

KIC 003453214

Q1-17 DR25 TCE Parameters

TCE	Run Type	KOI?	Period (Days)	Epoch (BKJD)	Depth (ppm)	Duration (Hours)	MES	SNR	R _★ (R _☉)	T _★ (K)	R _p (R _⊕)	S _p (S _⊕)
003453214-01	OBS	0802.01	19.620344	142.641200	21679.8	2.091	353.9	338.0	0.91	5710	14.00	40.45

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003453214-01	OBS	PC	1.00	0	0	0	0	CENT_KIC_POS

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

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

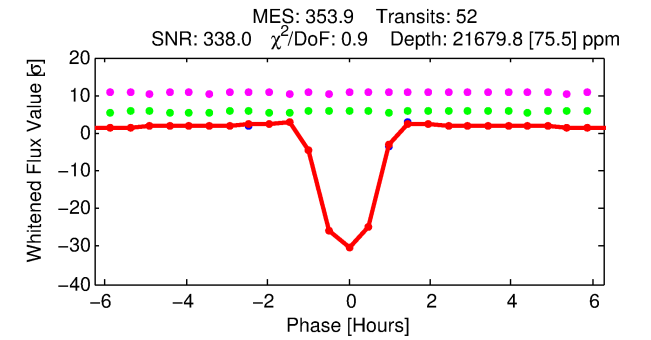
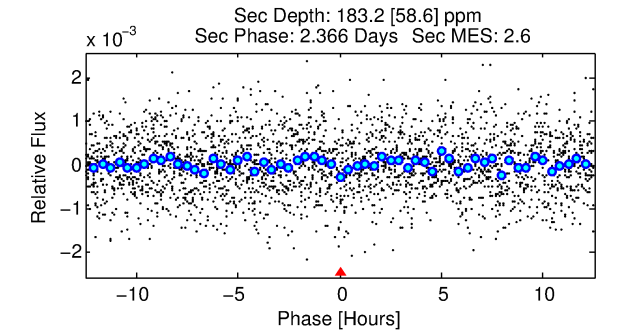
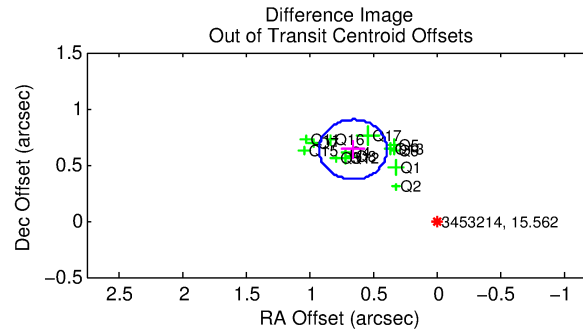
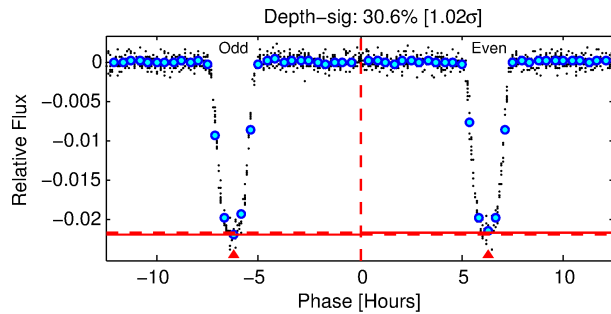
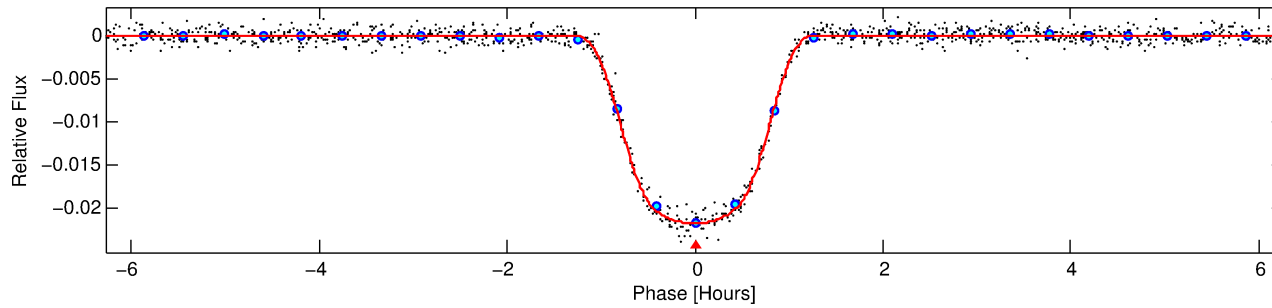
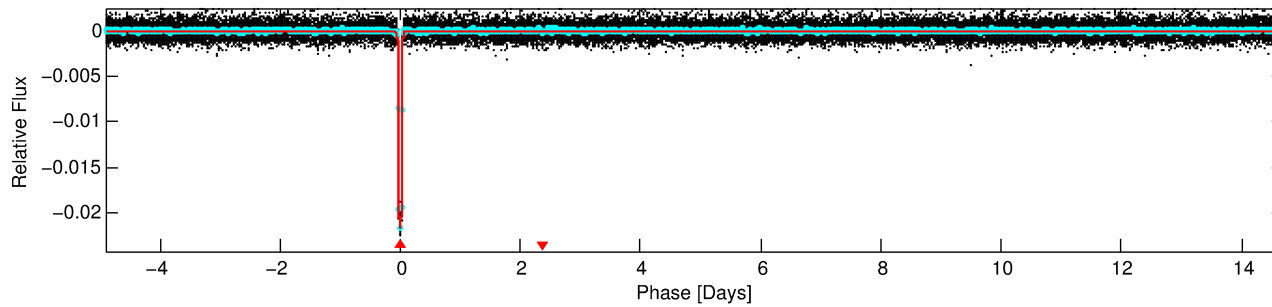
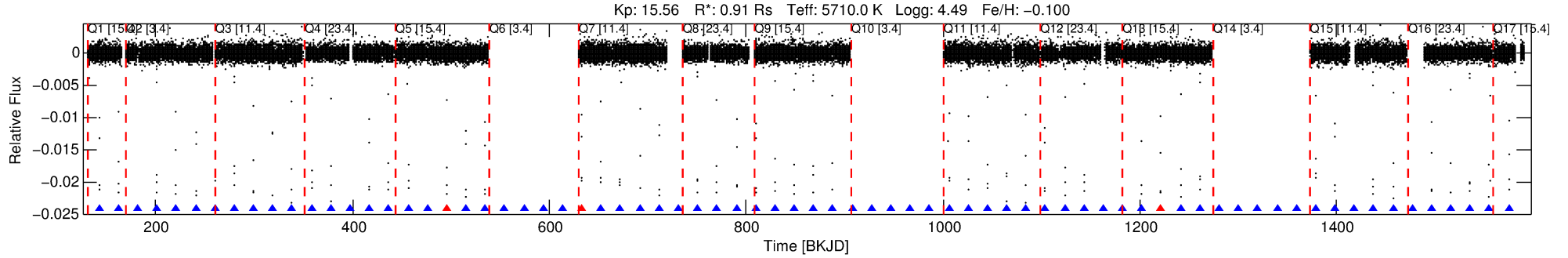
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 003453214-01

No Significant Match Found

DV One-Page Summary

KIC: 3453214 Candidate: 1 of 1 Period: 19.620 d
KOI: K00802.01 Corr: 0.974



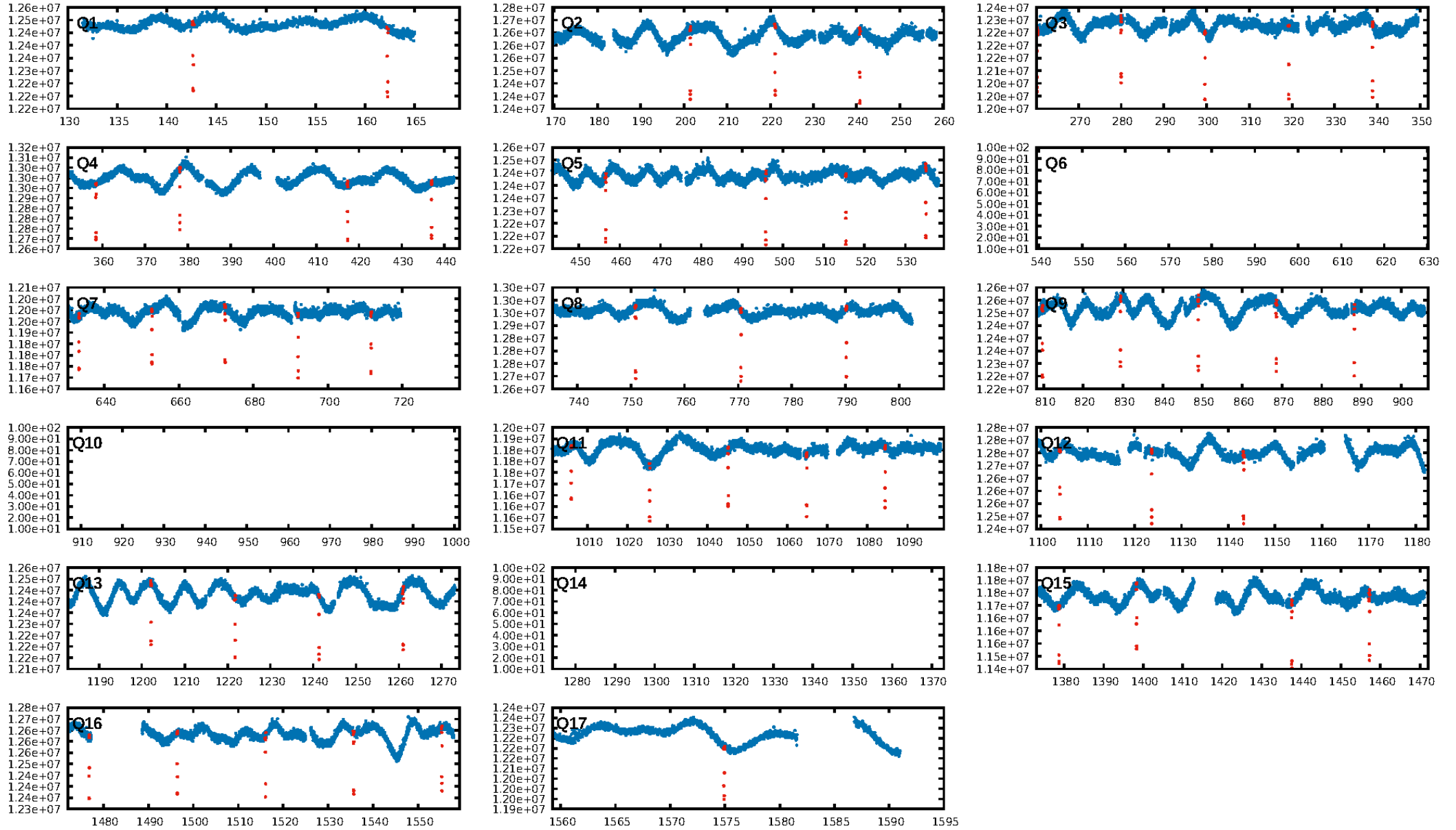
DV Fit Results:

Period = 19.62034 [0.00000] d
Epoch = 142.6412 [0.0001] BKJD
Rp/R* = 0.1417 [0.0011]
a/R* = 68.85 [1.88]
b = 0.62 [0.03]
Seff = 40.45 [8.20]
Teq = 643 [33] K
Rp = 14.00 [1.87] Re
a = 0.1389 [0.0172] AU
Ag = 9.92 [3.71] [2.40σ]
Teffp = 1765 [144] K [7.61σ]

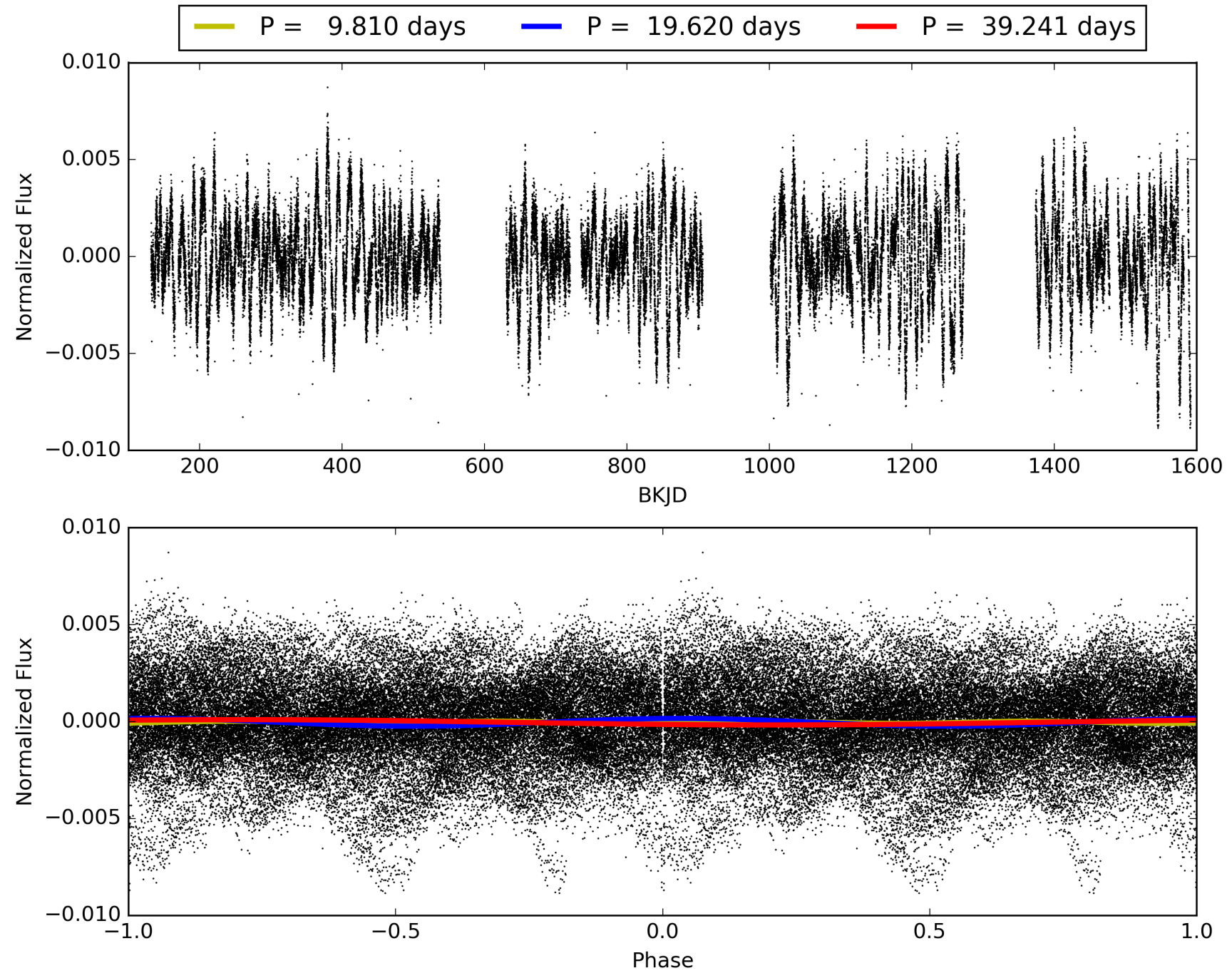
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 0.94 [46/49]
GhostDiagnostic-chr: 4.995
Centroid-sig: 0.0%
Centroid-so: 0.603 arcsec [17.35σ]
OotOffset-rm: 0.913 arcsec [10.28σ]
KicOffset-rm: 0.080 arcsec [1.07σ]
OotOffset-st: 1/4/4/5 [14]
KicOffset-st: 1/4/4/5 [14]
DiffImageQuality-fgm: 1.00 [14/14]
DiffImageOverlap-fno: 1.00 [14/14]

TCE 003453214-01, PDC Light Curves

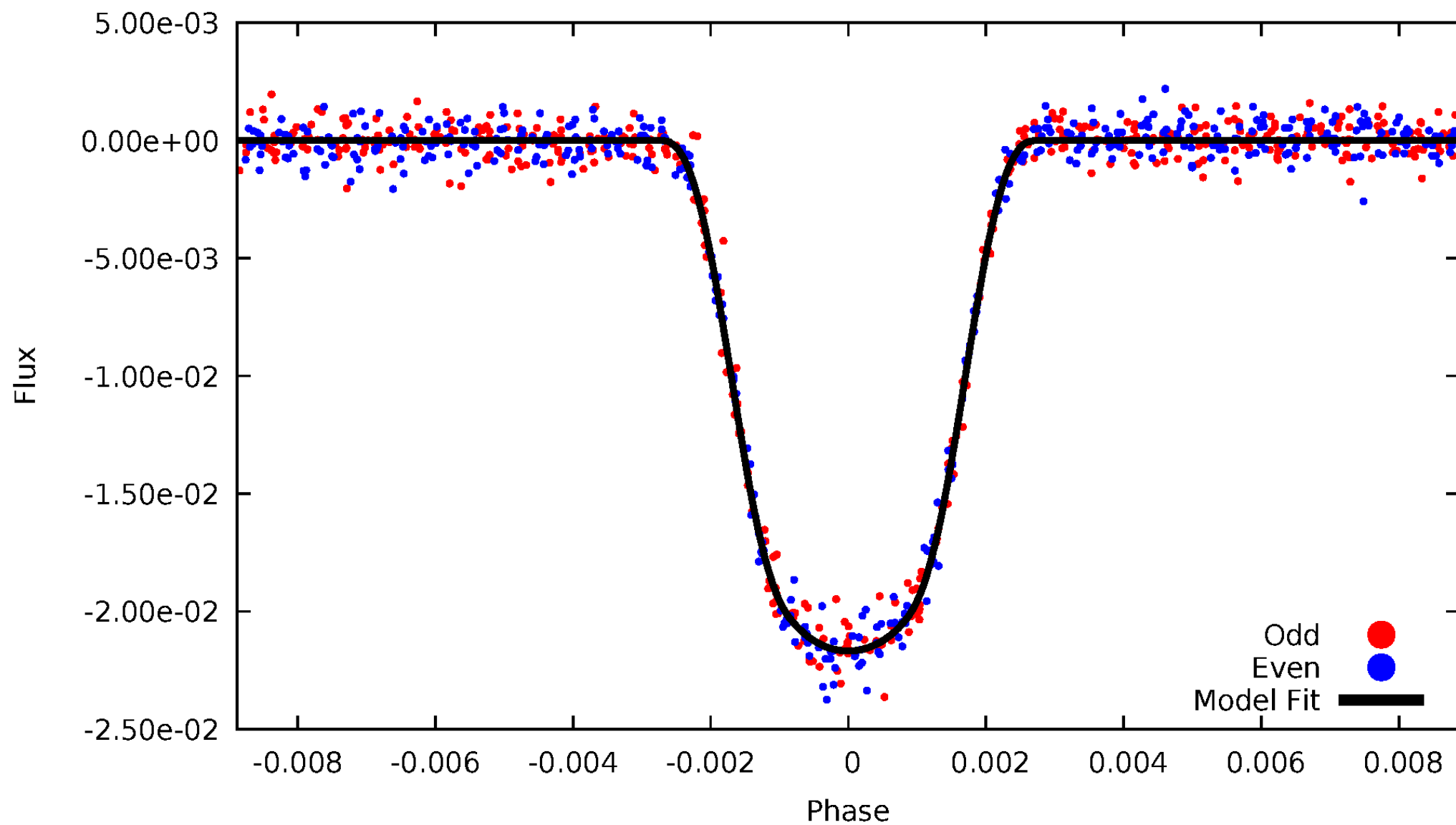


TCE 003453214-01



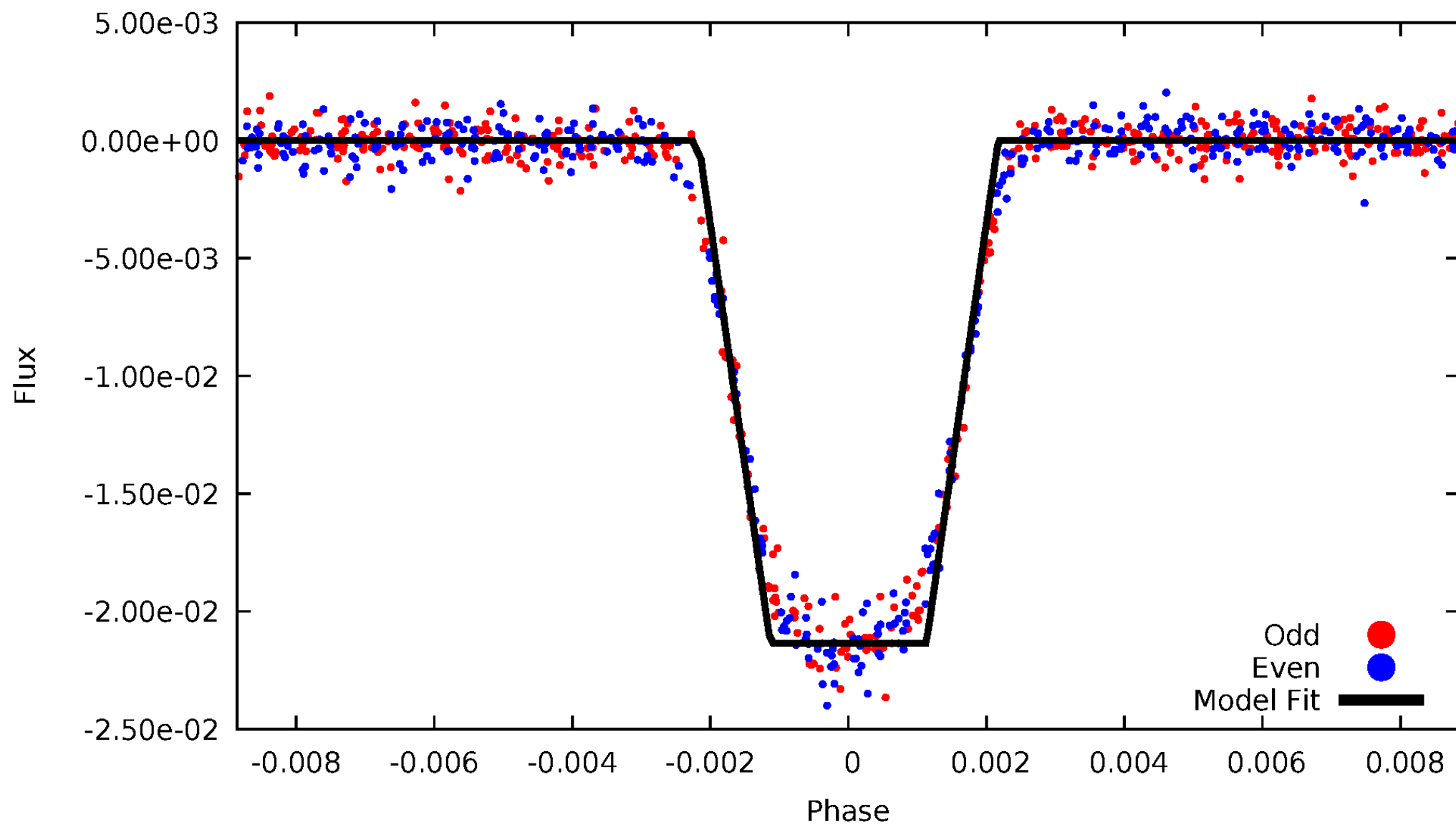
DV Odd/Even

TCE 003453214-01



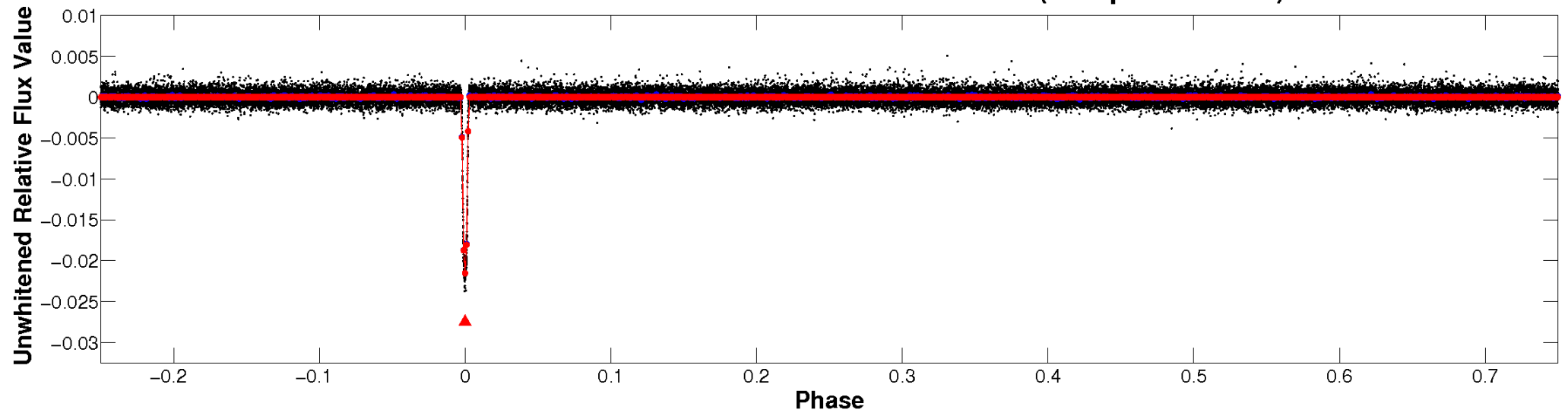
ALT Odd/Even

TCE 003453214-01

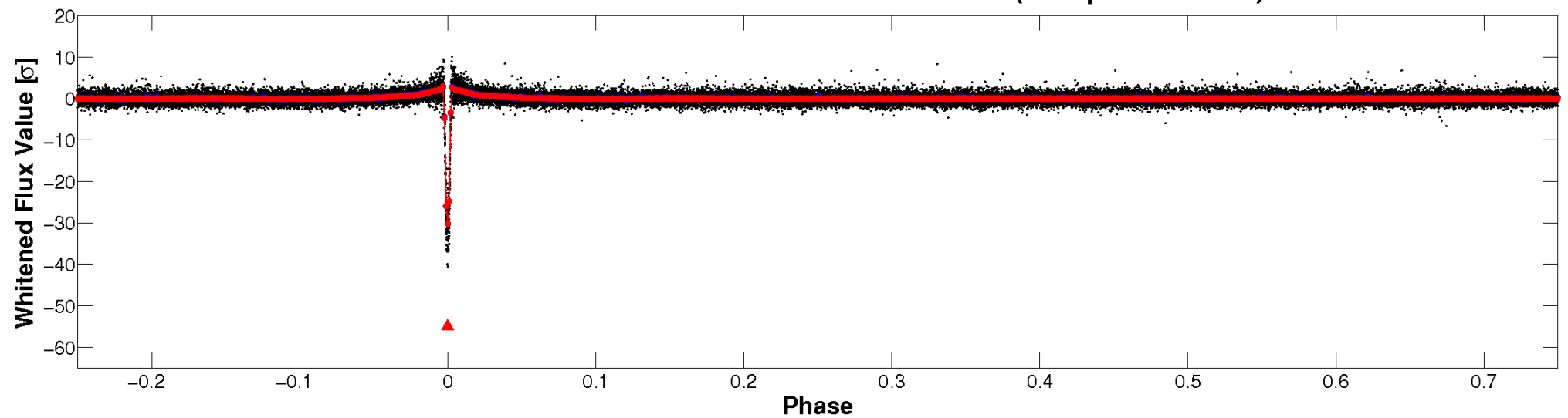


Non-Whitened Vs. Whitened Light Curve

Planet 1 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

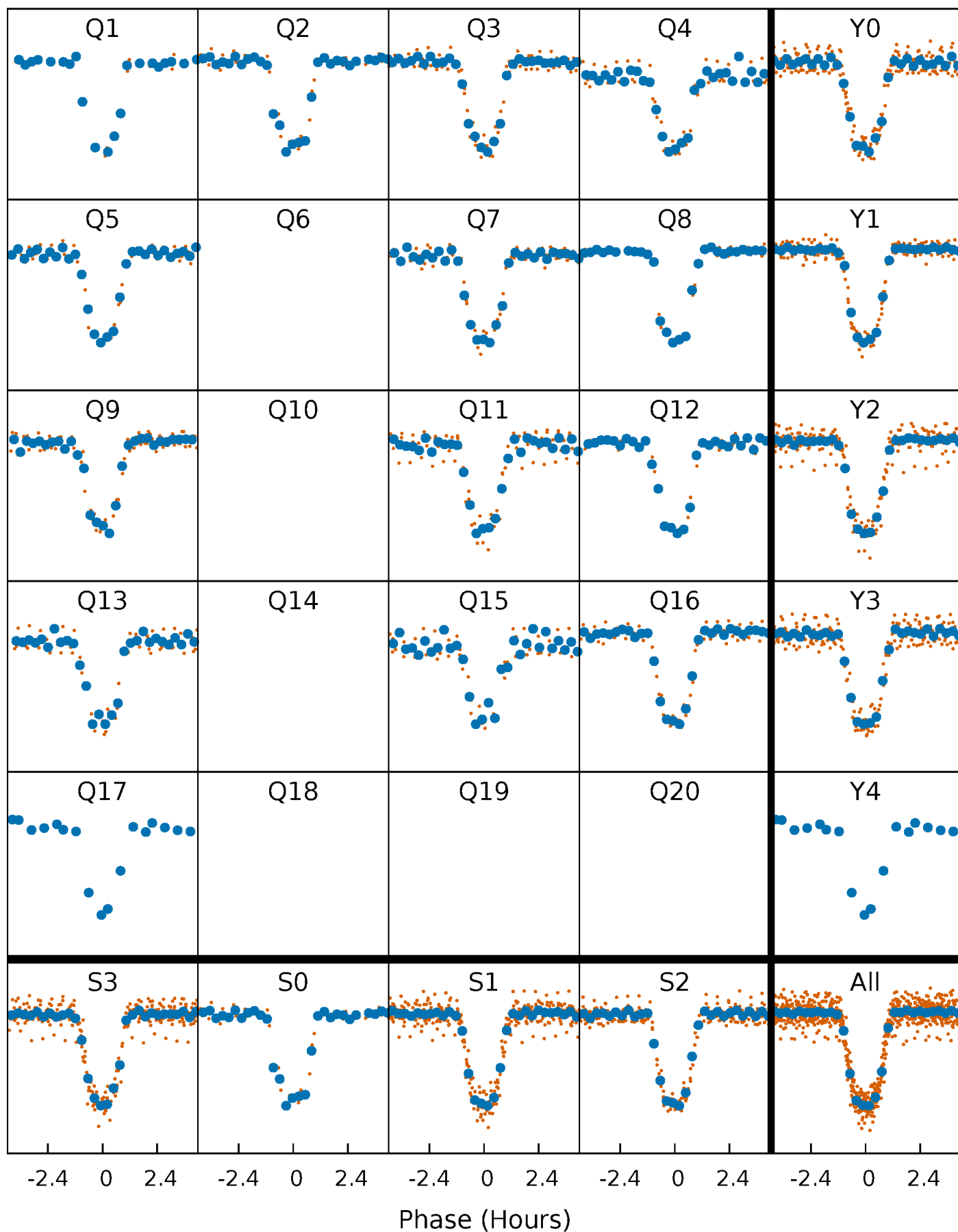


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



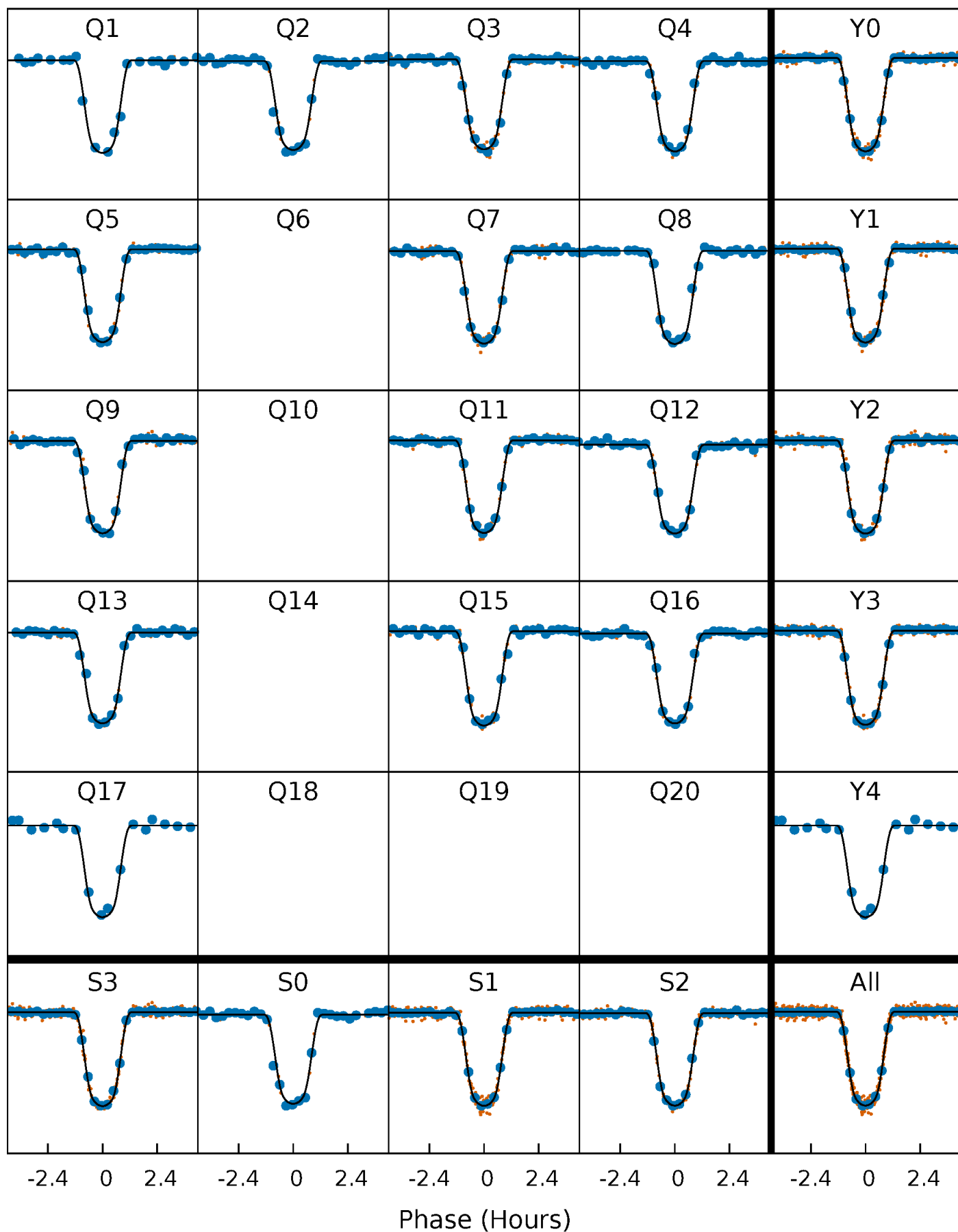
PDC Quarter-Phased Transit Curves

TCE 003453214-01 P= 19.620344 Days $T_0=142.641200$ (BKJD)



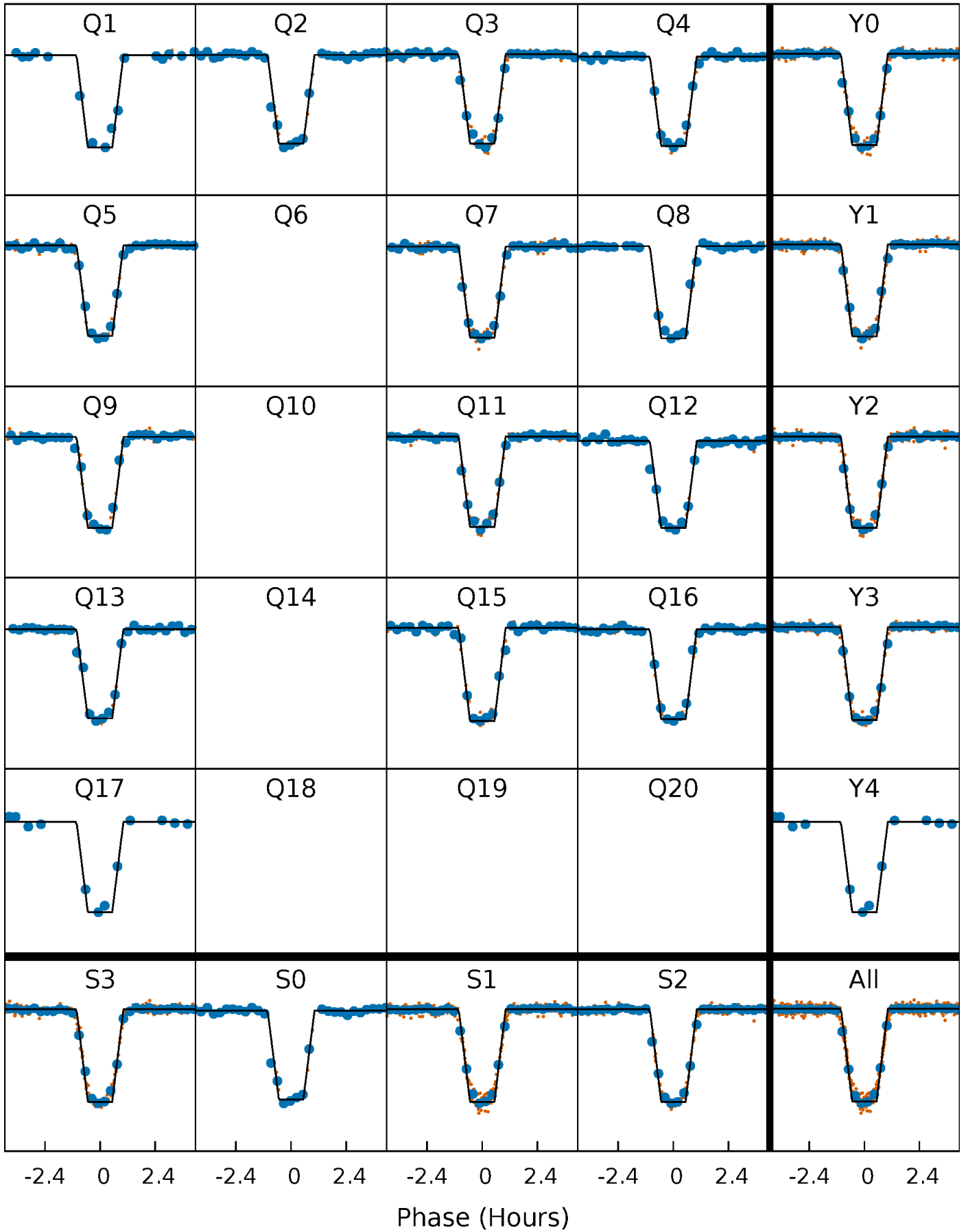
DV Quarter-Phased Transit Curves

TCE 003453214-01 P= 19.620344 Days $T_0=142.641200$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

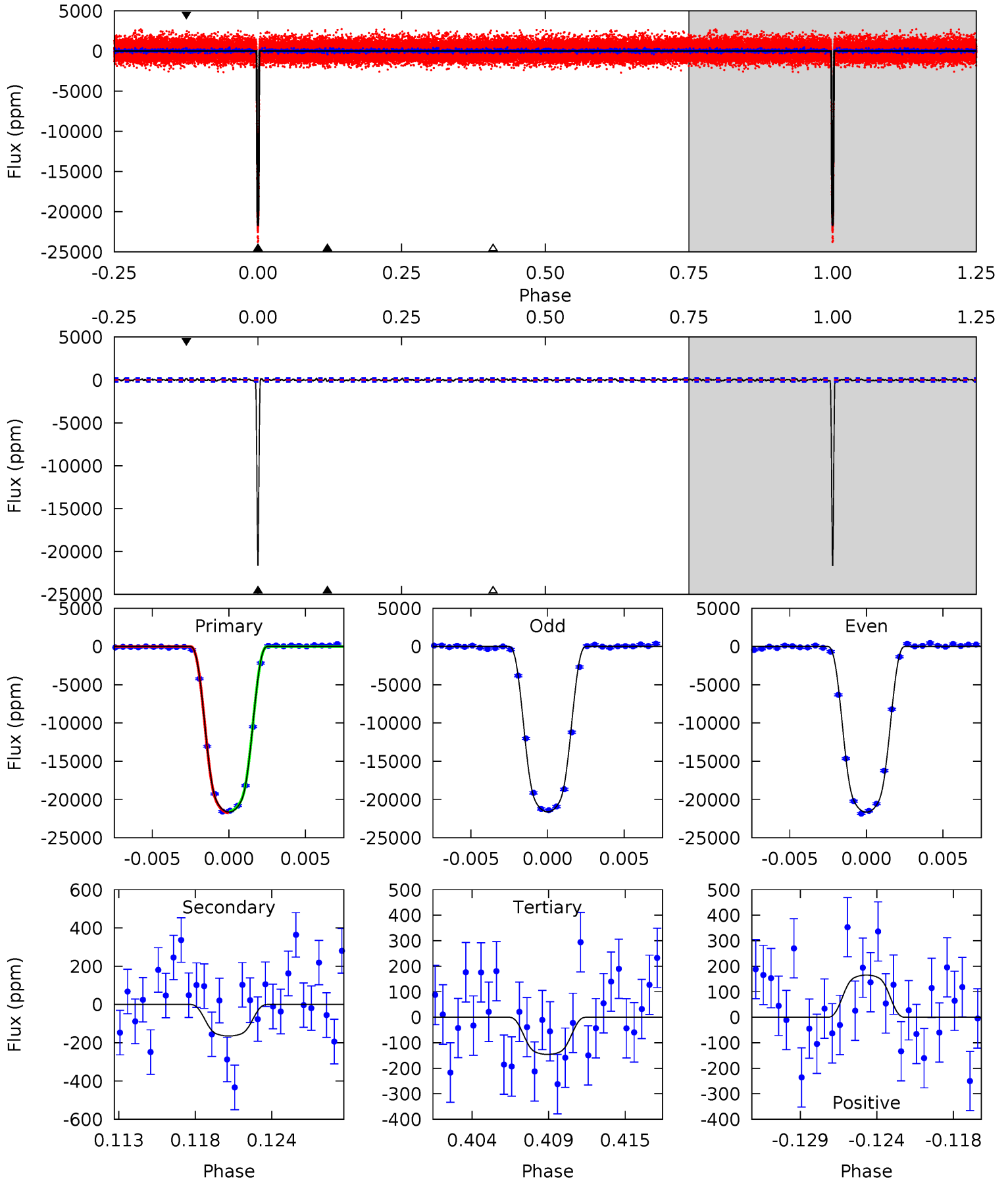
TCE 003453214-01 P= 19.620354 Days $T_0=142.640842$ (BKJD)



DV Model-Shift Uniqueness Test

003453214-01, P = 19.620344 Days, E = 123.020856 Days

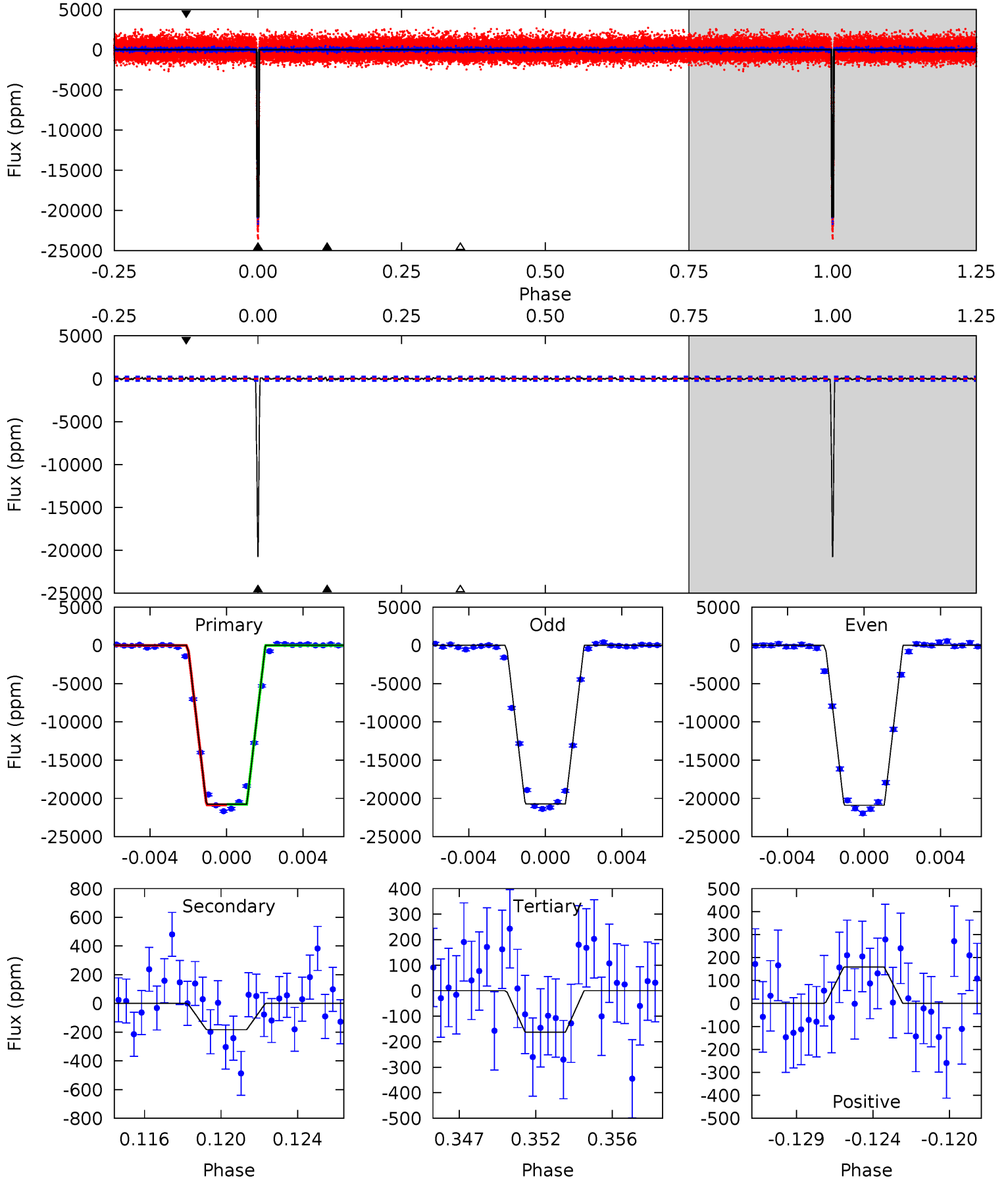
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
522.6	3.97	3.52	4.00	5.14	2.78	1.33	519.1	518.6	0.46	-0.02	0.52	1.00	0.01	2.31



Alt Model-Shift Uniqueness Test

003453214-01, P = 19.620354 Days, E = 123.020488 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
449.5	3.95	3.52	3.44	5.19	2.86	1.12	446.0	446.1	0.43	0.51	1.81	1.00	0.01	0.70



Stellar Parameters For KIC 003453214

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (g \cdot \text{cm}^{-3})$
	5710^{+76}_{-85}	$4.492^{+0.048}_{-0.112}$	$-0.100^{+0.150}_{-0.150}$	$0.905^{+0.121}_{-0.061}$	$0.928^{+0.052}_{-0.058}$	$1.764^{+0.314}_{-0.525}$
	+1%/-1%	+1%/-2%	+150%/-150%	+13%/-7%	+6%/-6%	+18%/-30%
Source	SPE68	SPE68	SPE68	DSEP		

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

Secondary Eclipse Parameters for KIC 003453214-01 / KOI 0802.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-164 ± 41	$14.07^{+1.21}_{-0.60}$	903^{+34}_{-23}	2542^{+79}_{-102}	$8.543^{+2.470}_{-2.321}$
Alt.	-182 ± 46	$14.63^{+1.10}_{-0.70}$	906^{+32}_{-25}	2554^{+75}_{-101}	$8.809^{+2.394}_{-2.426}$

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 $A_{obs} \gg 1.0$

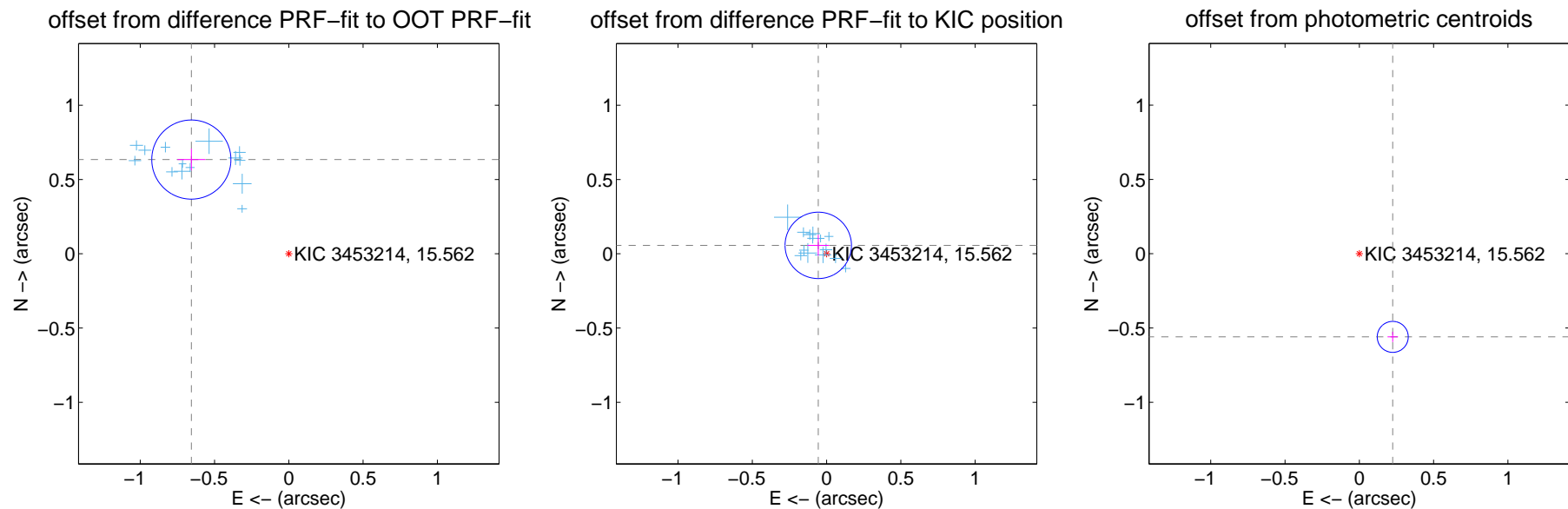
DV Centroid Data

Supplemental centroid analysis for 003453214-01. Kepler magnitude: 15.56. Transit SNR 337.99

There are 14 quarters with good PRF difference image offsets

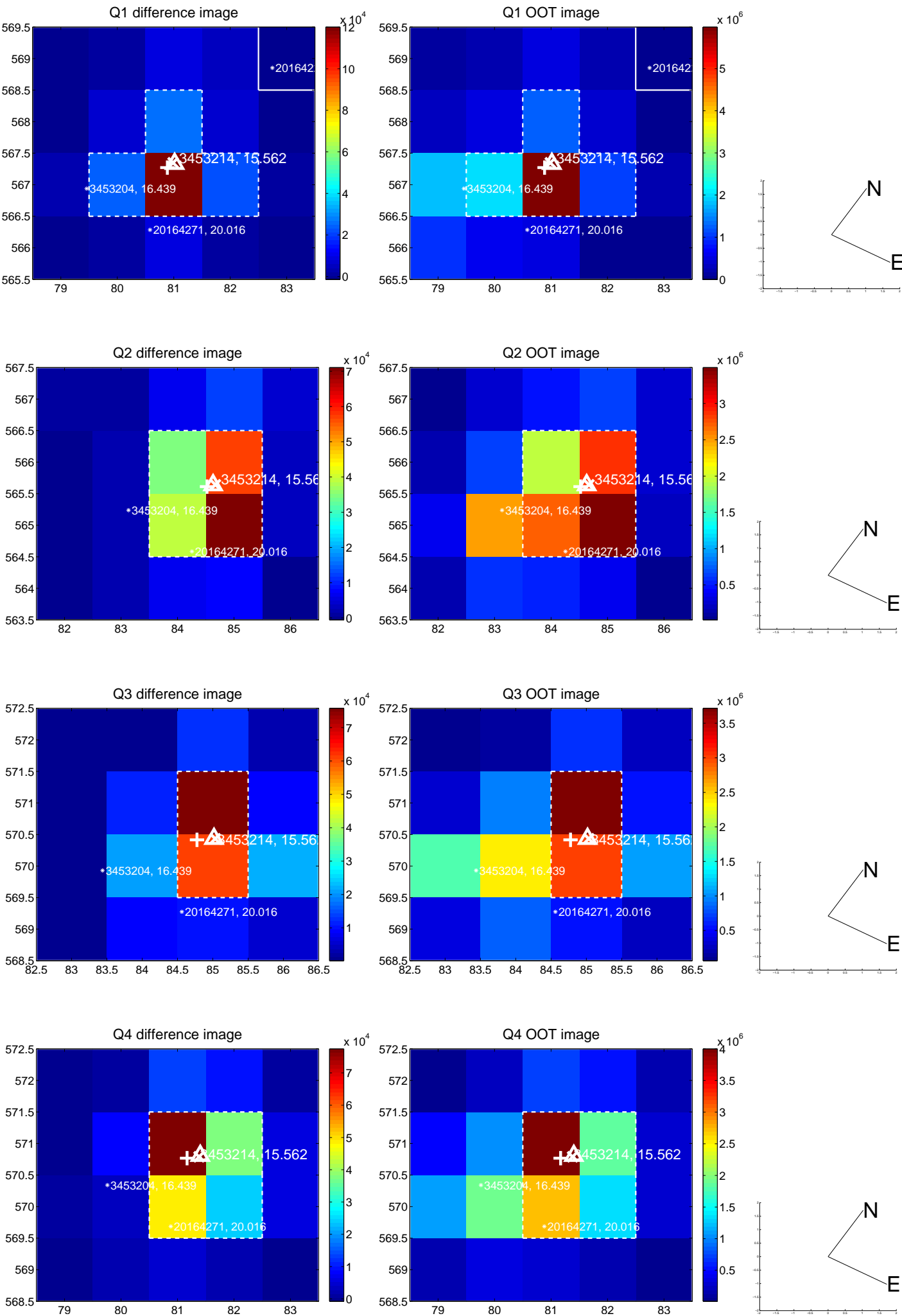
The direct PRF centroid is offset from the target star catalog position by about 0.58 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.913 ± 0.089	10.28	0.656 ± 0.094	0.634 ± 0.073
PRF-fit source offset from KIC position	0.080 ± 0.074	1.07	0.056 ± 0.072	0.057 ± 0.071
photometric centroid source offset	0.60 ± 0.03	17.35	-0.22 ± 0.04	-0.56 ± 0.03

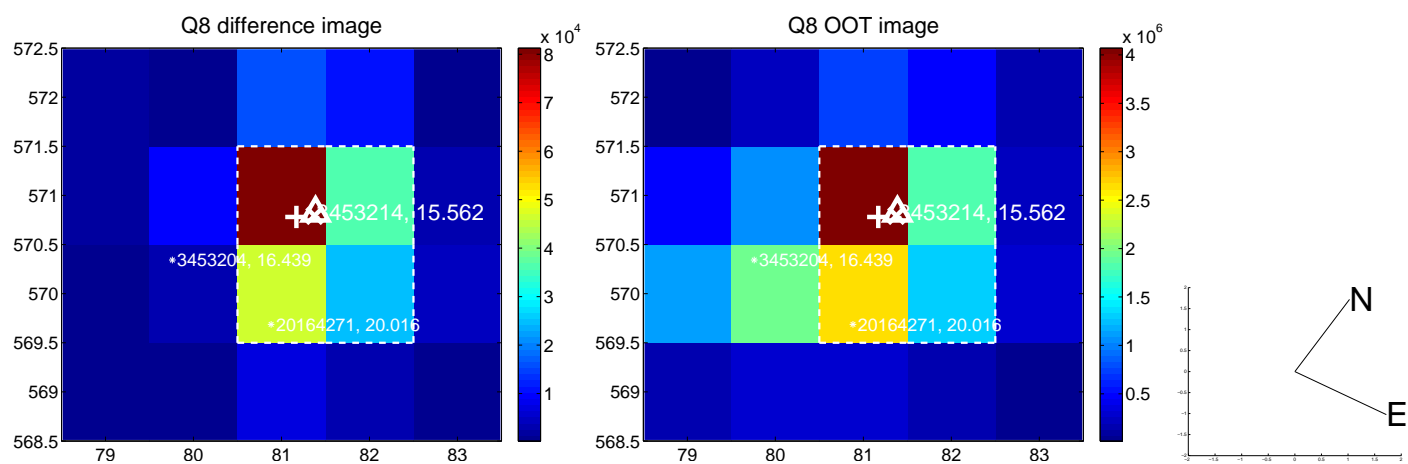
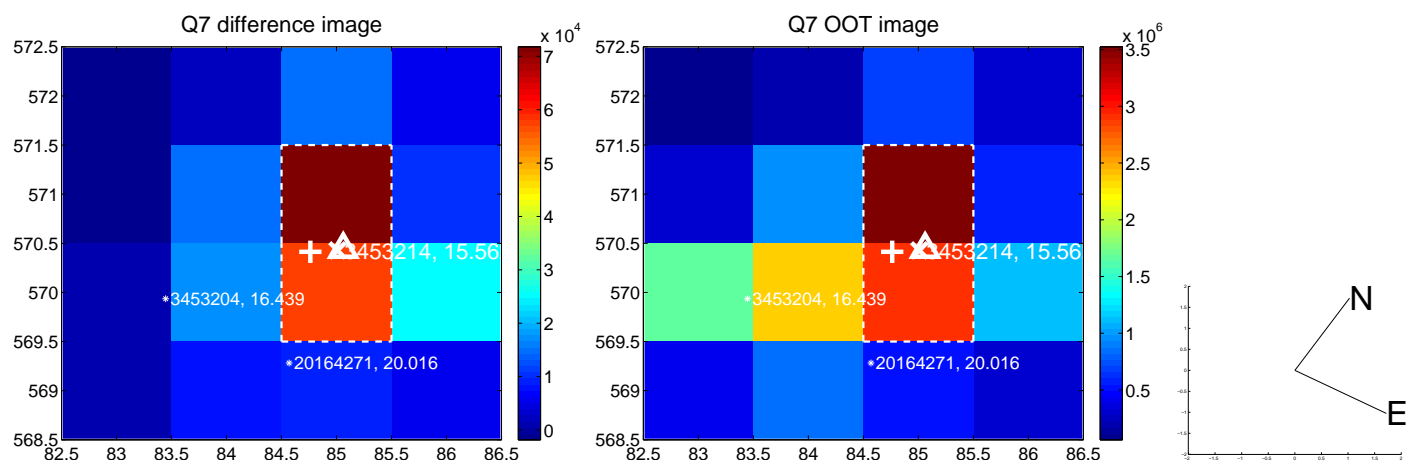
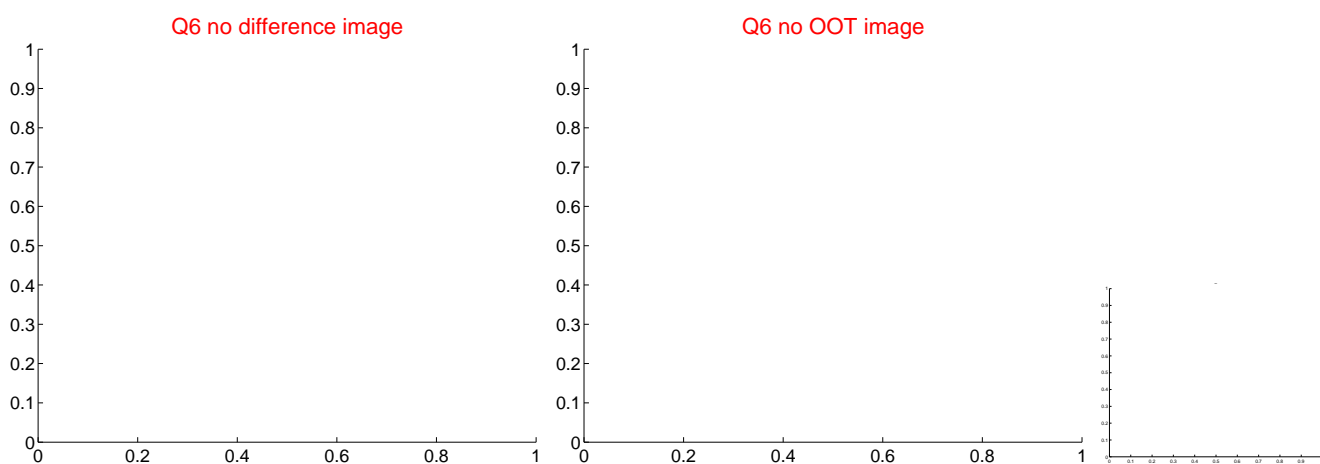
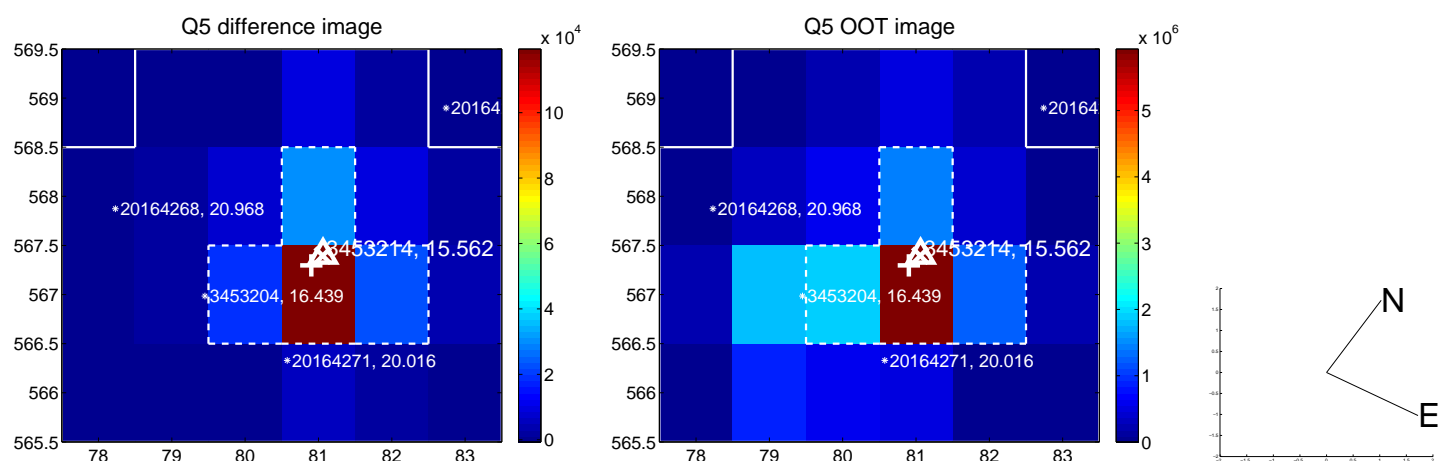


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

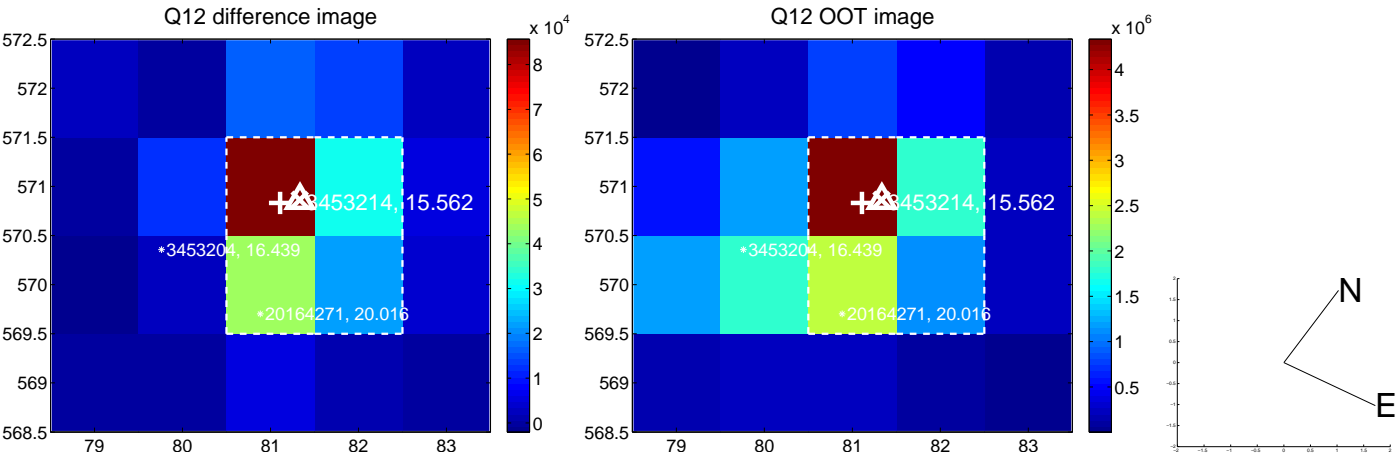
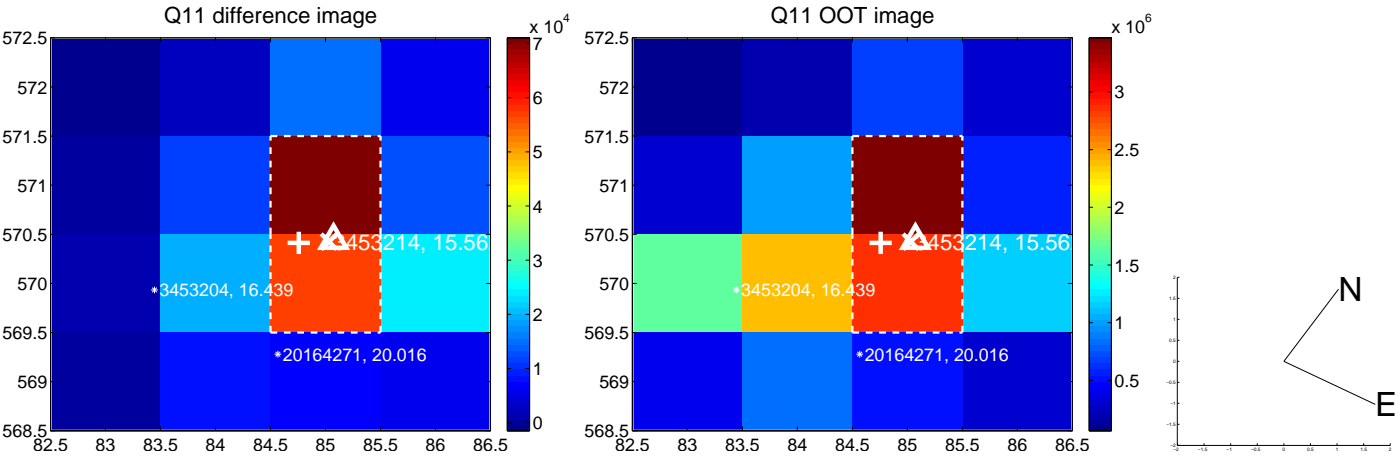
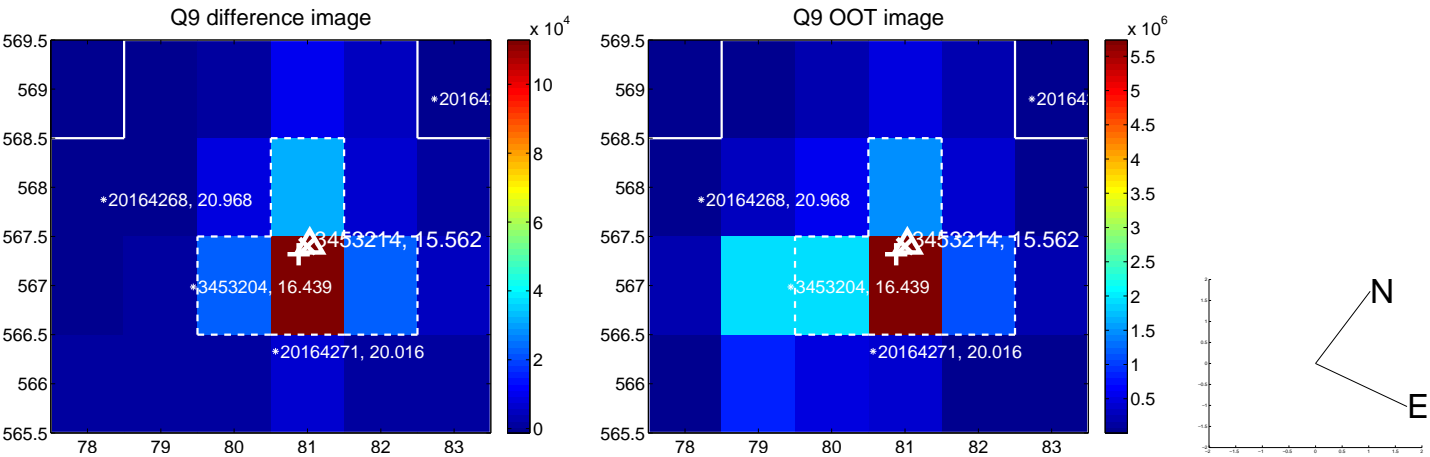
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



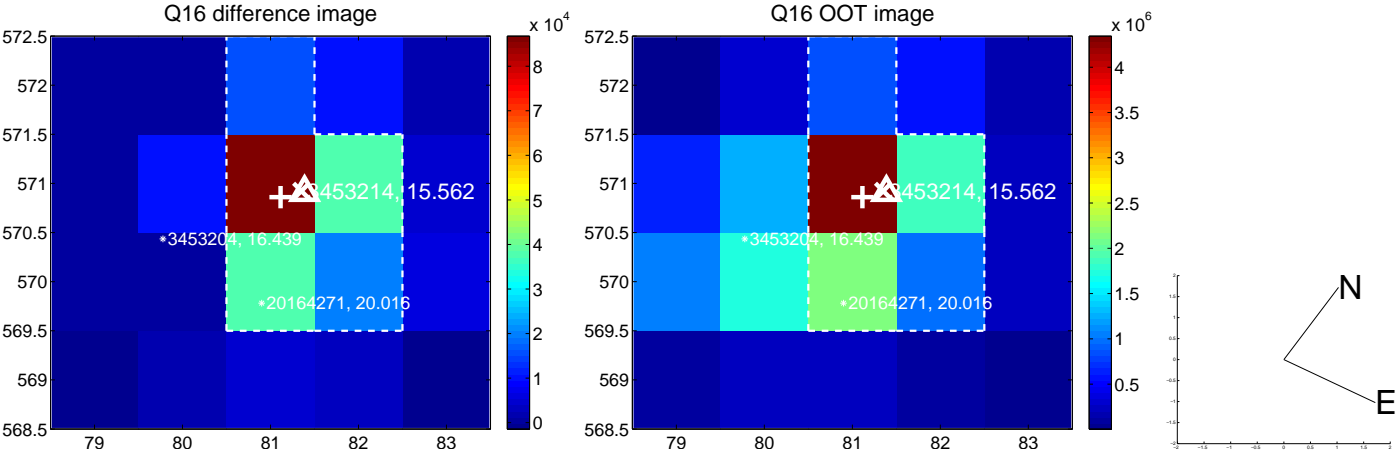
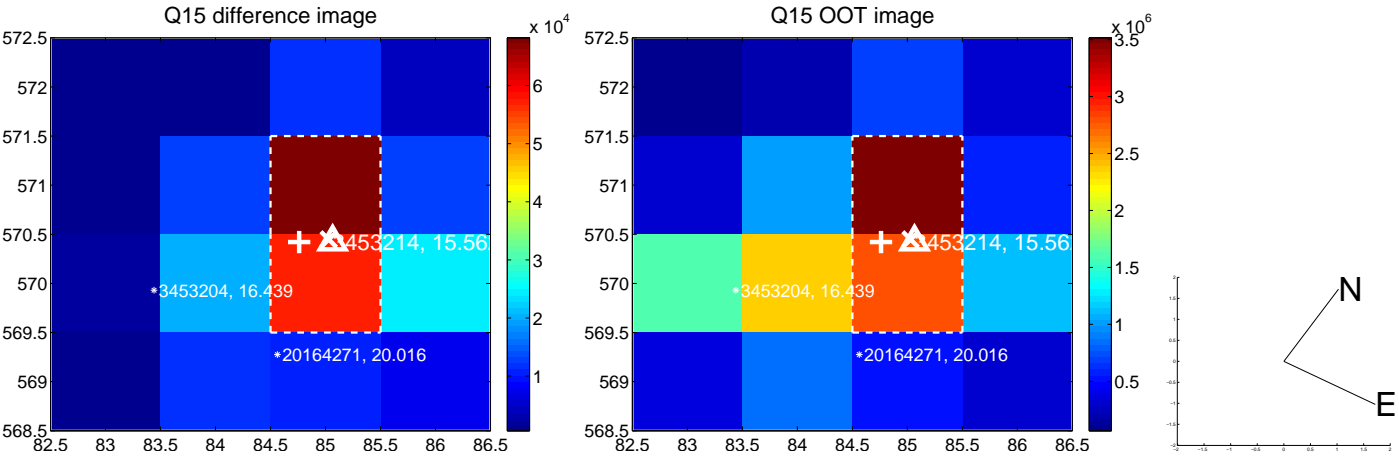
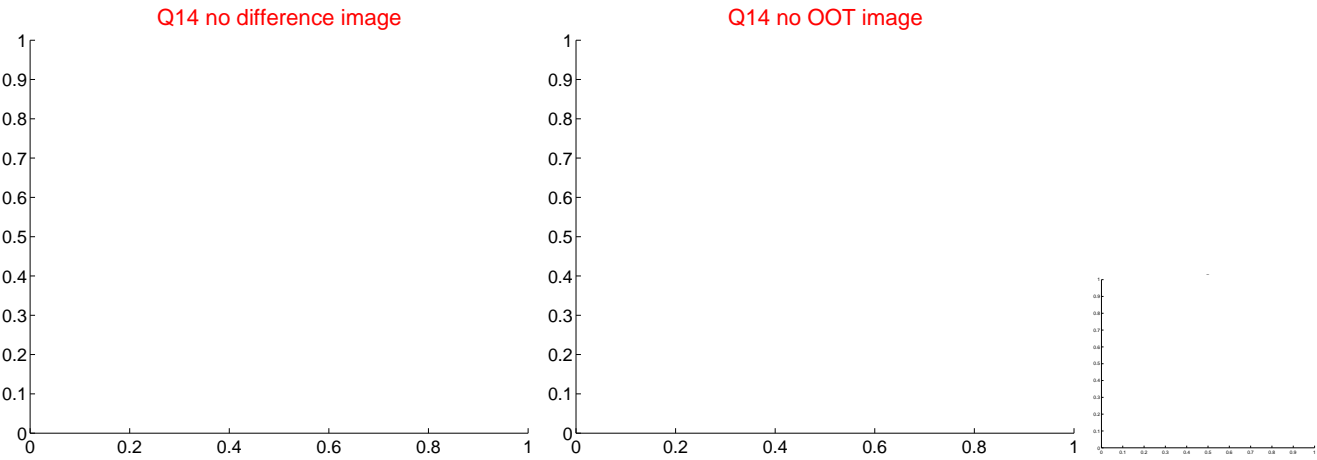
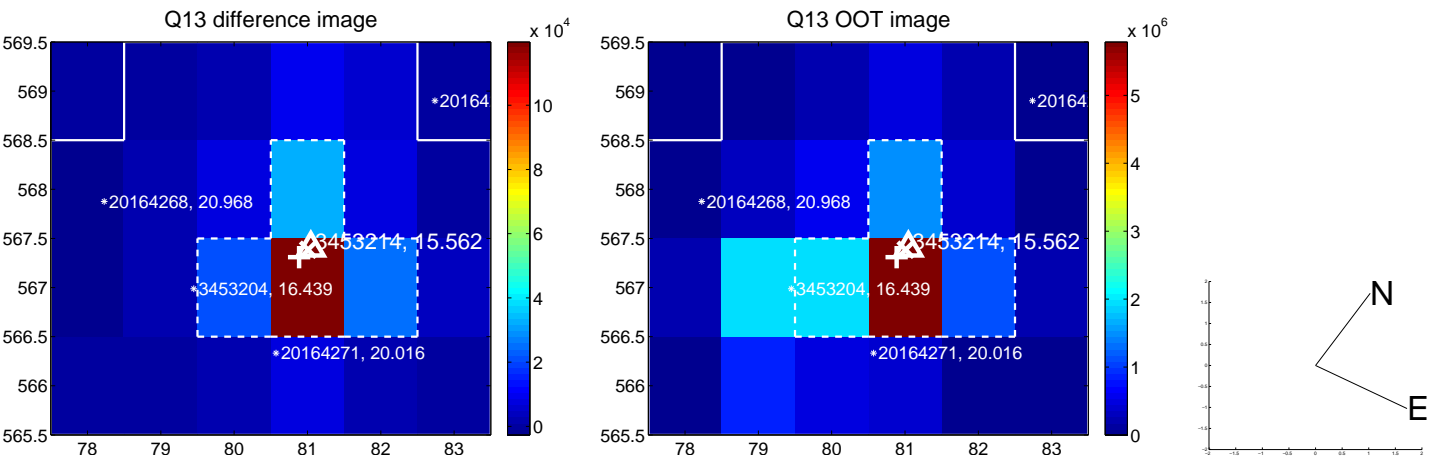
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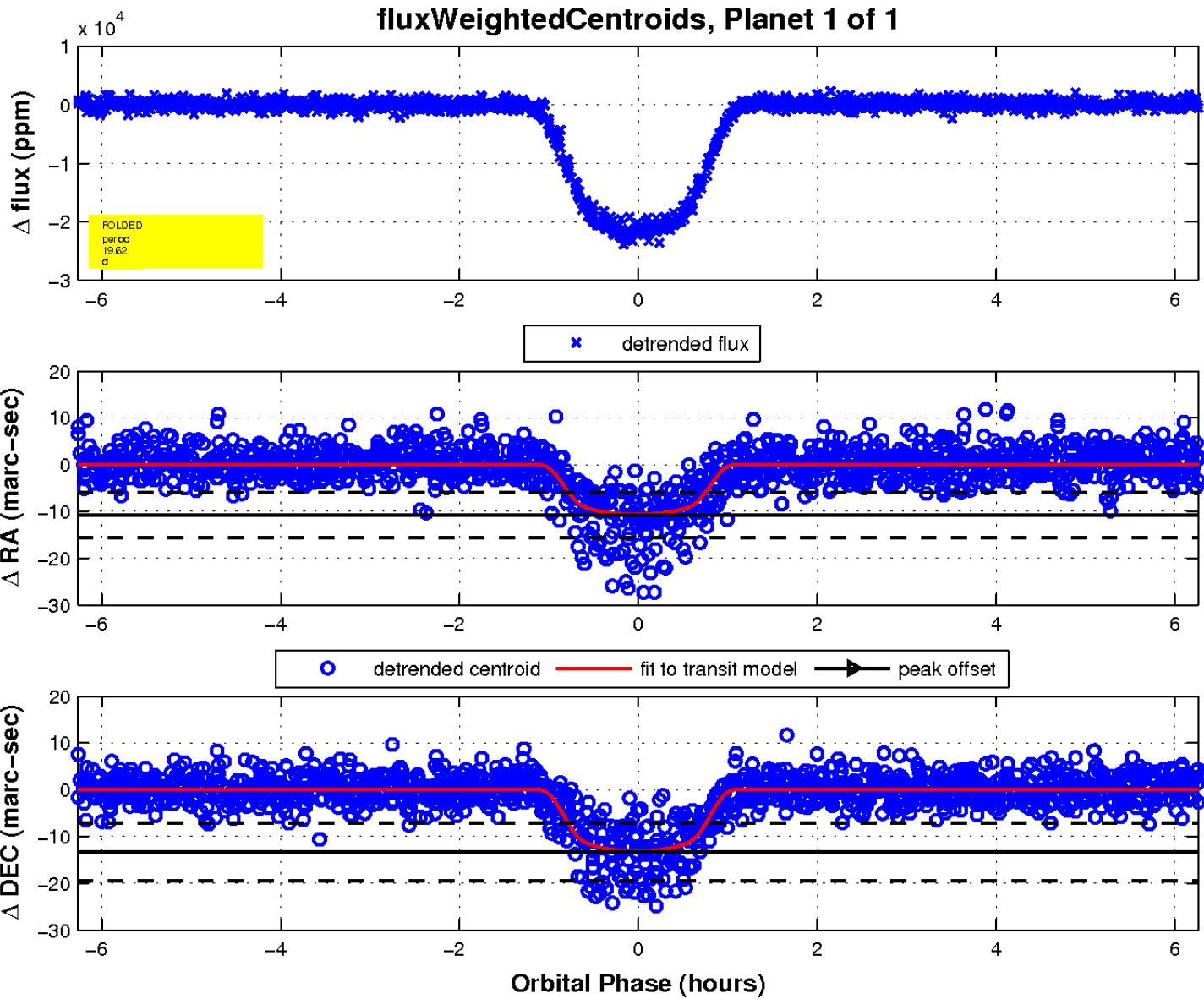
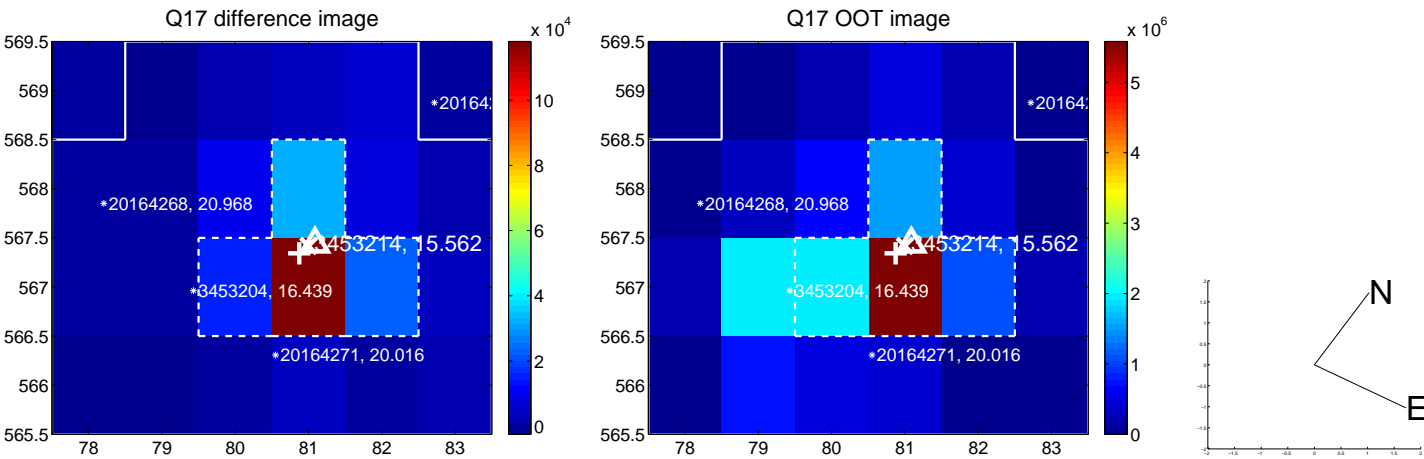
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UKIRT Image

Declination

