

KIC 002164169

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})
002164169-01	OBS	1029.01	32.312448	133.862281	655.2	6.444	26.9	29.0	1.49	5821	4.65	56.58

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
002164169-01	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.

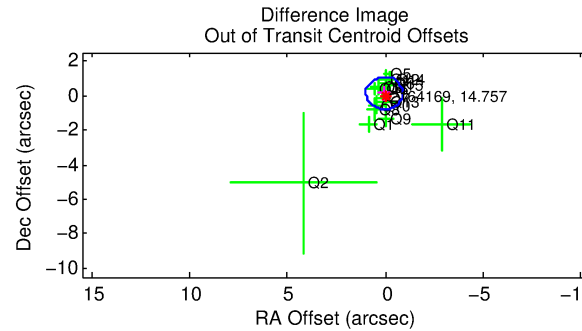
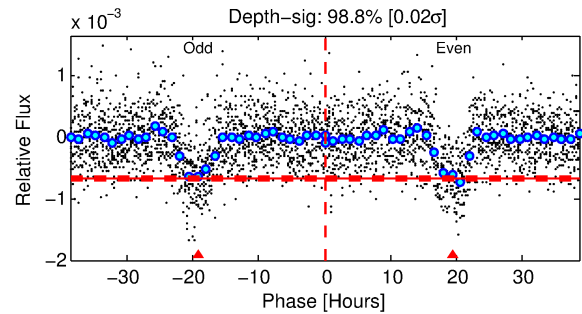
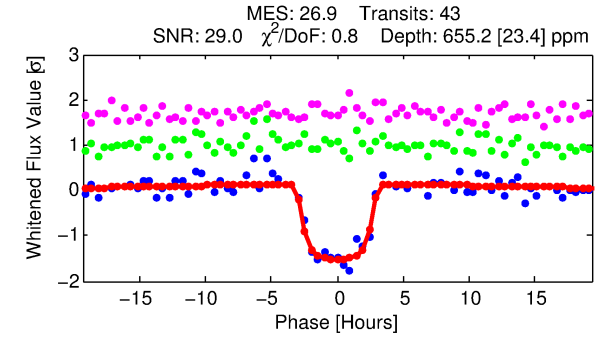
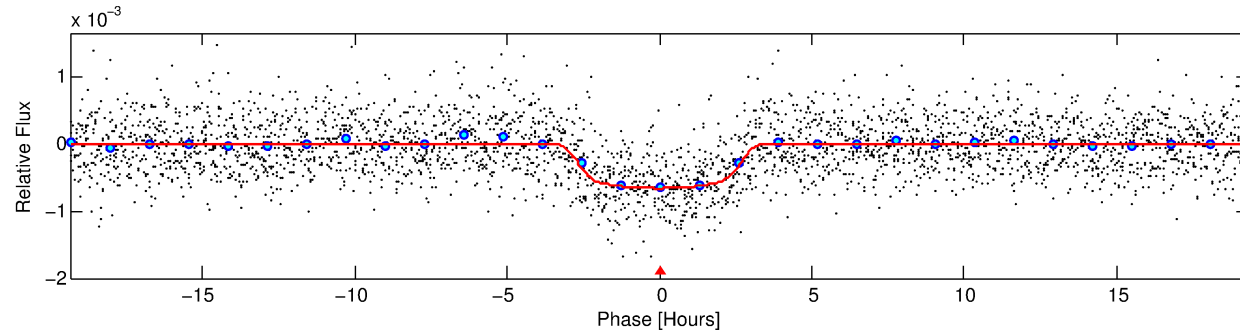
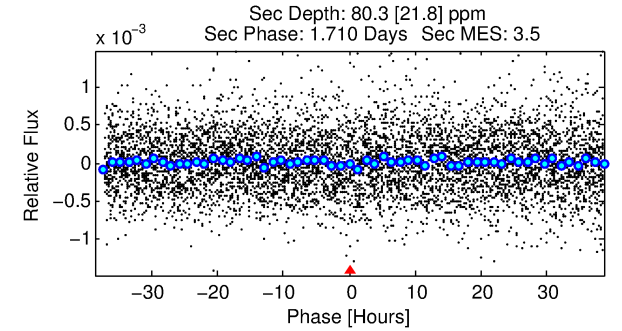
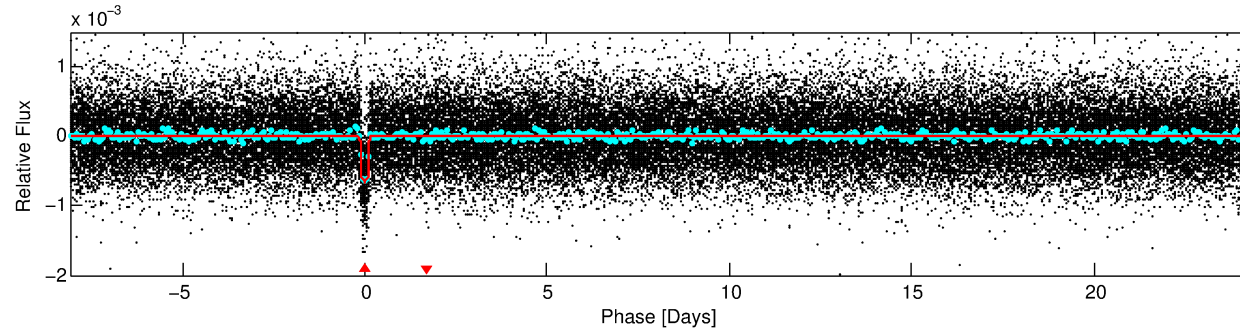
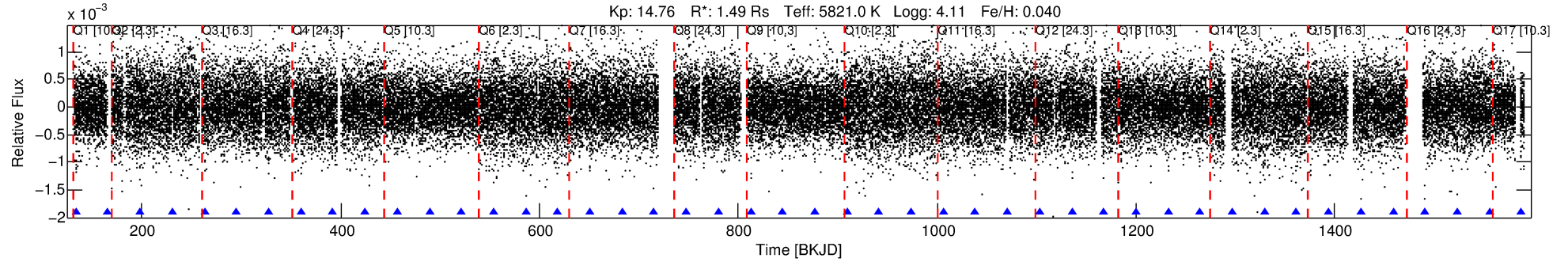
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 002164169-01

No Significant Match Found

DV One-Page Summary

KIC: 2164169 Candidate: 1 of 1 Period: 32.312 d
KOI: K01029.01 Corr: 0.971



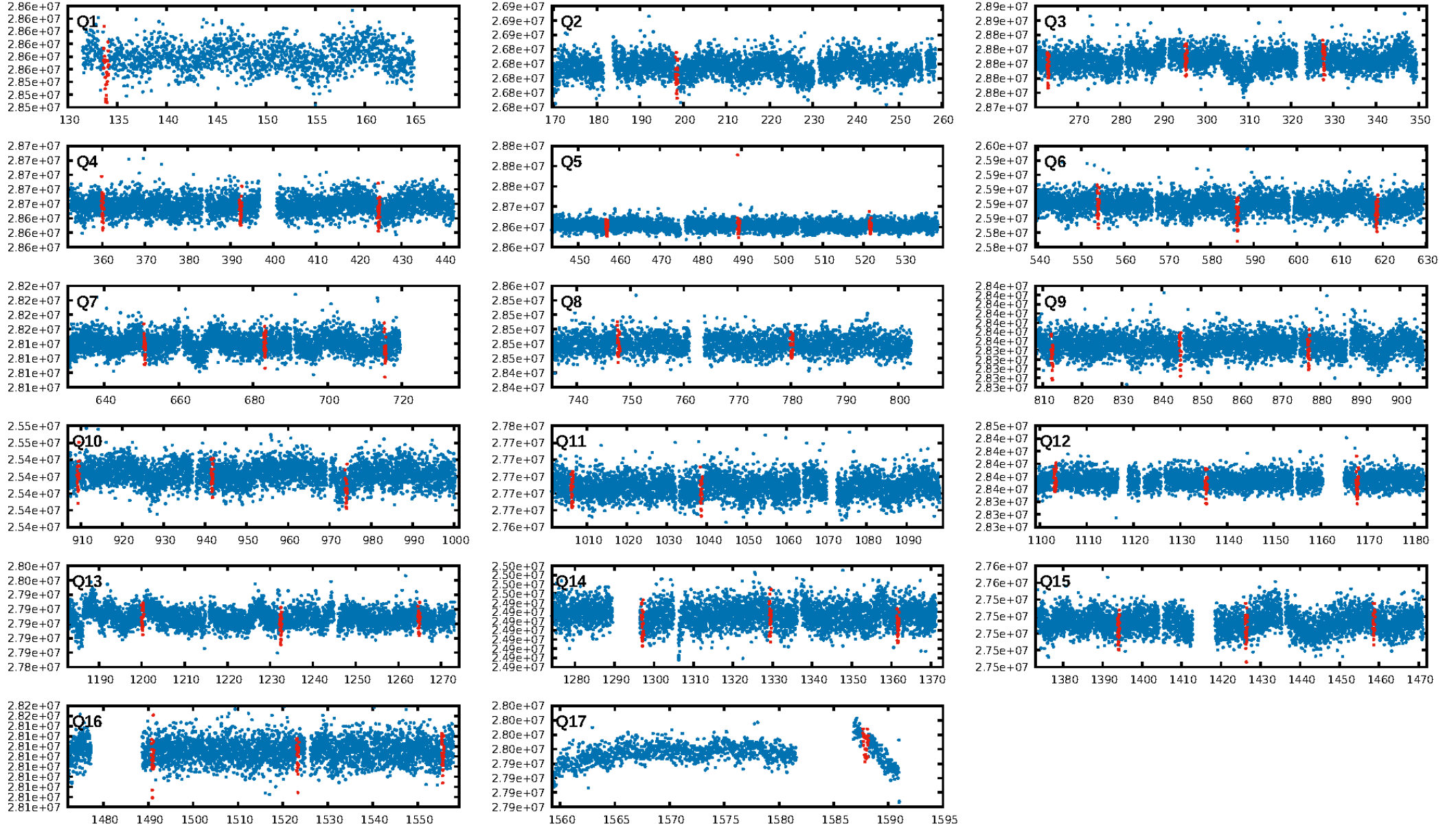
DV Fit Results:

Period = 32.31245 [0.00018] d
Epoch = 133.8623 [0.0047] BKJD
Rp/R* = 0.0285 [0.0011]
a/R* = 17.51 [2.67]
b = 0.92 [0.03]
Seff = 56.58 [18.08]
Teff = 699 [56] K
Rp = 4.65 [1.03] Re
a = 0.2015 [0.0406] AU
Ag = 82.84 [35.08] [2.33σ]
Teffp = 3262 [235] K [10.61σ]

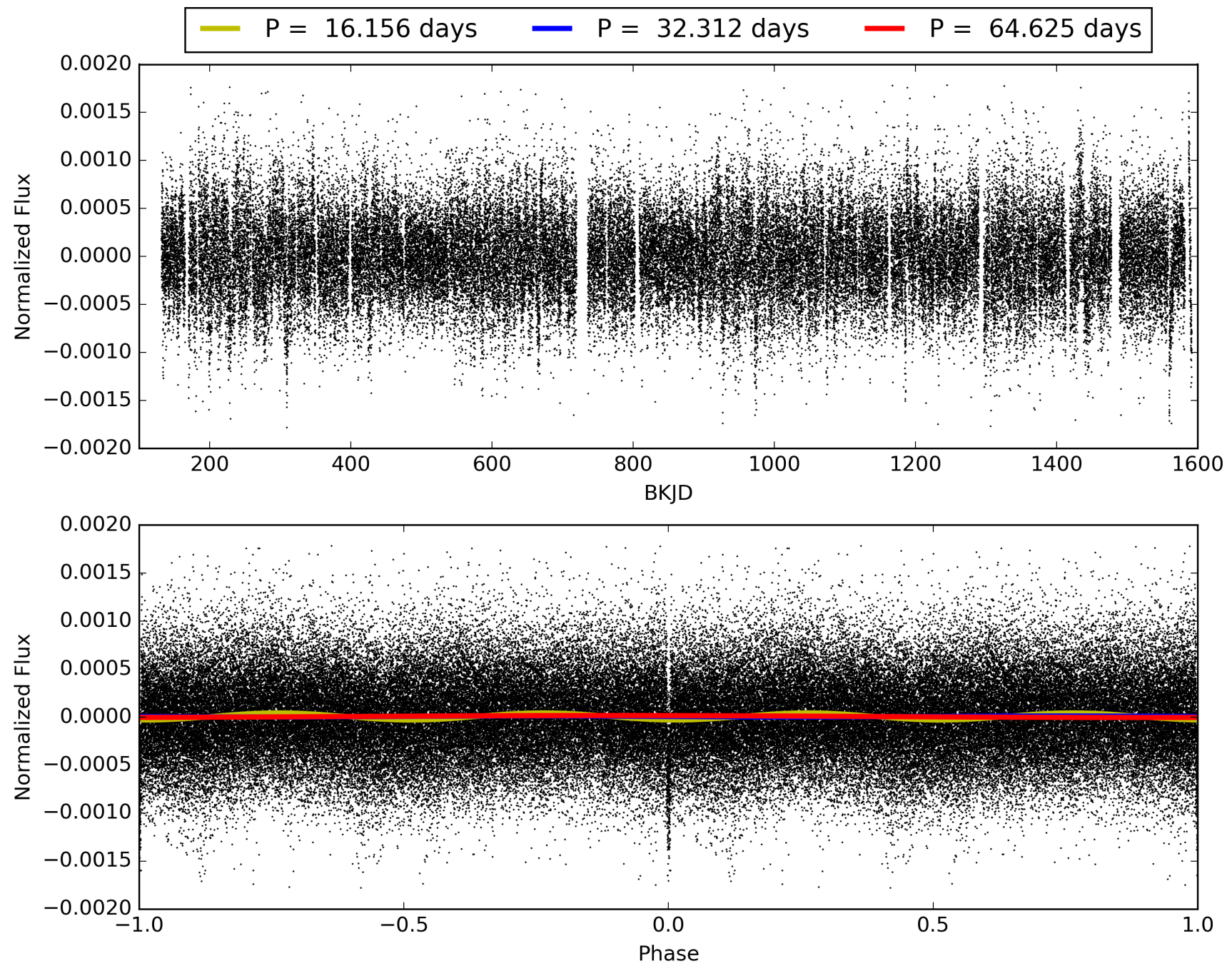
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 99.9%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 2.66e-153
RollingBand-fgt: 1.00 [41/41]
GhostDiagnostic-chr: 3.939
Centroid-sig: 9.6%
Centroid-so: 1.531 arcsec [3.42σ]
OotOffset-rm: 0.155 arcsec [0.49σ]
KicOffset-rm: 0.412 arcsec [1.47σ]
OotOffset-st: 4/4/4/4 [16]
KicOffset-st: 4/4/4/4 [16]
DiffImageQuality-fgm: 0.88 [14/16]
DiffImageOverlap-fno: 1.00 [16/16]

TCE 002164169-01, PDC Light Curves

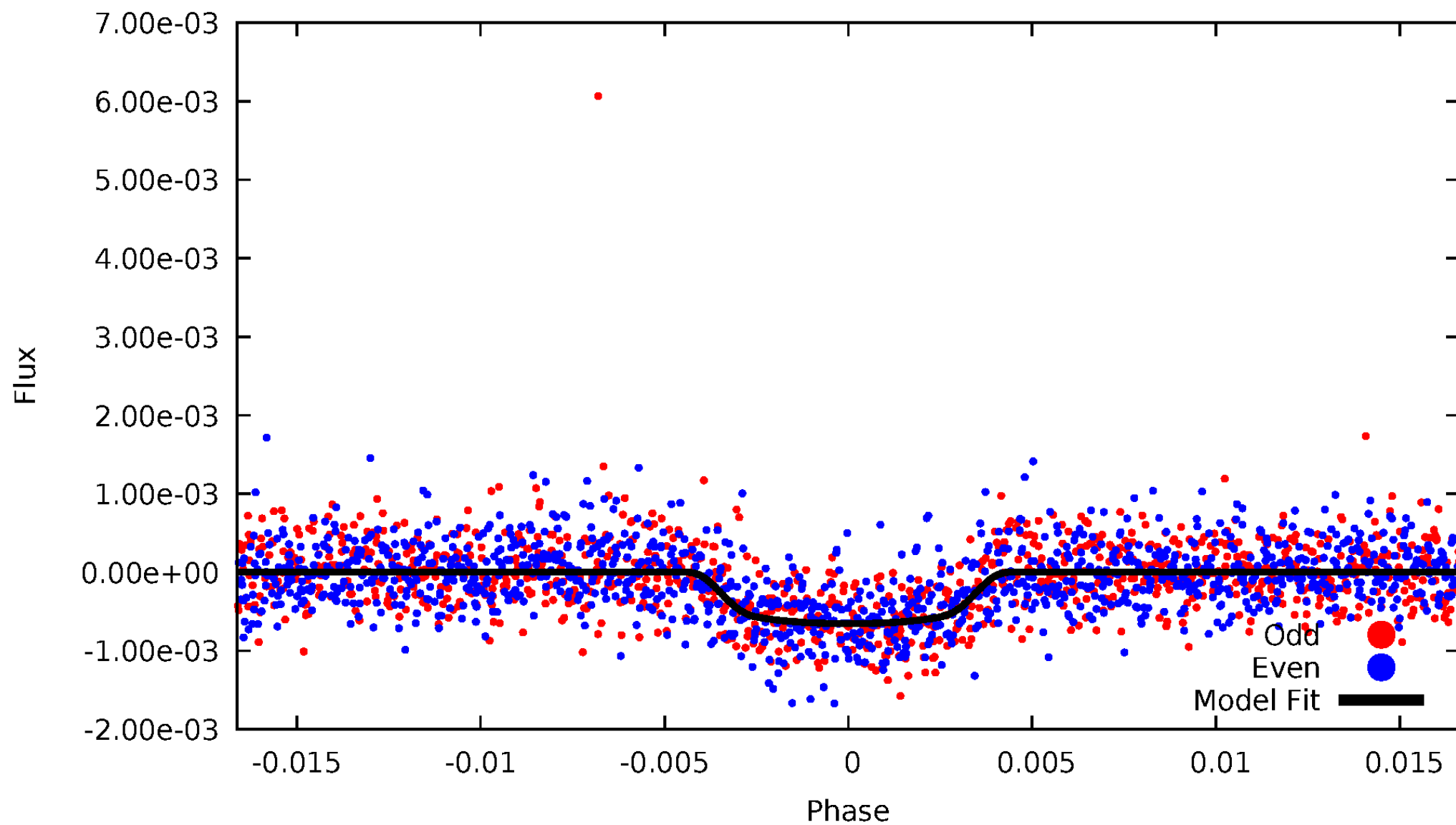


TCE 002164169-01



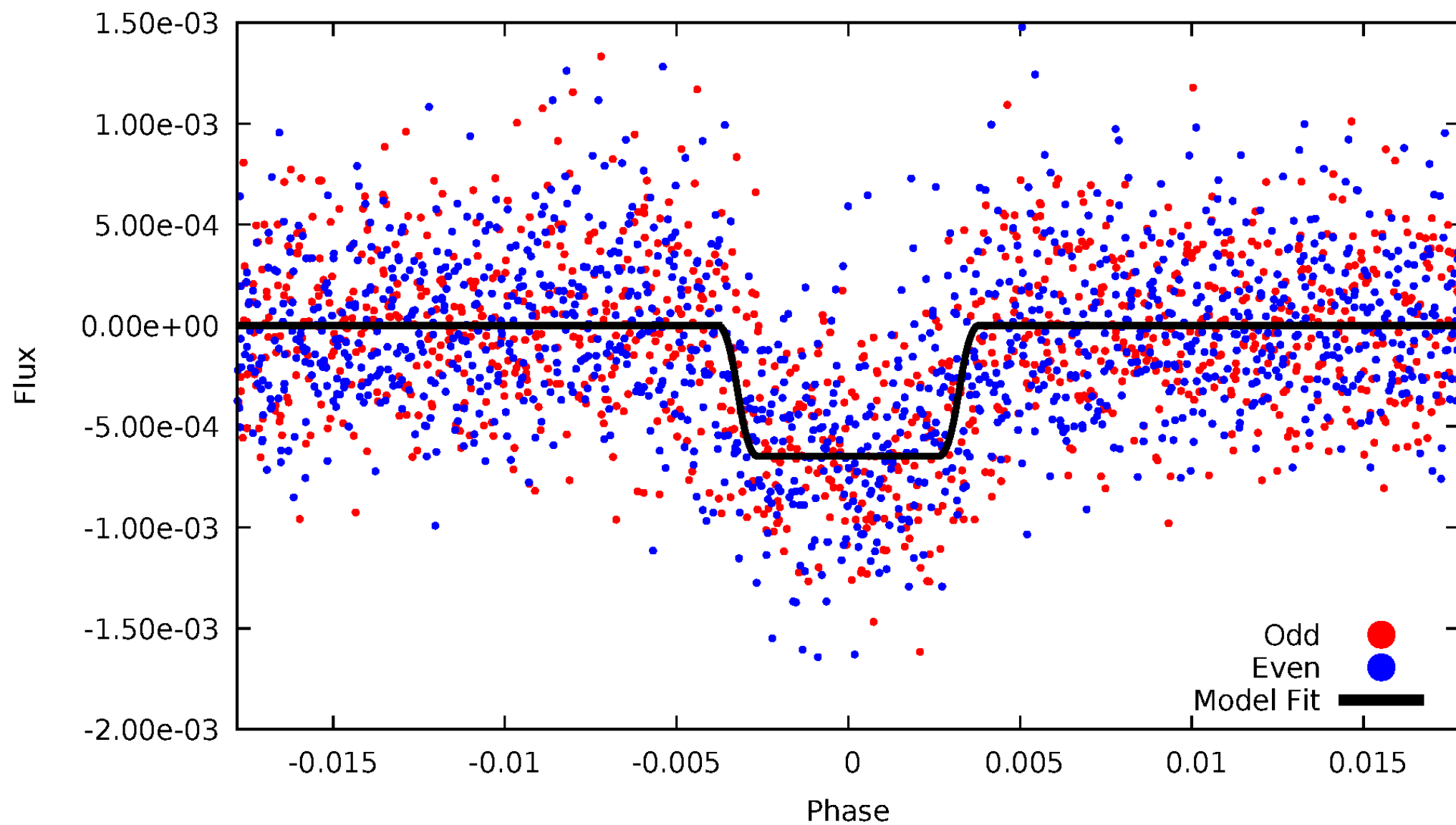
DV Odd/Even

TCE 002164169-01

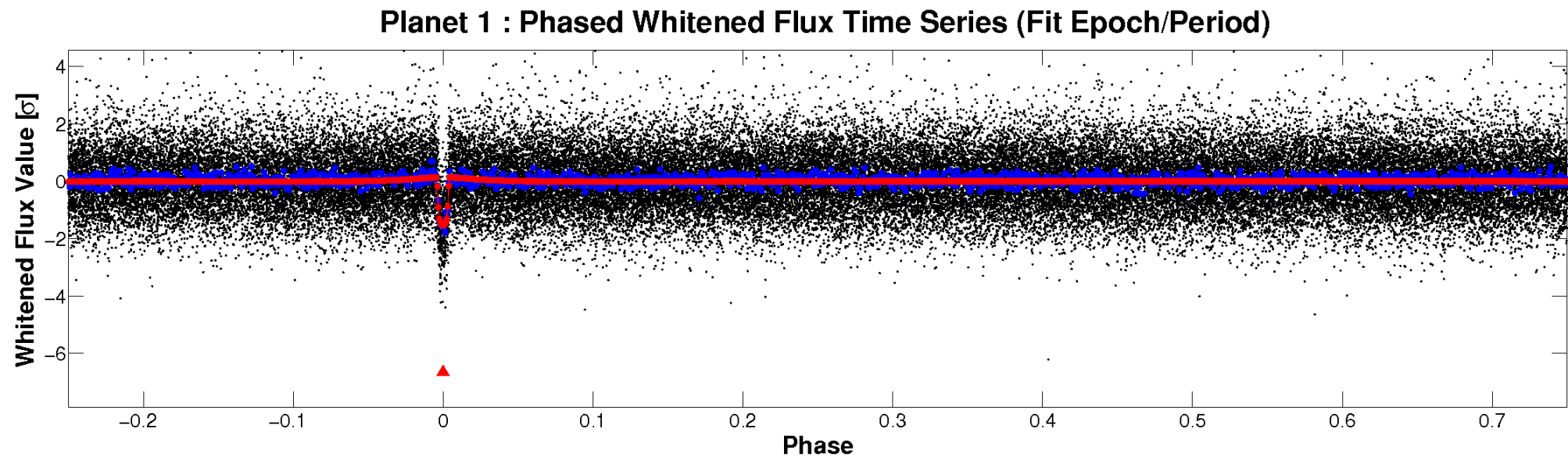
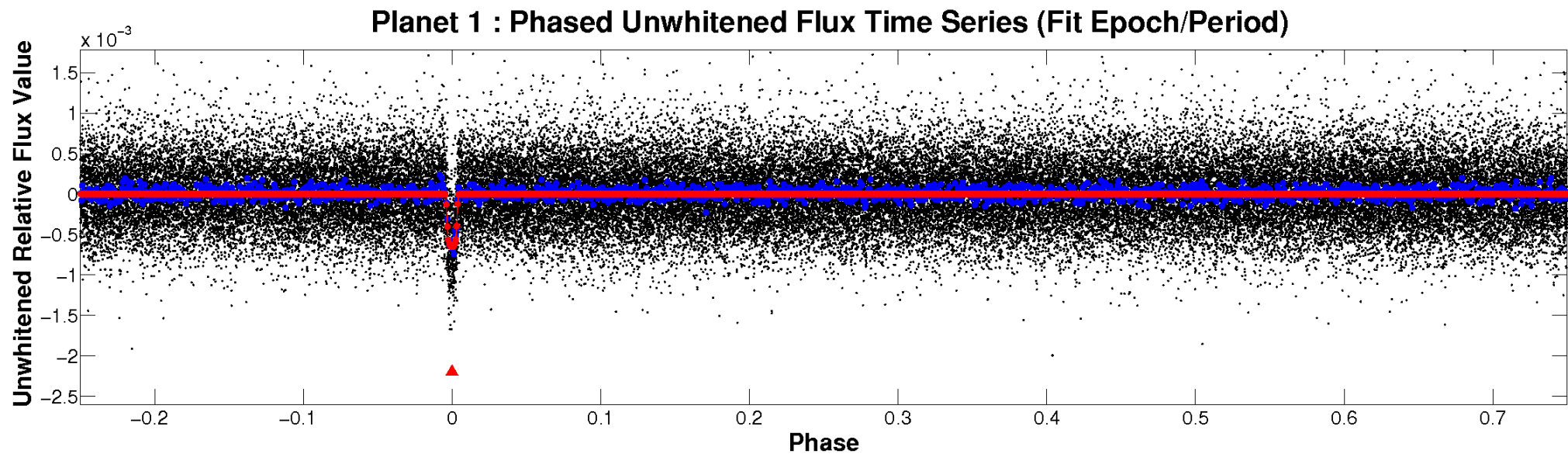


ALT Odd/Even

TCE 002164169-01

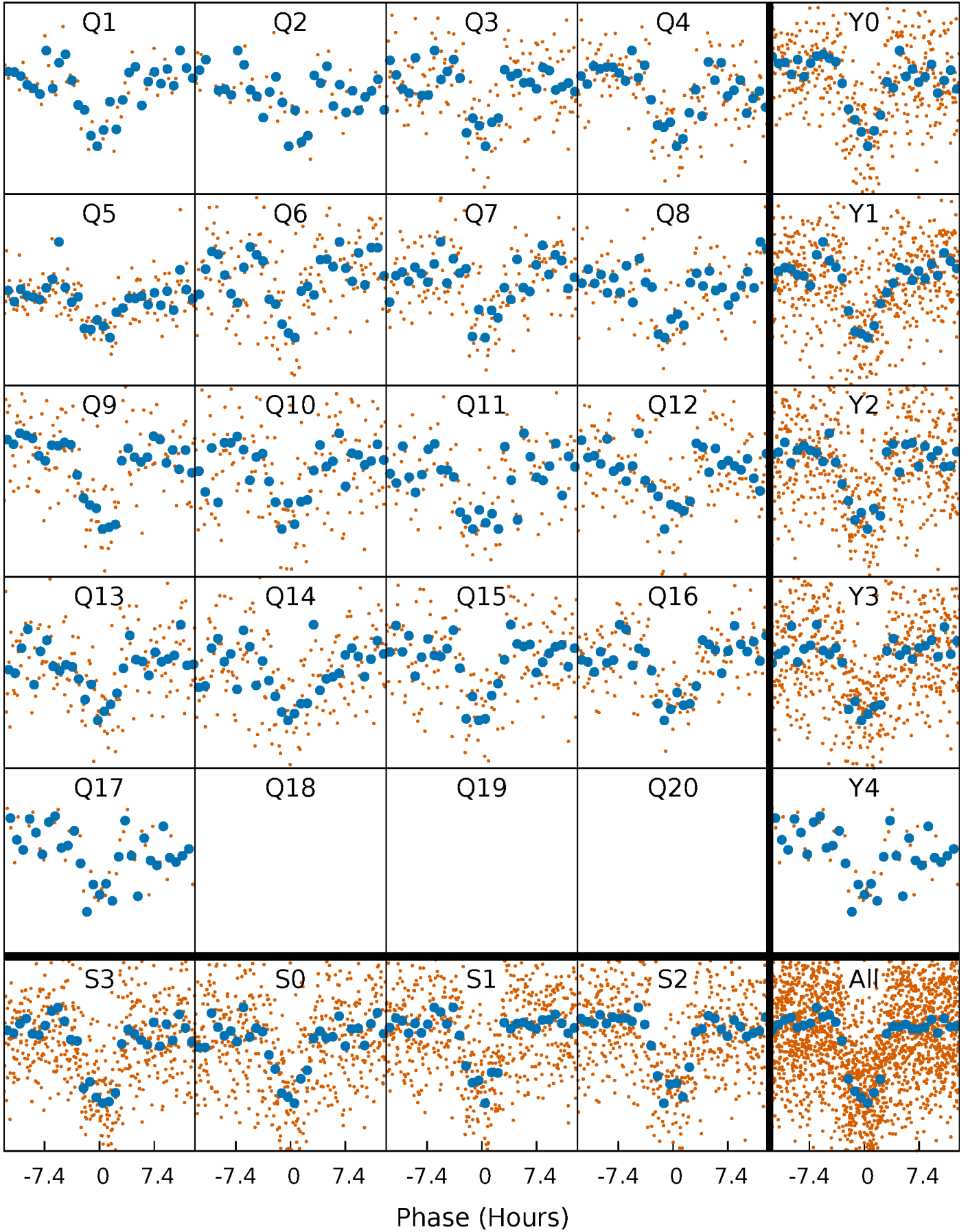


Non-Whitened Vs. Whitened Light Curve



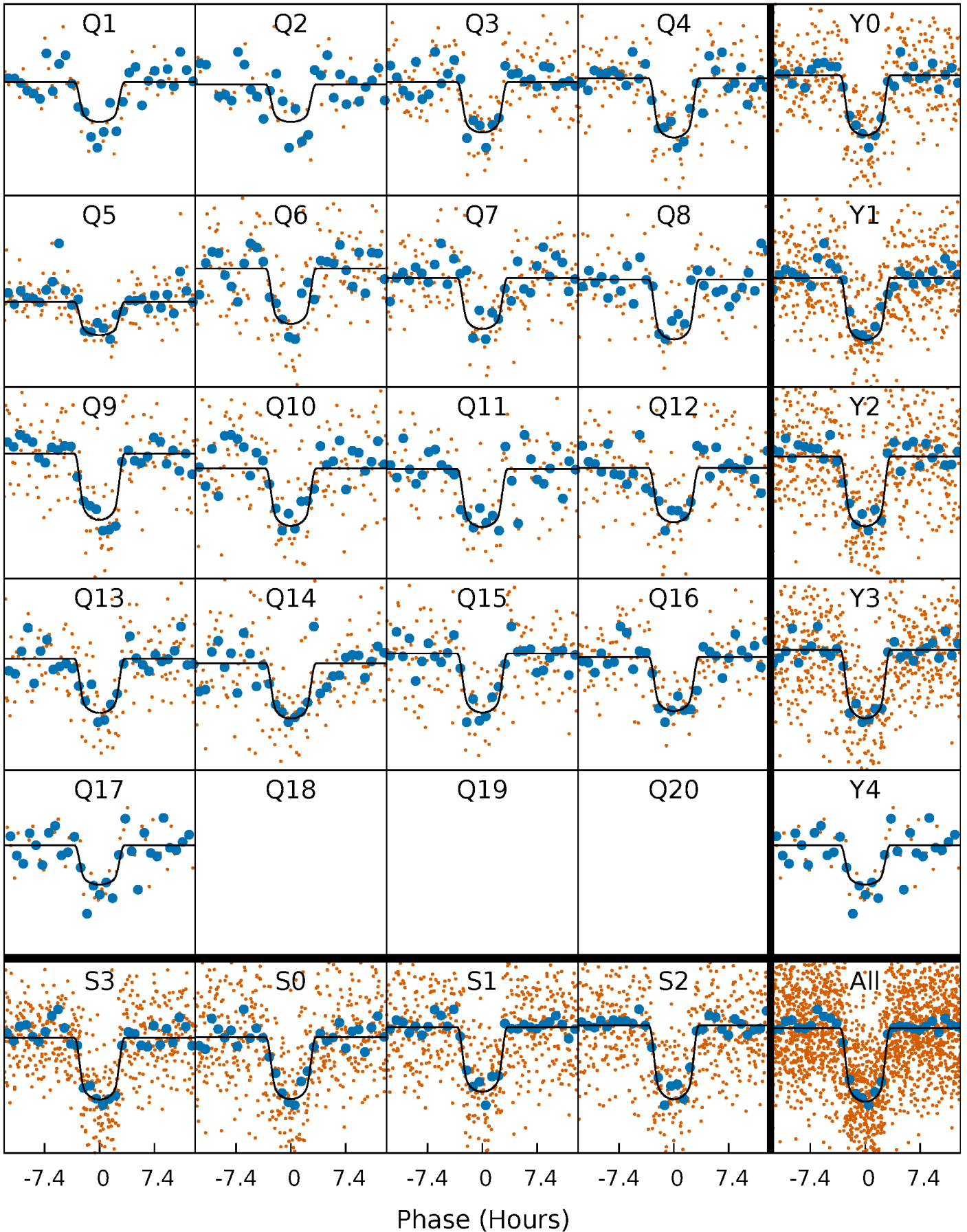
PDC Quarter-Phased Transit Curves

TCE 002164169-01 $P = 32.312448$ Days $T_0 = 133.862280$ (BKJD)



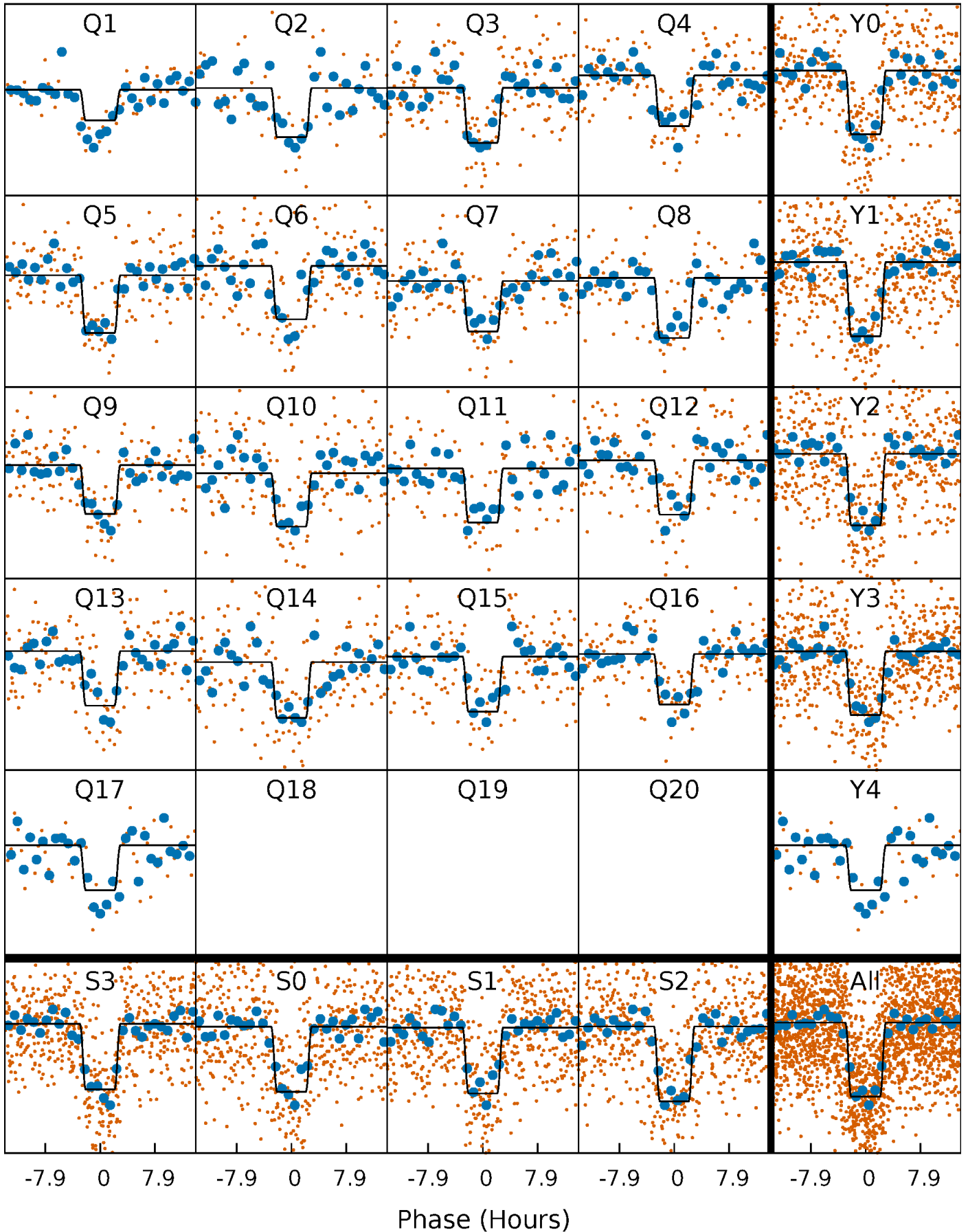
DV Quarter-Phased Transit Curves

TCE 002164169-01 P= 32.312448 Days $T_0=133.862280$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

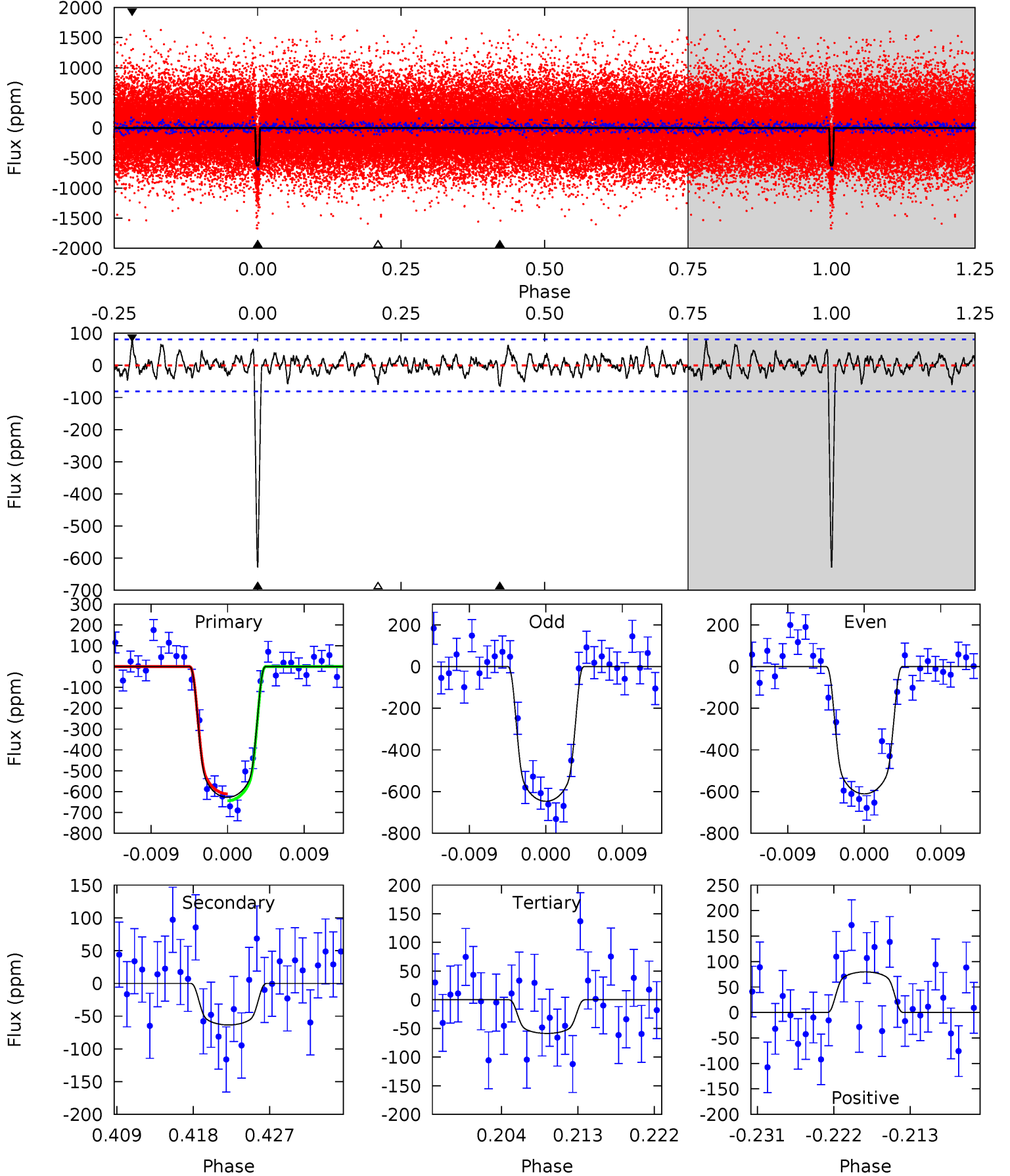
TCE 002164169-01 P= 32.311360 Days $T_0=133.887405$ (BKJD)



DV Model-Shift Uniqueness Test

002164169-01, $P = 32.312448$ Days, $E = 101.549832$ Days

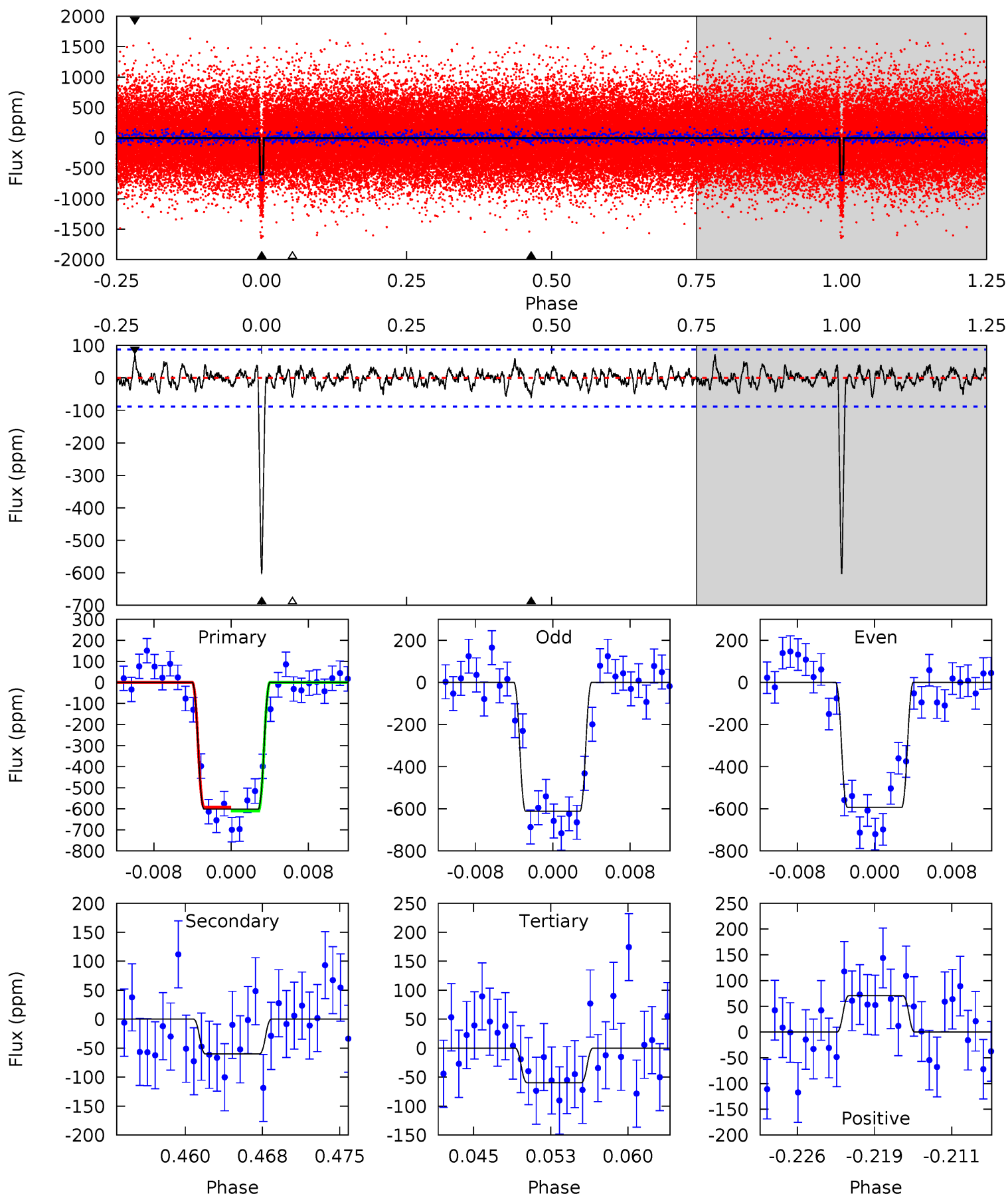
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
39.2	3.97	3.67	4.98	5.05	2.62	1.29	35.5	34.2	0.29	-1.02	1.11	1.00	0.11	1.03



Alt Model-Shift Uniqueness Test

002164169-01, $P = 32.311360$ Days, $E = 101.576045$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
34.8	3.47	3.45	4.08	5.08	2.67	1.08	31.4	30.7	0.02	-0.61	0.53	1.01	0.10	0.55



Stellar Parameters For KIC 002164169

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5821^{+79}_{-79}	$4.108^{+0.182}_{-0.098}$	$0.040^{+0.150}_{-0.150}$	$1.494^{+0.244}_{-0.326}$	$1.043^{+0.107}_{-0.080}$	$0.440^{+0.417}_{-0.149}$
	+1%/-1%	+4%/-2%	+375%/-375%	+16%/-22%	+10%/-8%	+95%/-34%
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 002164169-01 / KOI 1029.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-63 ± 16	$4.61^{+0.47}_{-0.57}$	972^{+44}_{-60}	3539^{+155}_{-174}	68^{+26}_{-21}
Alt.	-60 ± 17	$4.12^{+0.47}_{-0.48}$	972^{+48}_{-56}	3655^{+168}_{-201}	82^{+32}_{-26}

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 $A_{obs} \gg 1.0$

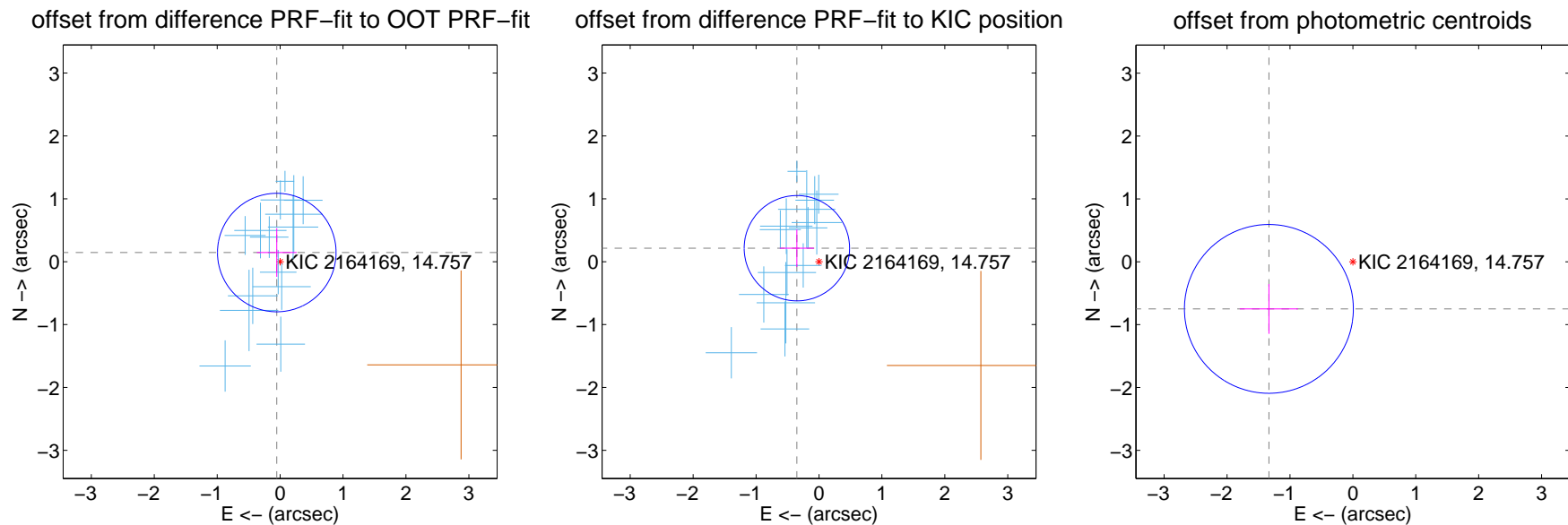
DV Centroid Data

Supplemental centroid analysis for 002164169-01. Kepler magnitude: 14.76. Transit SNR 29.04

There are 14 quarters with good PRF difference image offsets

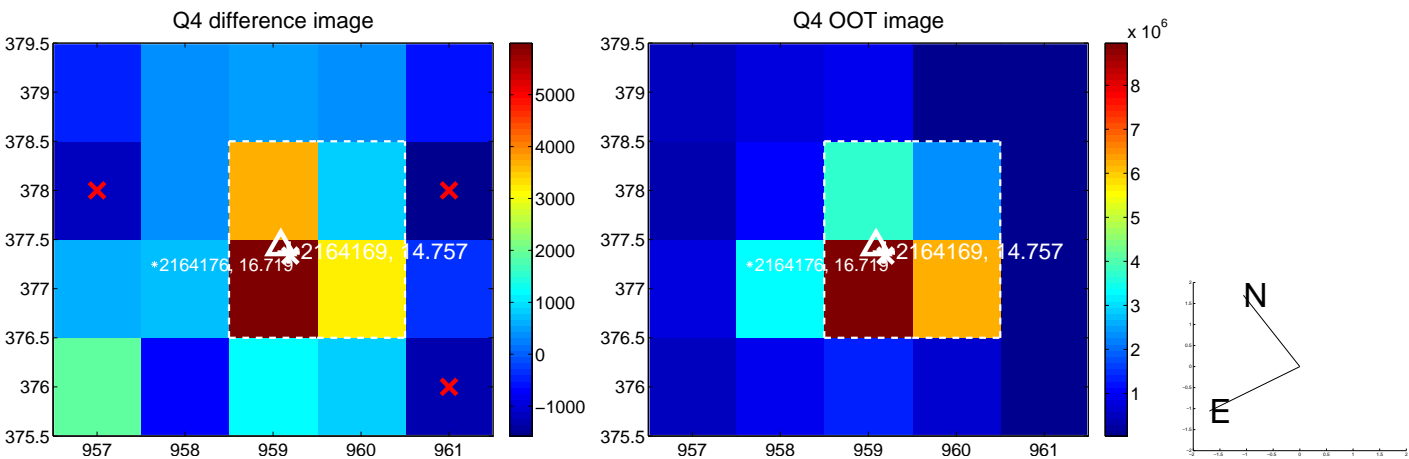
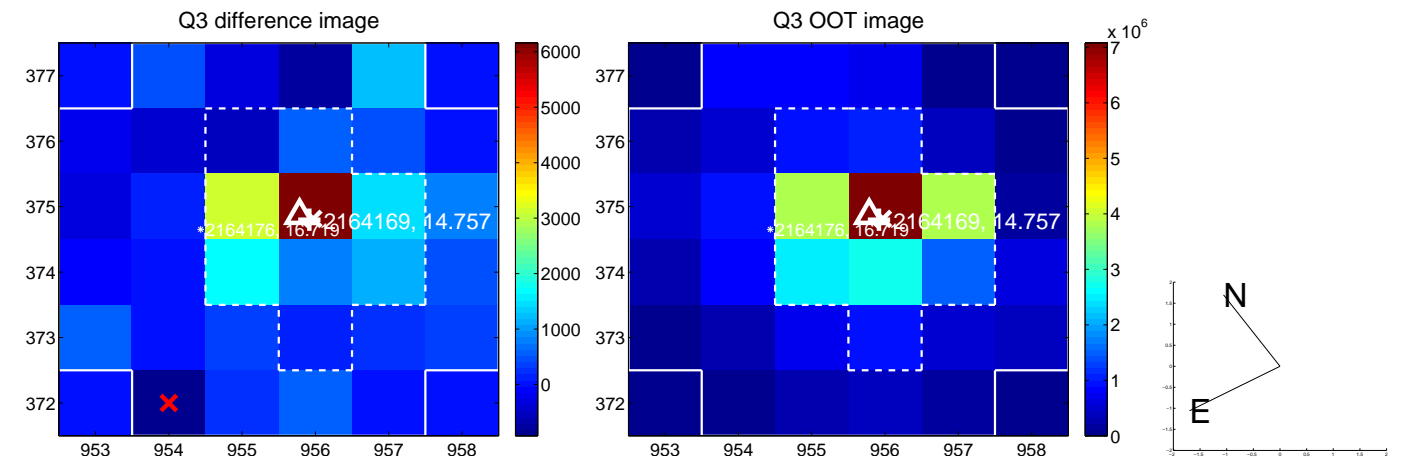
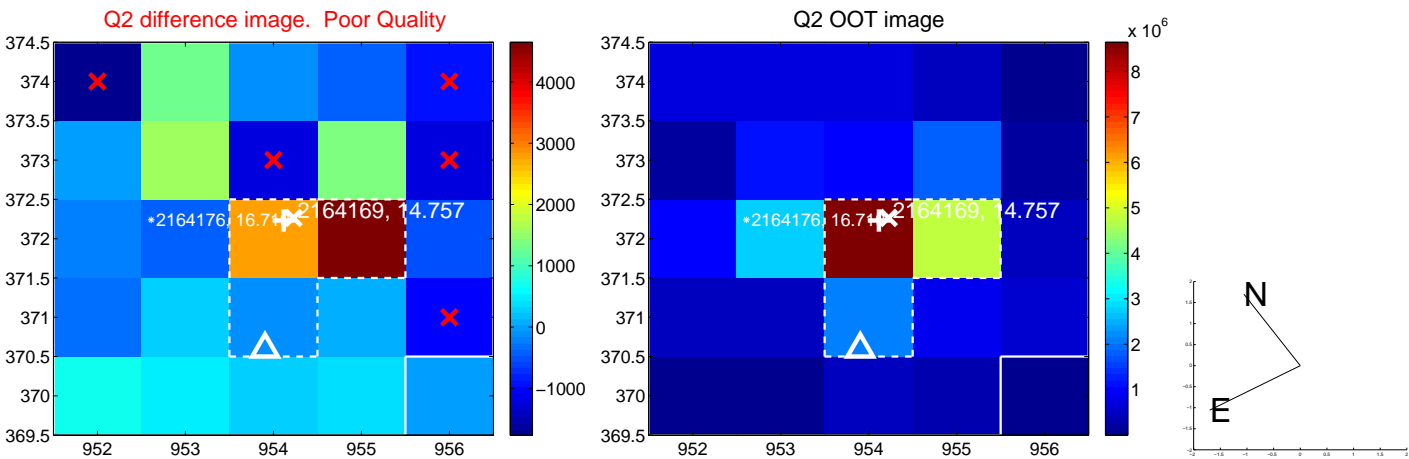
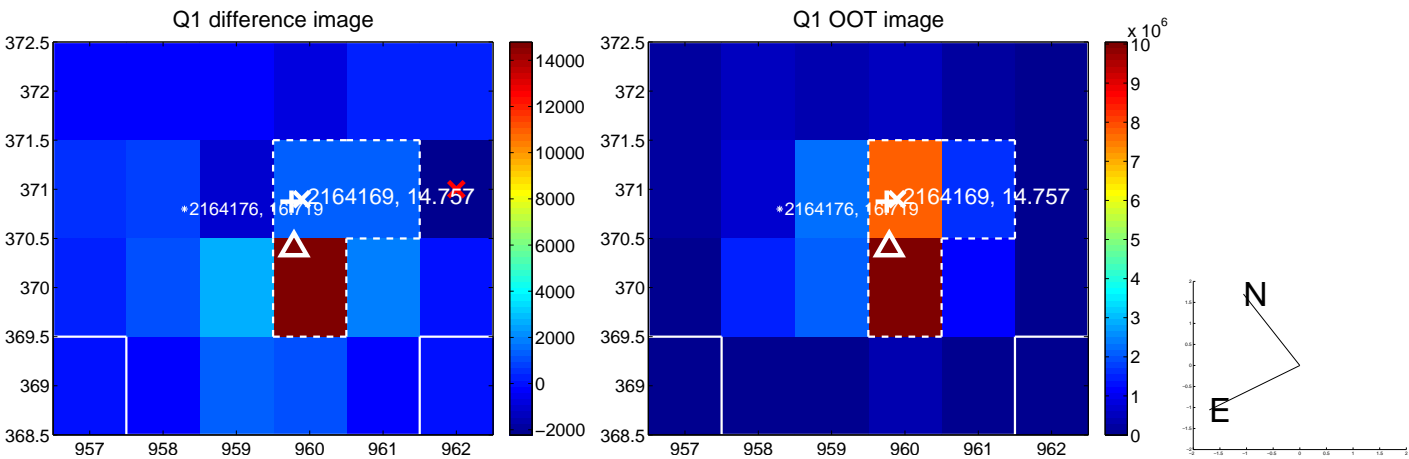
The direct PRF centroid is offset from the target star catalog position by about 0.11 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.155 ± 0.314	0.49	0.053 ± 0.317	0.146 ± 0.387
PRF-fit source offset from KIC position	0.412 ± 0.279	1.47	0.351 ± 0.272	0.214 ± 0.298
photometric centroid source offset	1.53 ± 0.45	3.42	1.33 ± 0.46	-0.75 ± 0.40

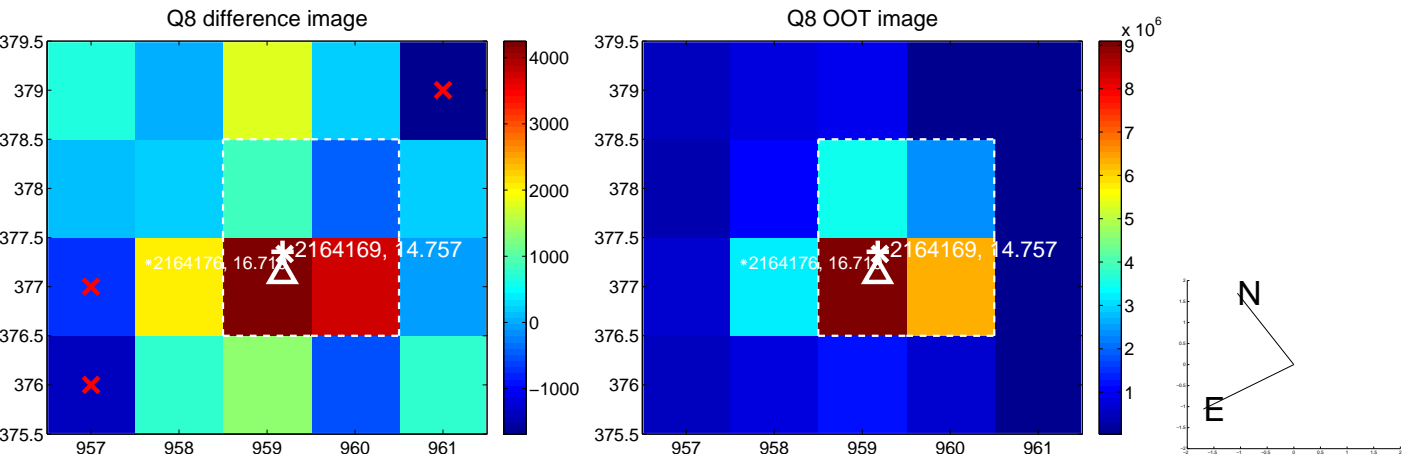
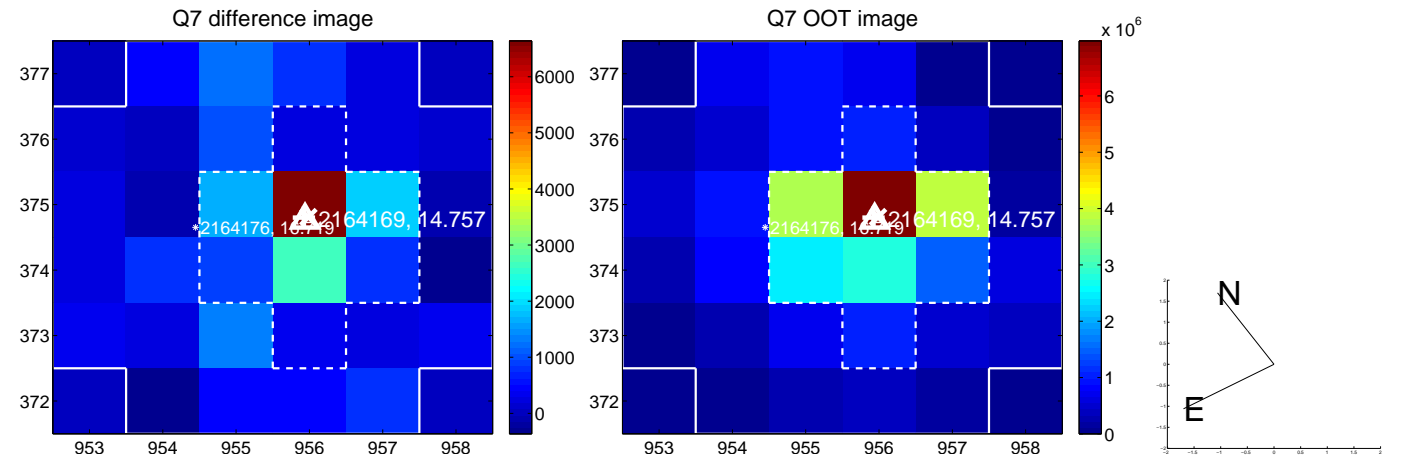
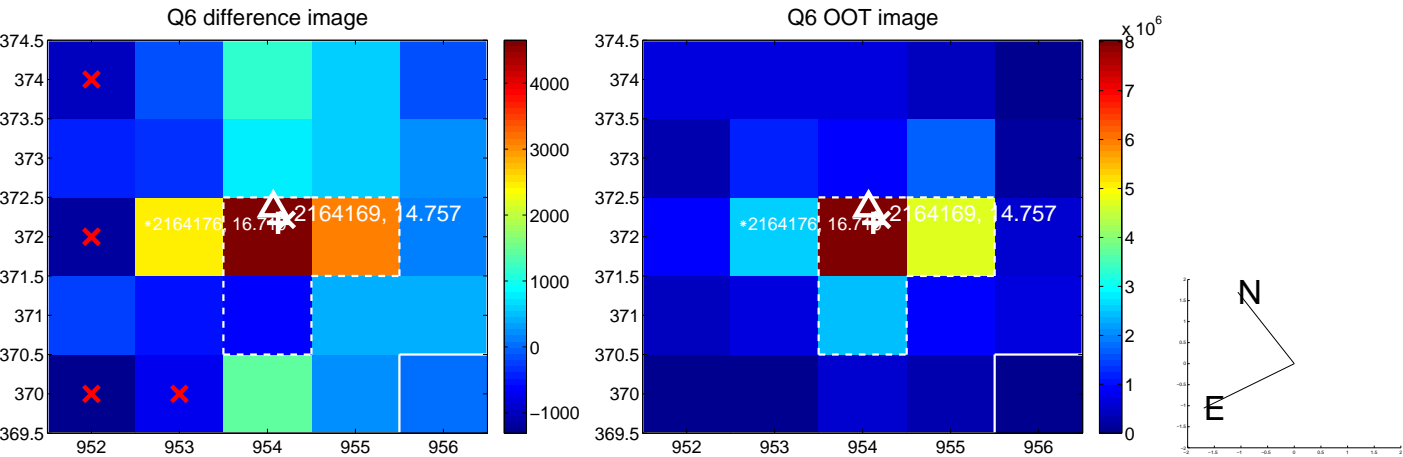
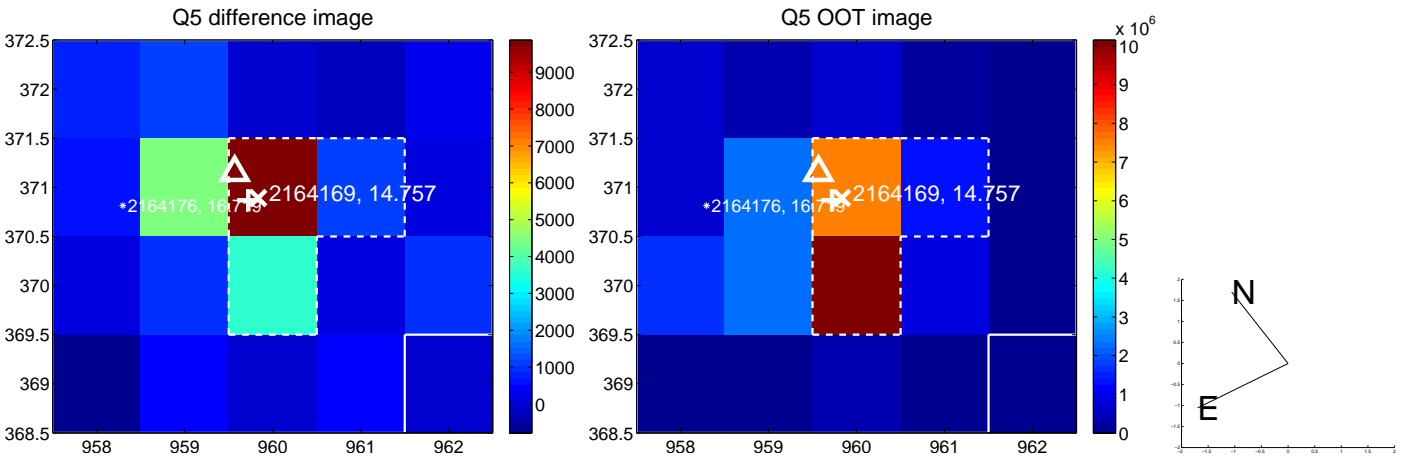


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

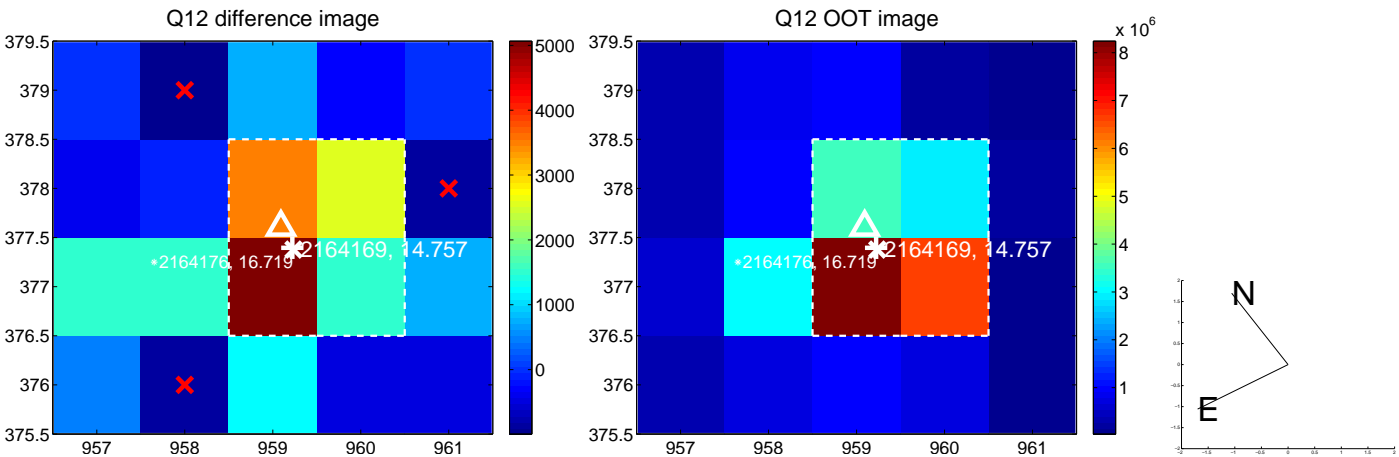
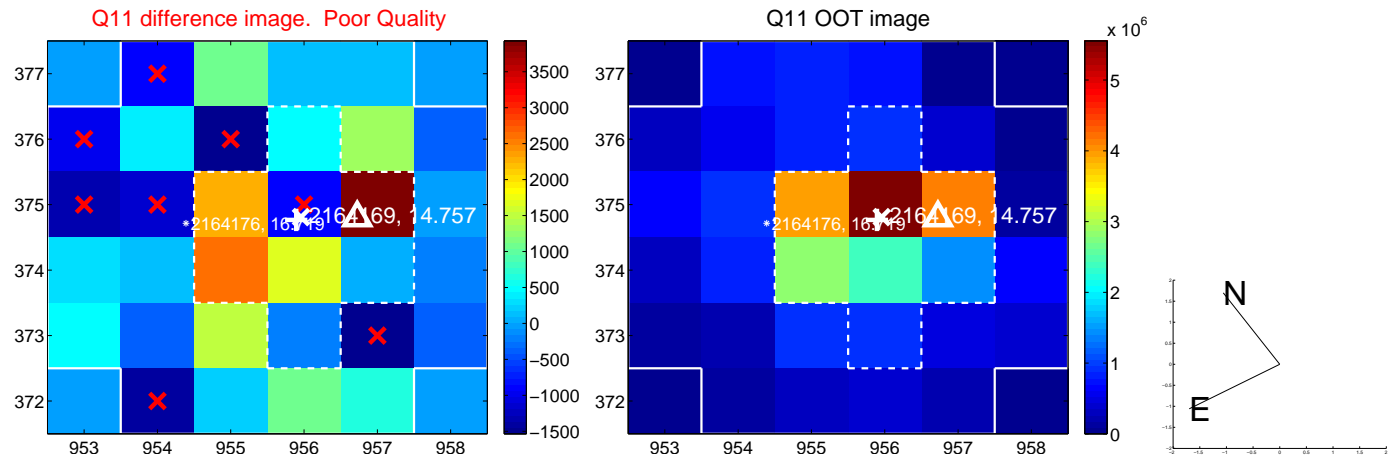
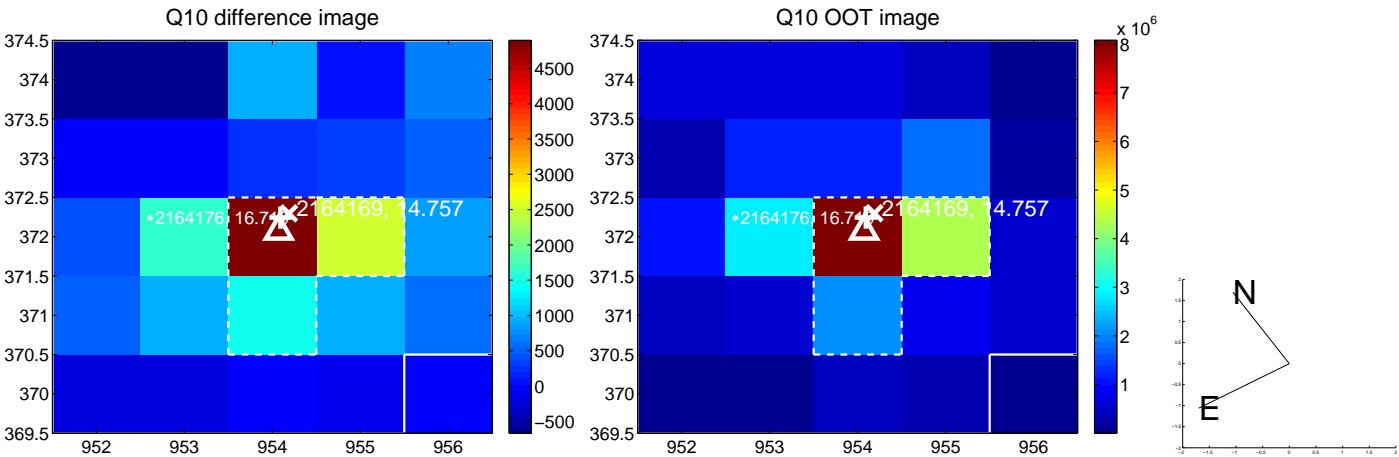
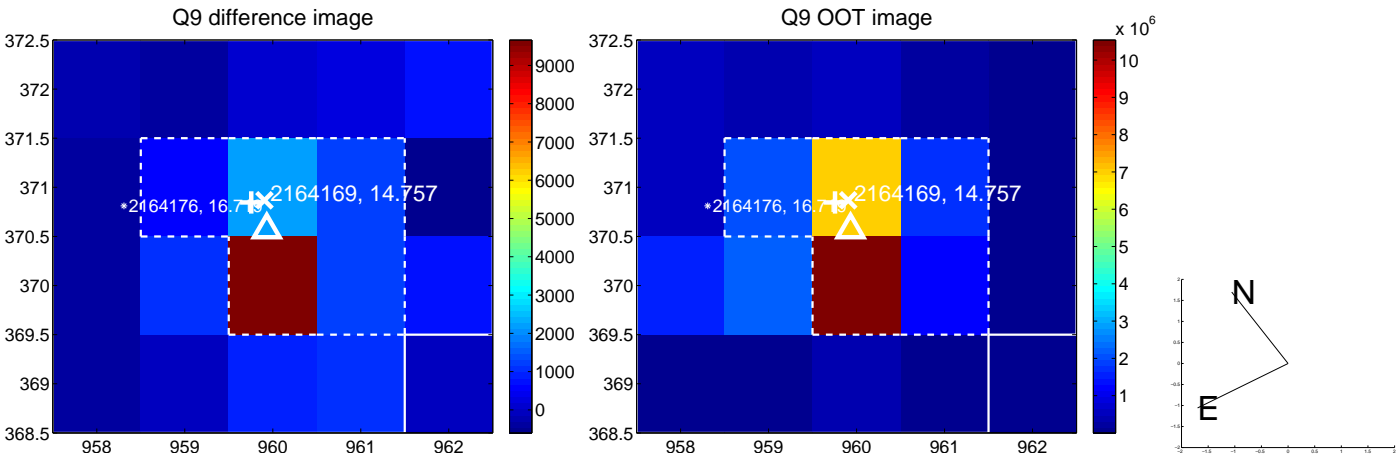
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



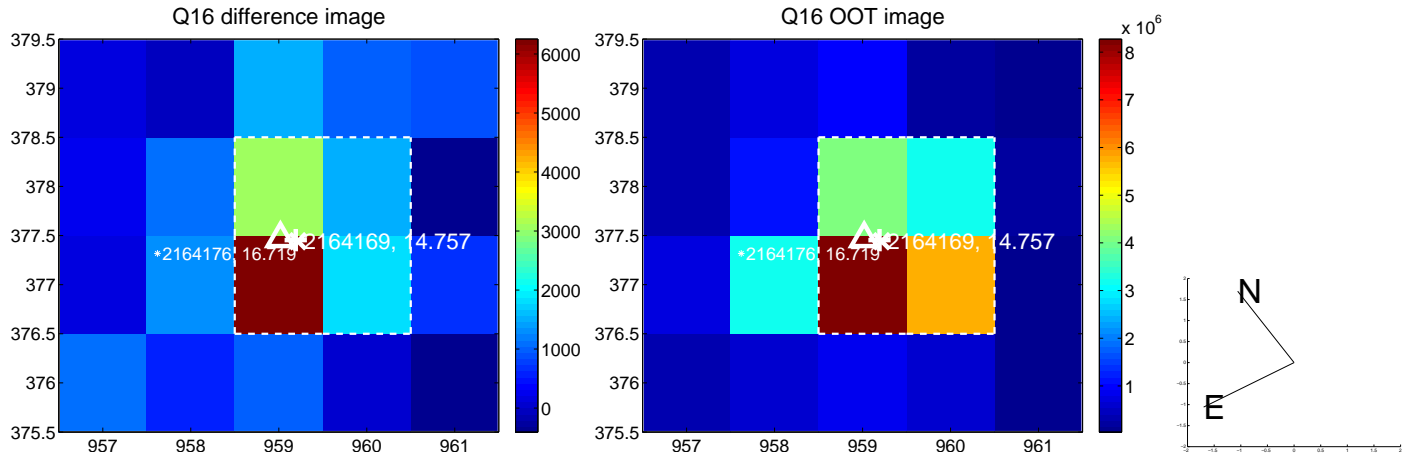
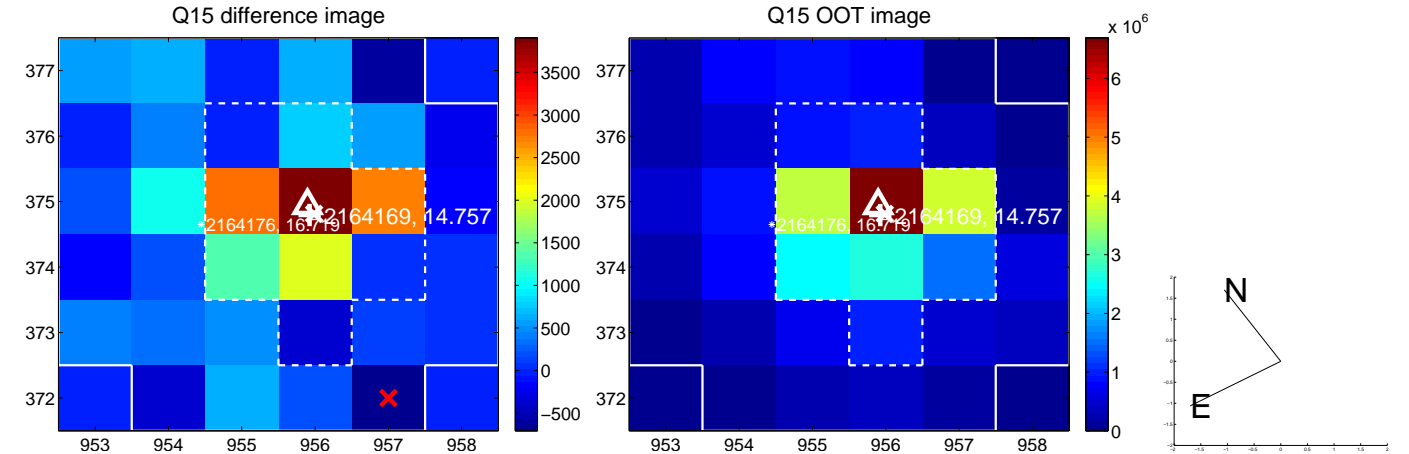
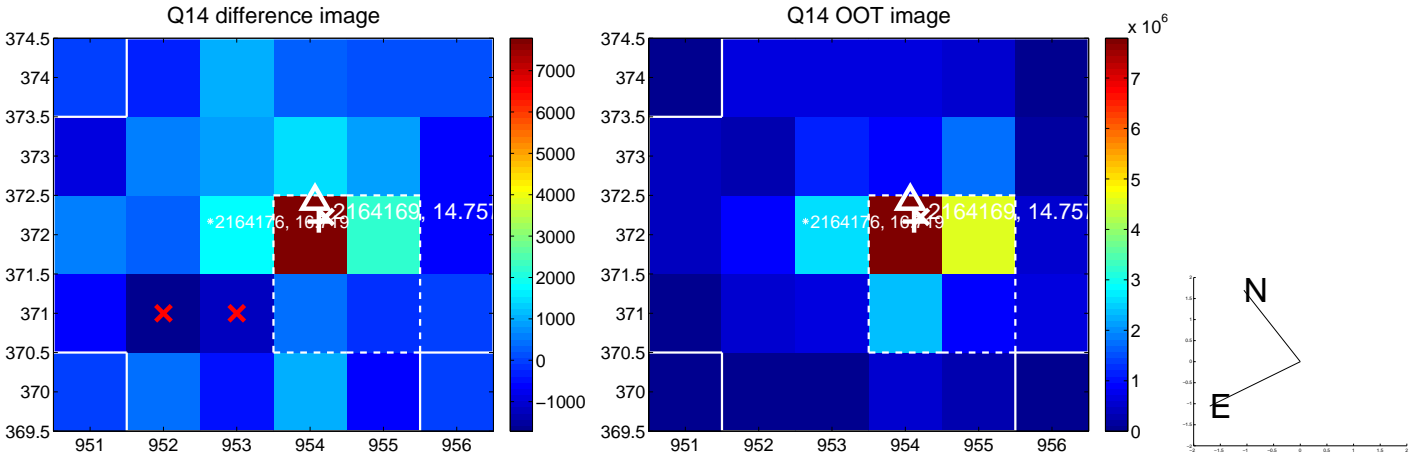
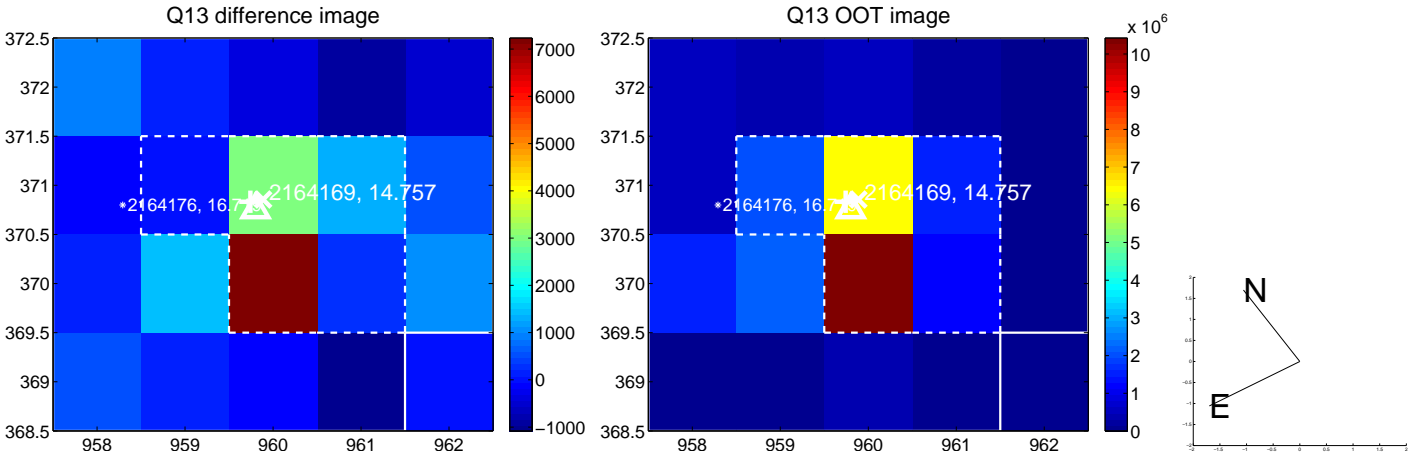
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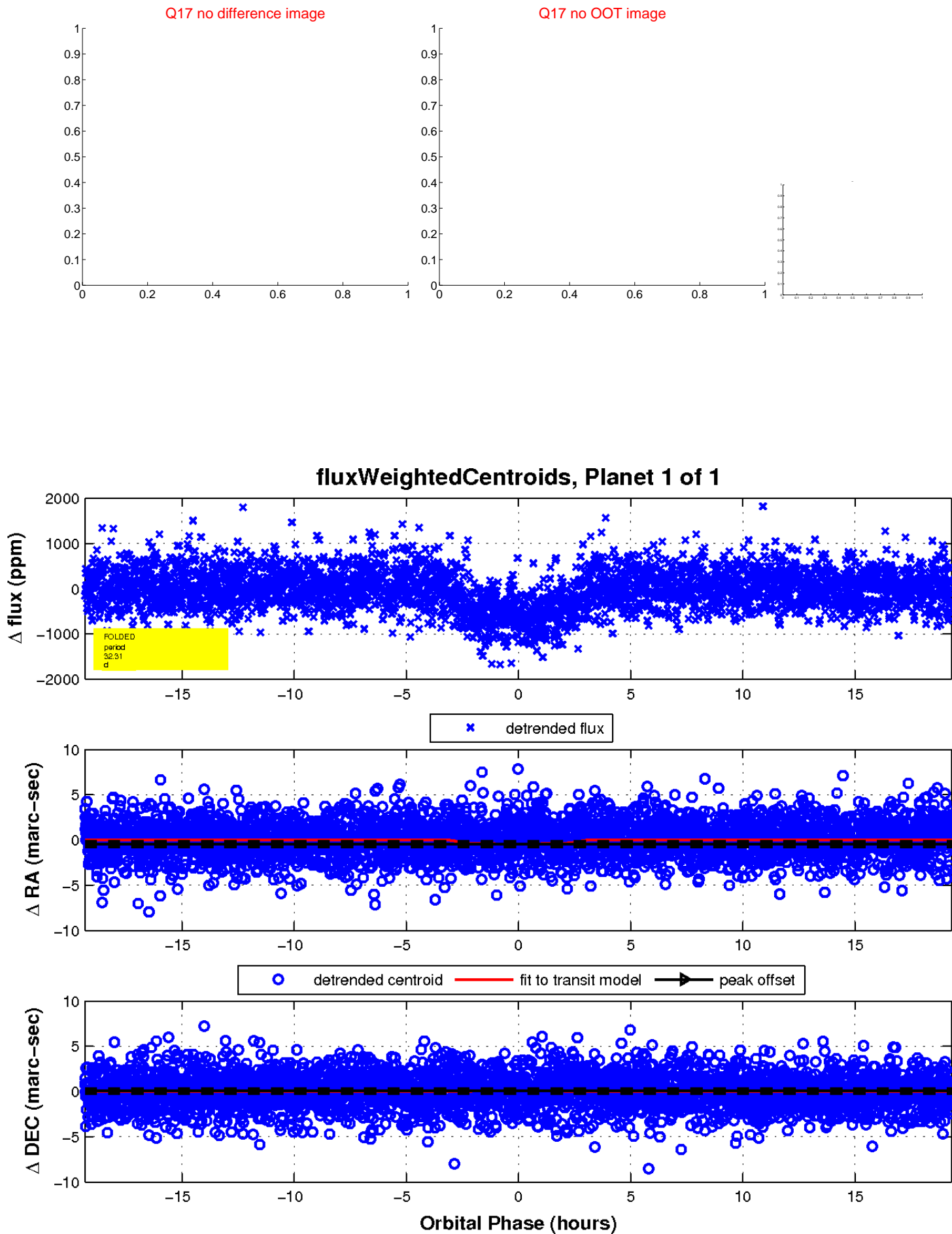
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UKIRT Image

Declination

