0.042}$	$2.818^{+0.272}_{-0.420}$
	+2%/-2%	+0%/-1%	+188%/-188%	+6%/-4%	+4%/-5%	+10%/-15%
Source	SPE12	SPE12	SPE12	DSEP		

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

Secondary Eclipse Parameters for KIC 008631504-01 / KOI 2503.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-26 ± 6	$1.69^{+0.74}_{-0.81}$	775^{+21}_{-17}	3007^{+660}_{-326}	60^{+164}_{-33}
Alt.	-21 ± 7	$1.19^{+0.71}_{-0.69}$	775^{+20}_{-17}	3173^{+1144}_{-409}	92^{+443}_{-58}

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 $T_{\text{obs}} \gg T_{\text{max}}$ AND $A_{\text{obs}} \gg 1.0$

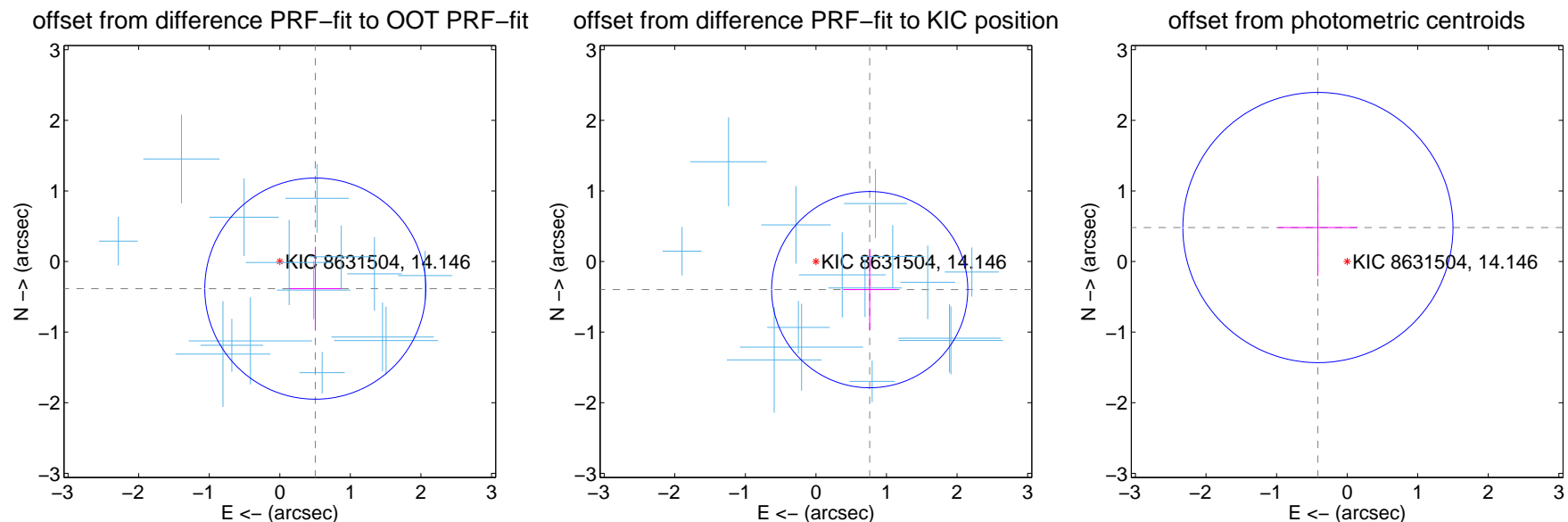
DV Centroid Data

Supplemental centroid analysis for 008631504-01. Kepler magnitude: 14.15. Transit SNR 18.86

There are 15 quarters with good PRF difference image offsets

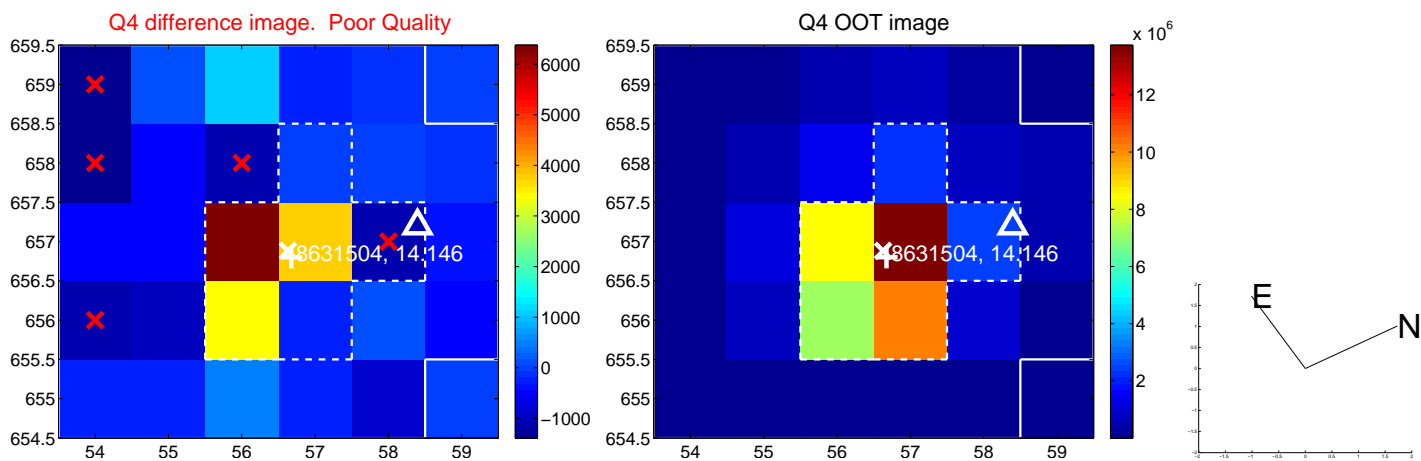
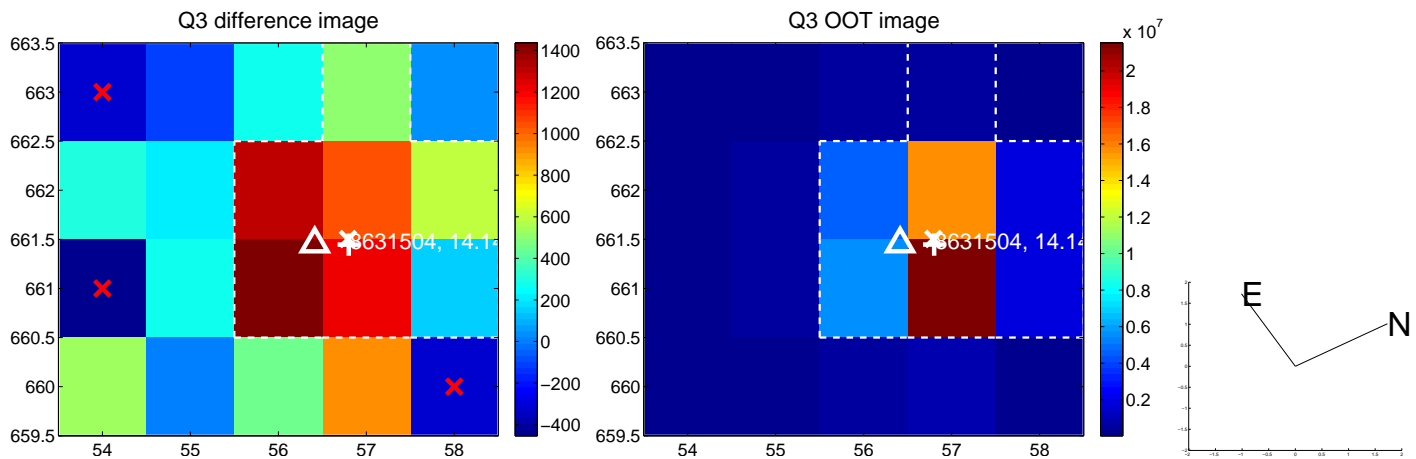
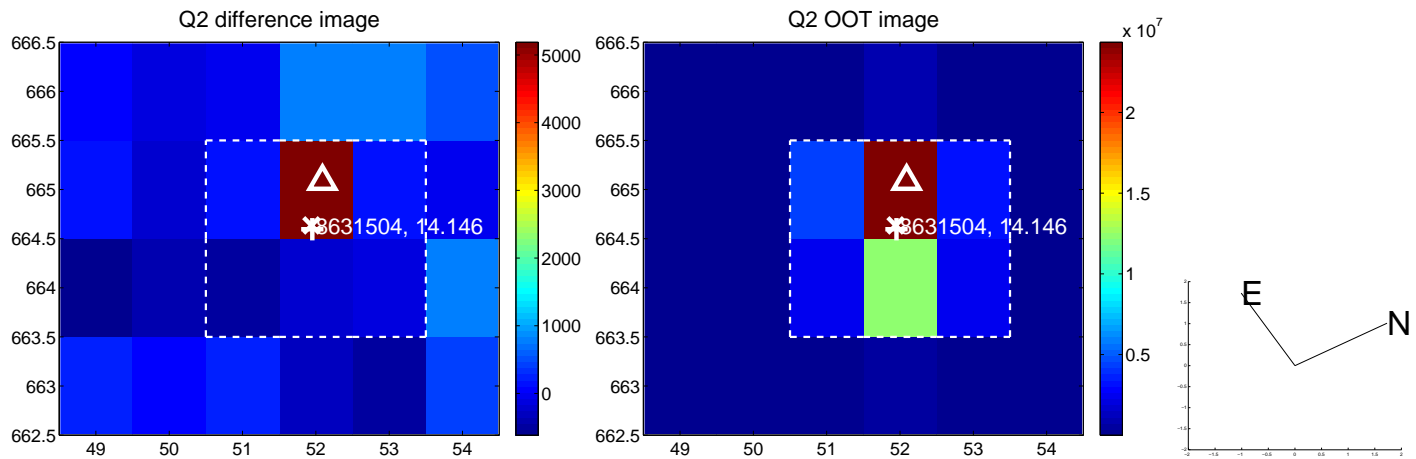
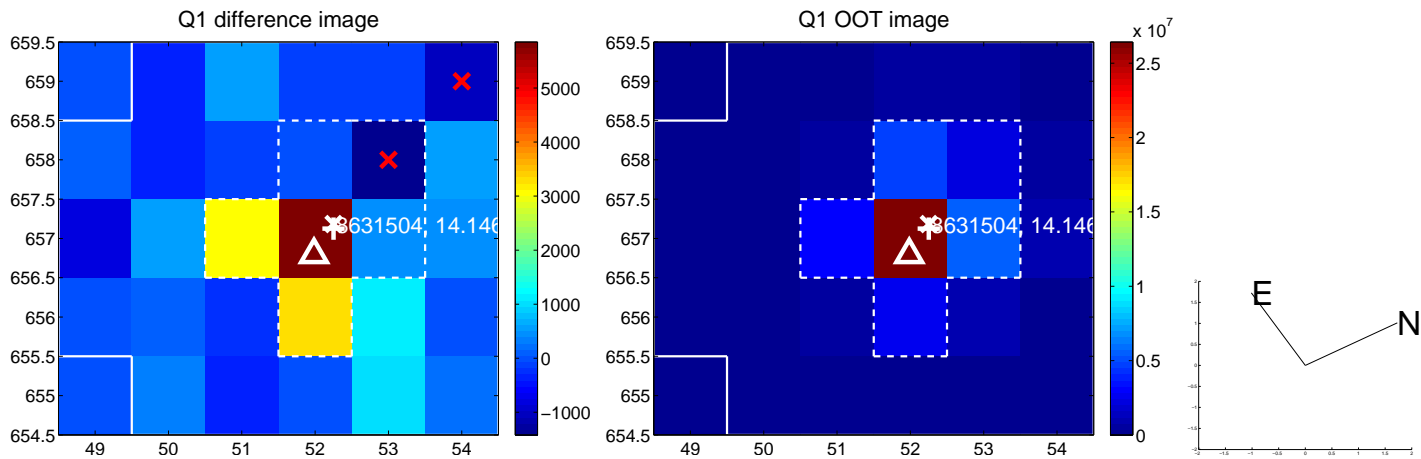
The direct PRF centroid is offset from the target star catalog position by about 0.23 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.633 ± 0.522	1.21	-0.503 ± 0.369	-0.384 ± 0.592
PRF-fit source offset from KIC position	0.860 ± 0.463	1.86	-0.762 ± 0.376	-0.398 ± 0.575
photometric centroid source offset	0.64 ± 0.64	1.00	0.41 ± 0.56	0.48 ± 0.69

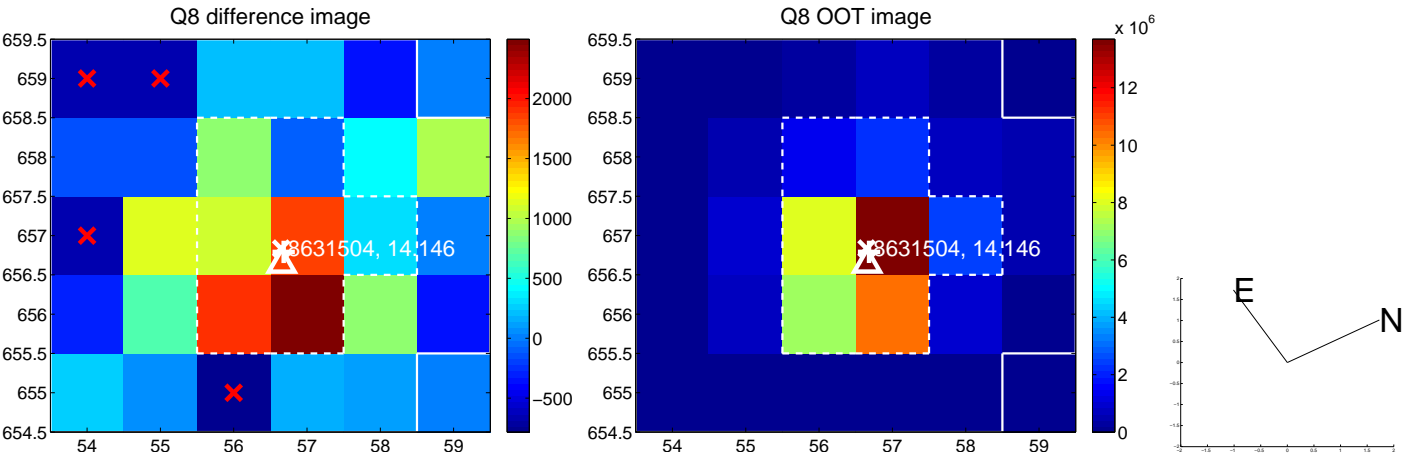
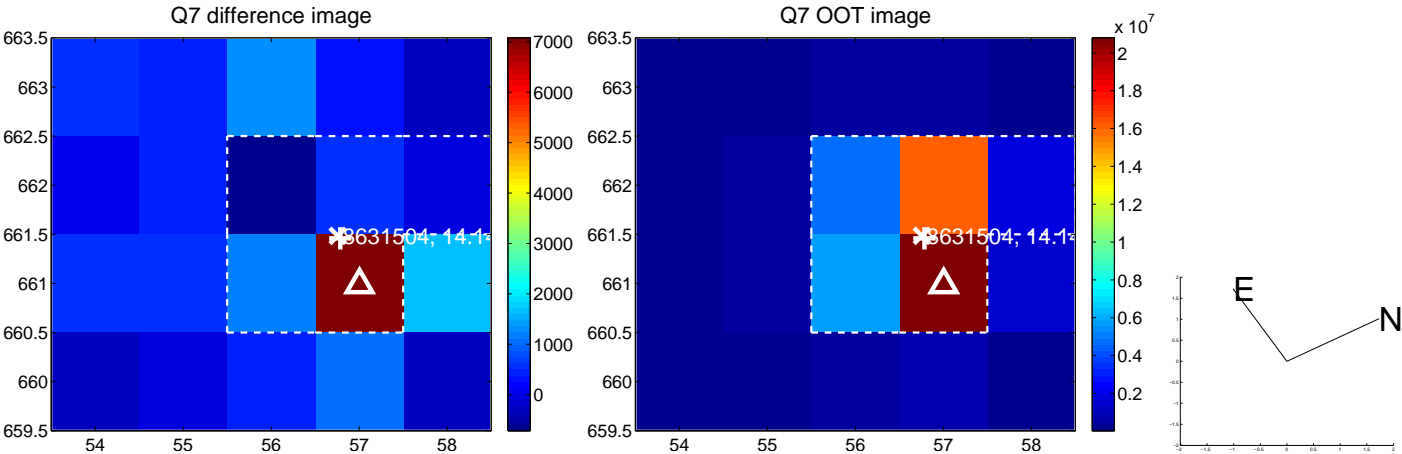
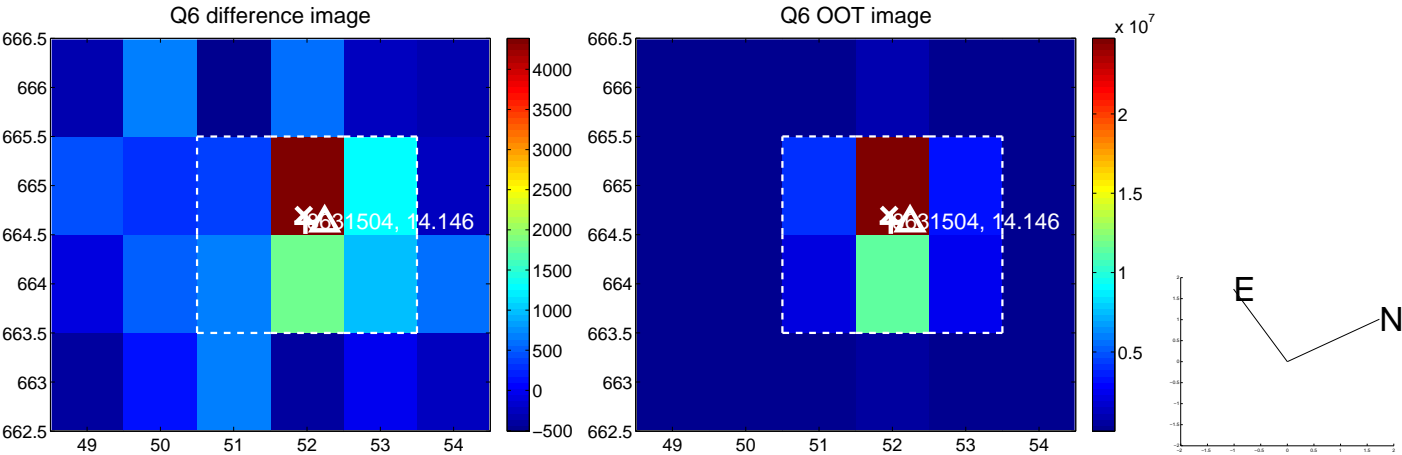
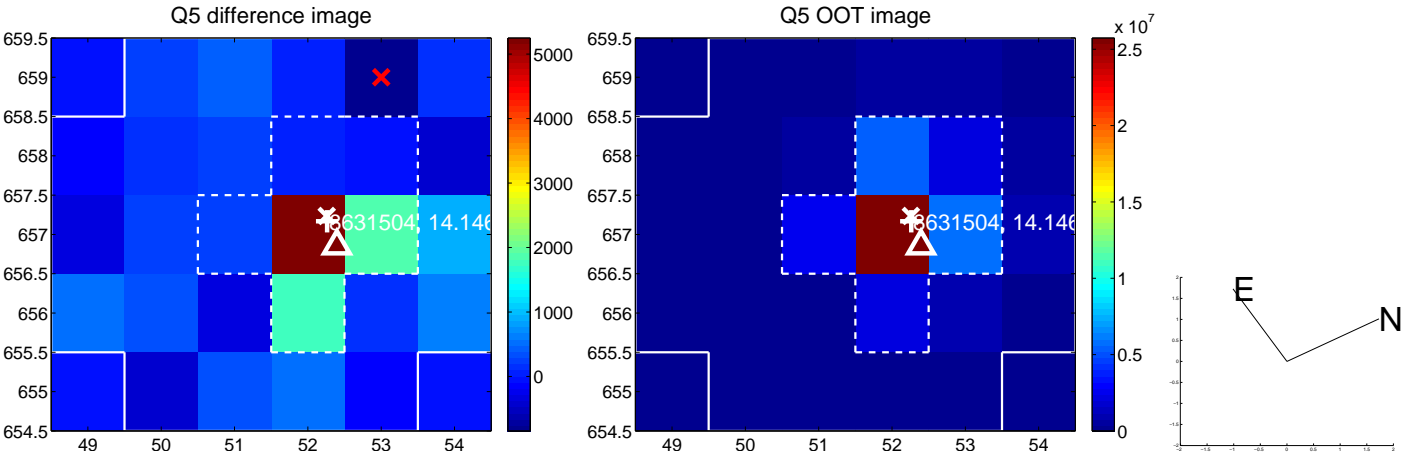


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- 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.

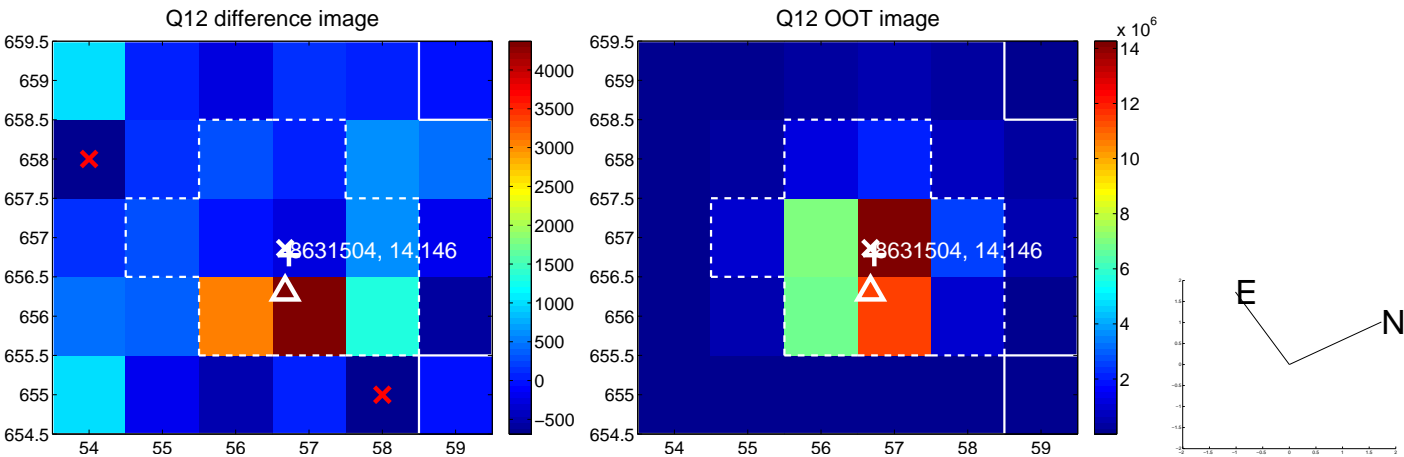
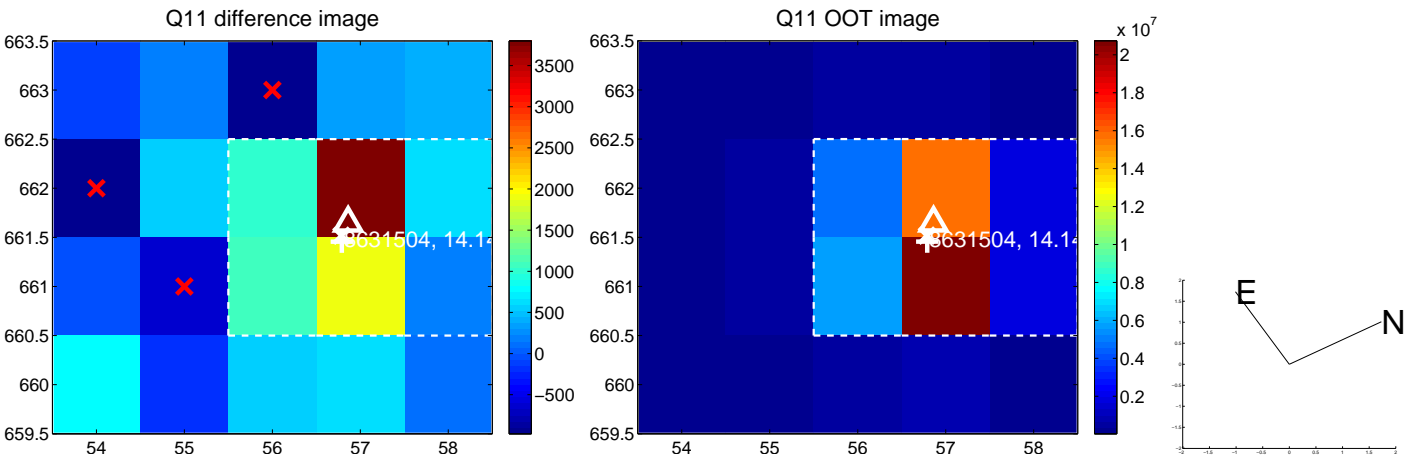
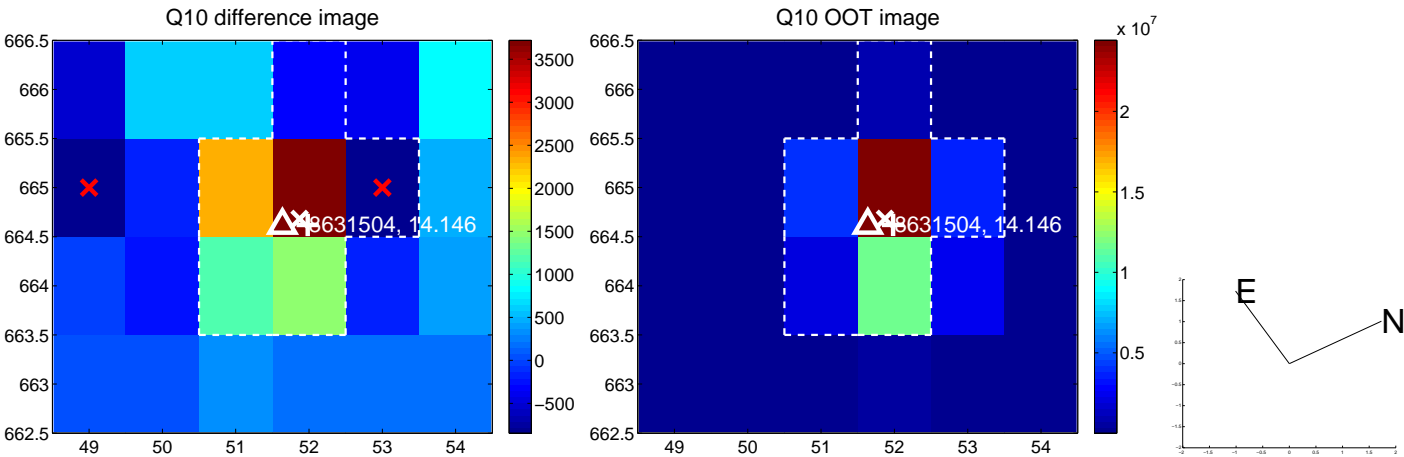
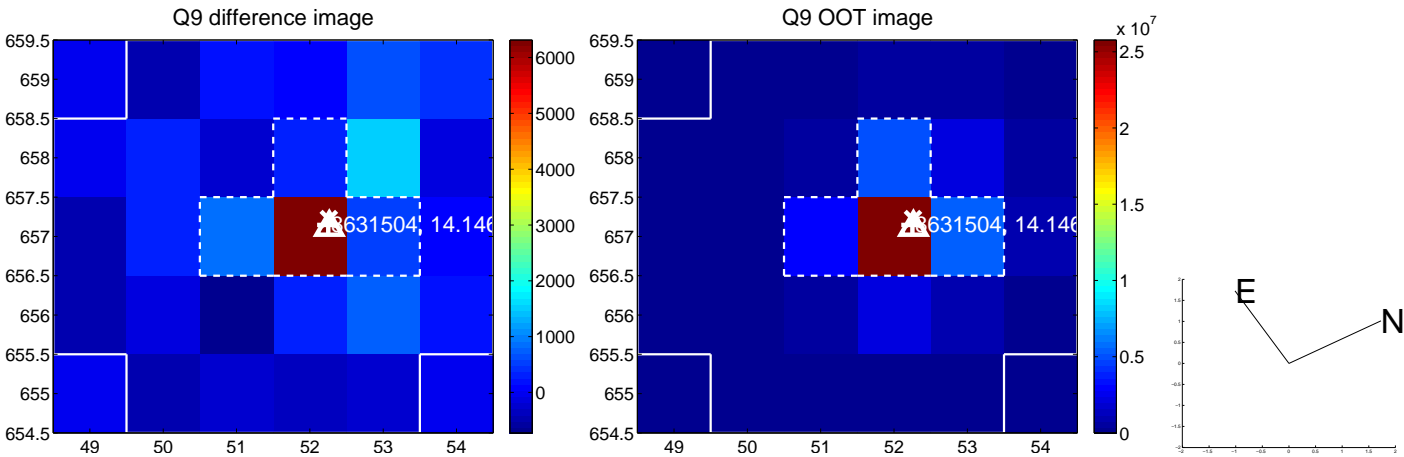
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



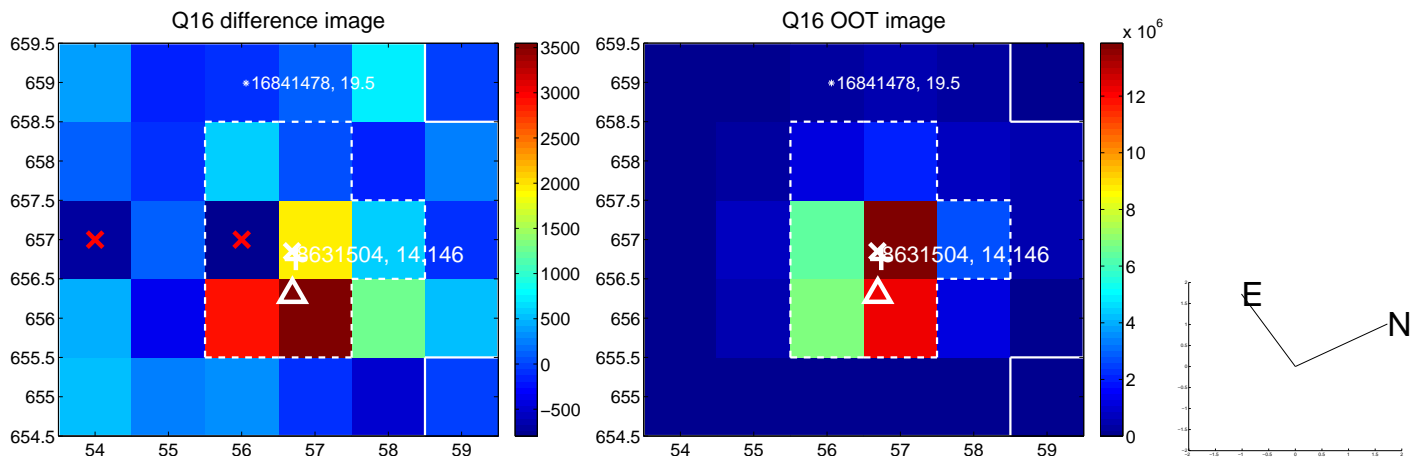
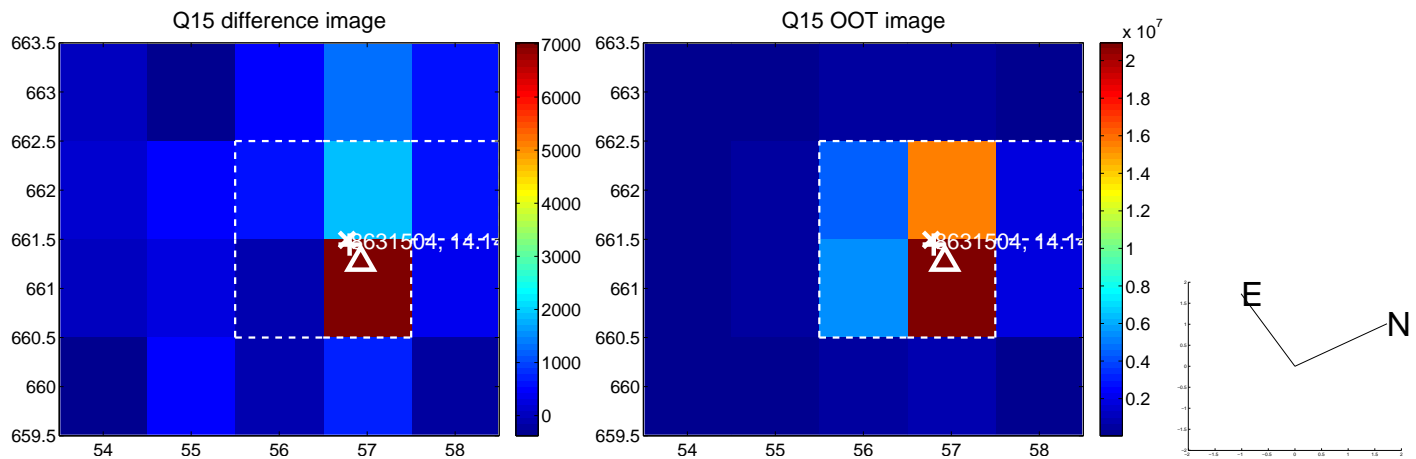
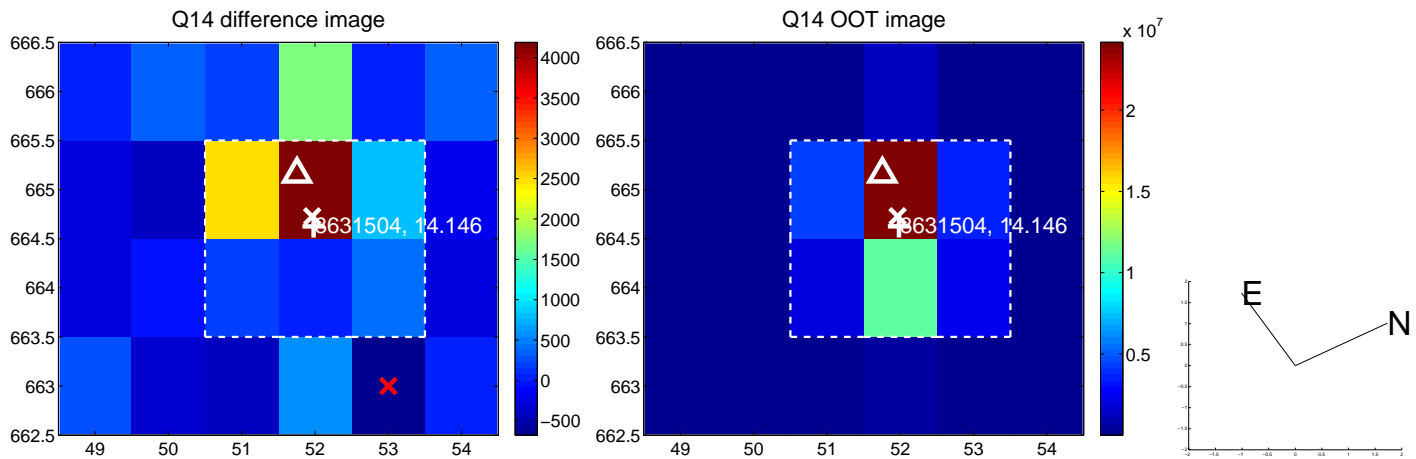
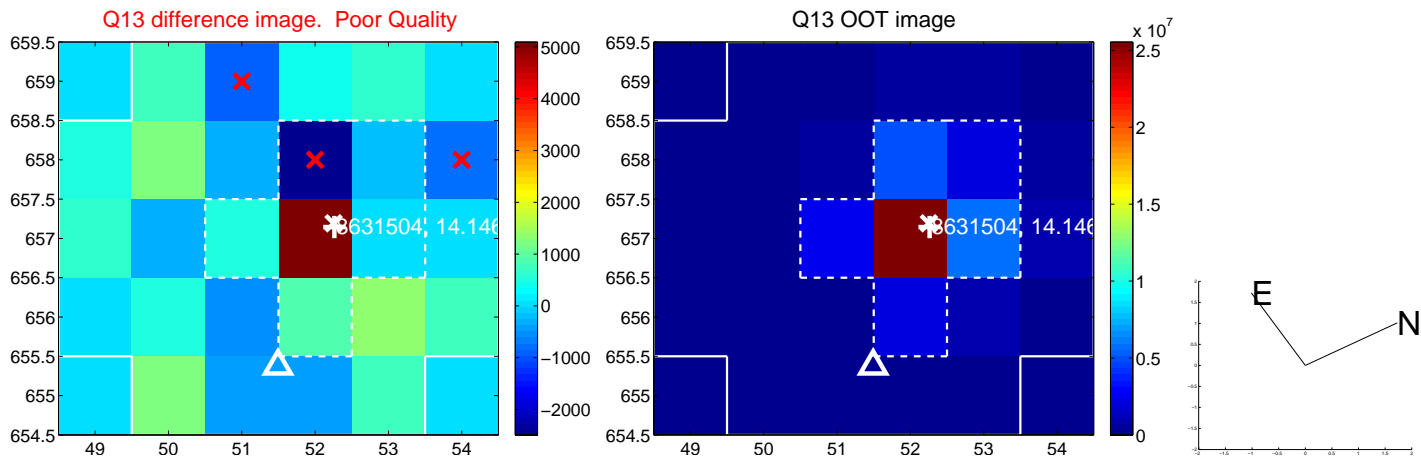
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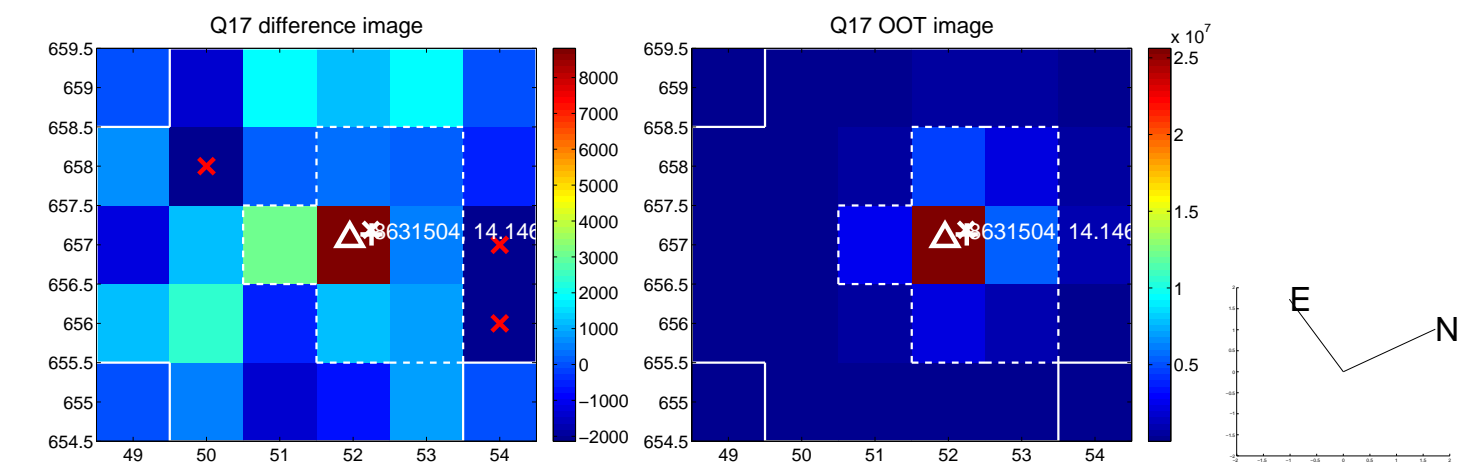
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



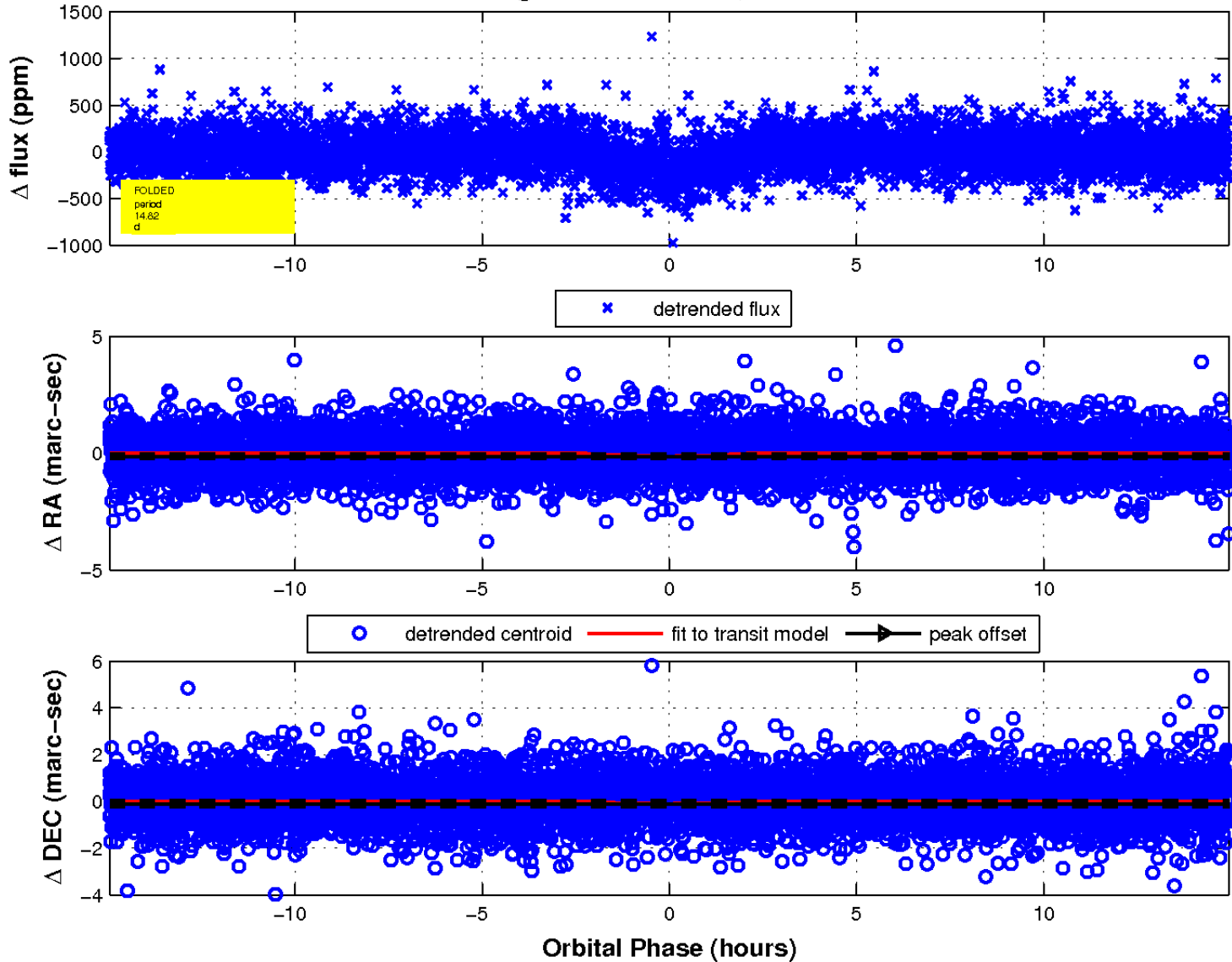
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fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

