

KIC 005121511

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})
005121511-01	OBS	0640.01	30.996653	160.788108	645.7	2.936	51.3	54.6	0.85	5324	2.47	14.75

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005121511-01	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.

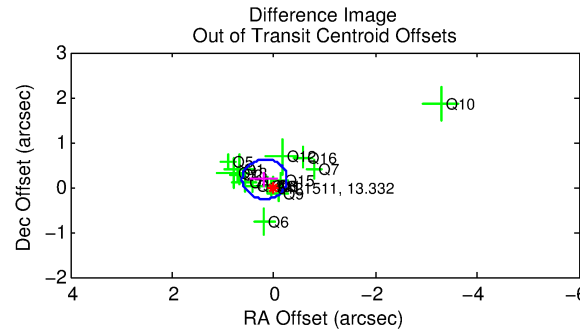
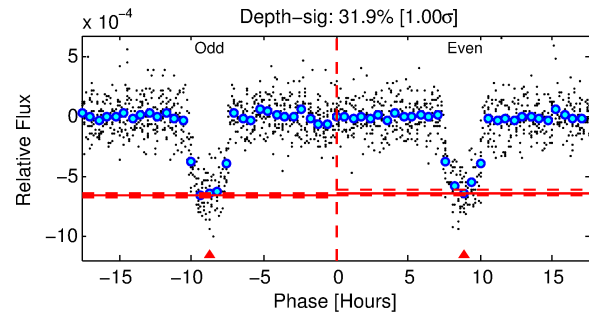
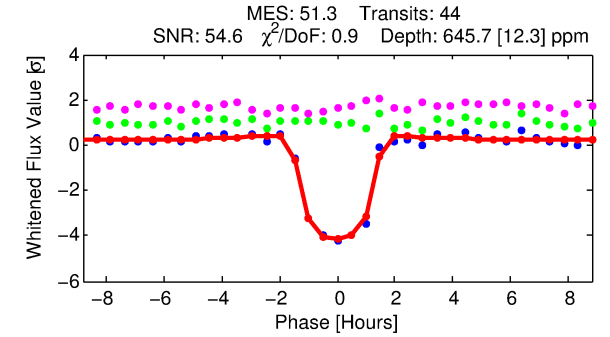
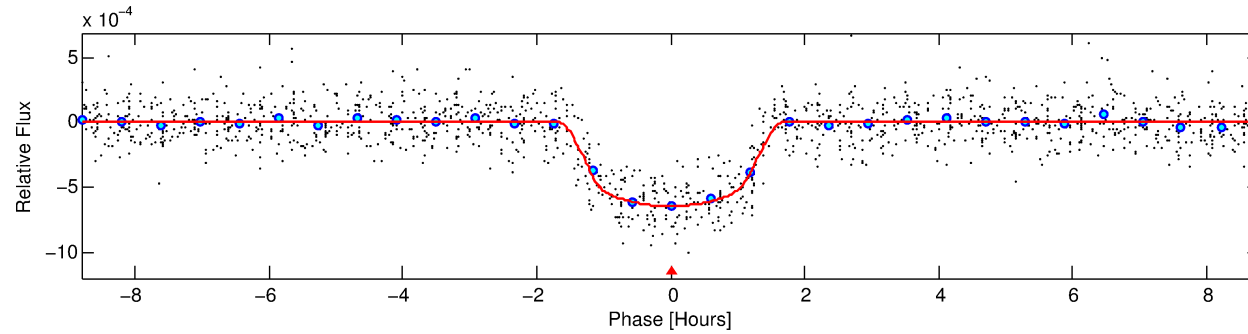
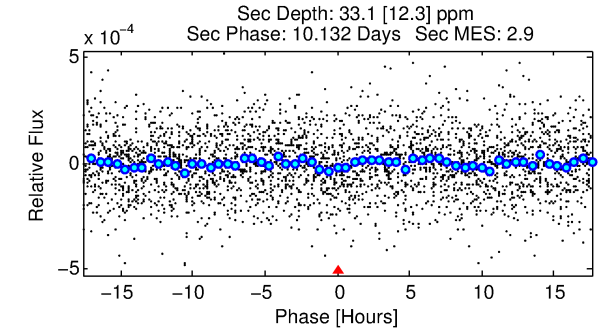
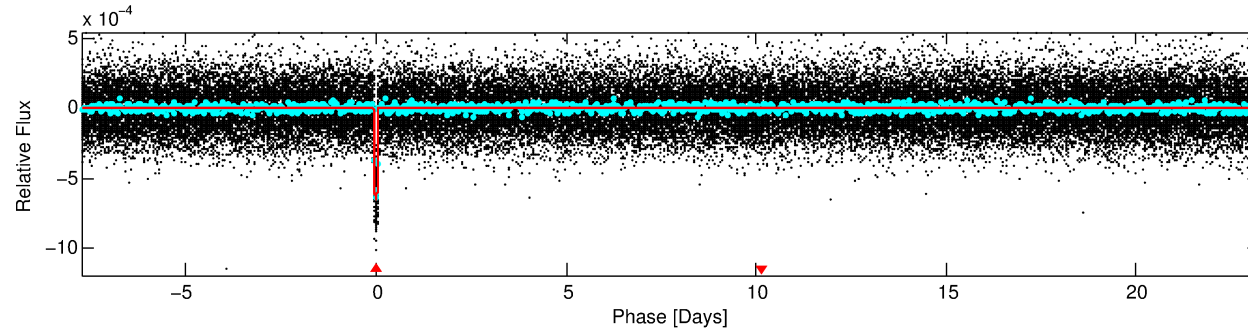
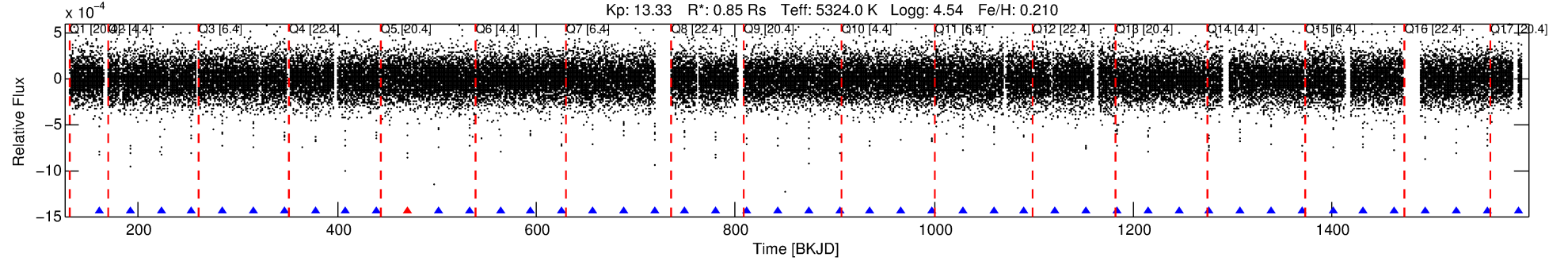
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005121511-01

No Significant Match Found

DV One-Page Summary

KIC: 5121511 Candidate: 1 of 1 Period: 30.997 d
KOI: K00640.01 Corr: 0.976



DV Fit Results:

Period = 30.99665 [0.00005] d
Epoch = 160.7881 [0.0012] BKJD
Rp/R* = 0.0265 [0.0043]
a/R* = 48.79 [30.78]
b = 0.83 [0.24]
Seff = 14.75 [2.58]
Teff = 500 [22] K
Rp = 2.47 [0.48] Re
a = 0.1885 [0.0188] AU
Ag = 106.31 [55.00] [1.91σ]
Teffp = 2481 [310] K [6.38σ]

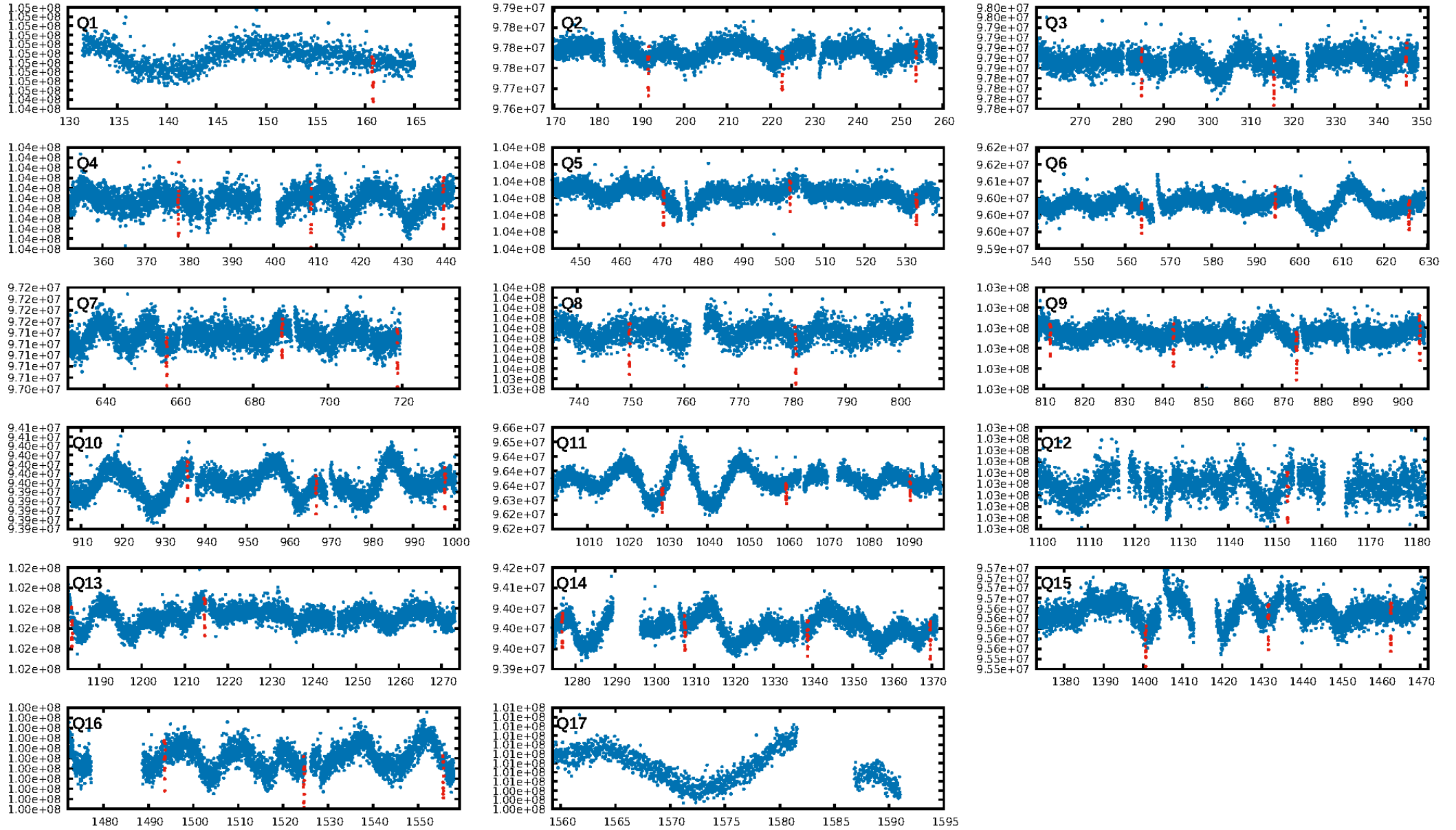
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 81.4%
ModelChiSquareGoF-sig: 100.0%
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 0.98 [42/43]
GhostDiagnostic-chr: 6.177
Centroid-sig: 5.2%
Centroid-so: 0.348 arcsec [1.38σ]
OotOffset-rm: 0.253 arcsec [1.72σ]
KicOffset-rm: 0.133 arcsec [0.52σ]
OotOffset-st: 4/4/4/4 [16]
KicOffset-st: 4/4/4/4 [16]
DiffImageQuality-fgm: 0.94 [15/16]
DiffImageOverlap-fno: 1.00 [16/16]

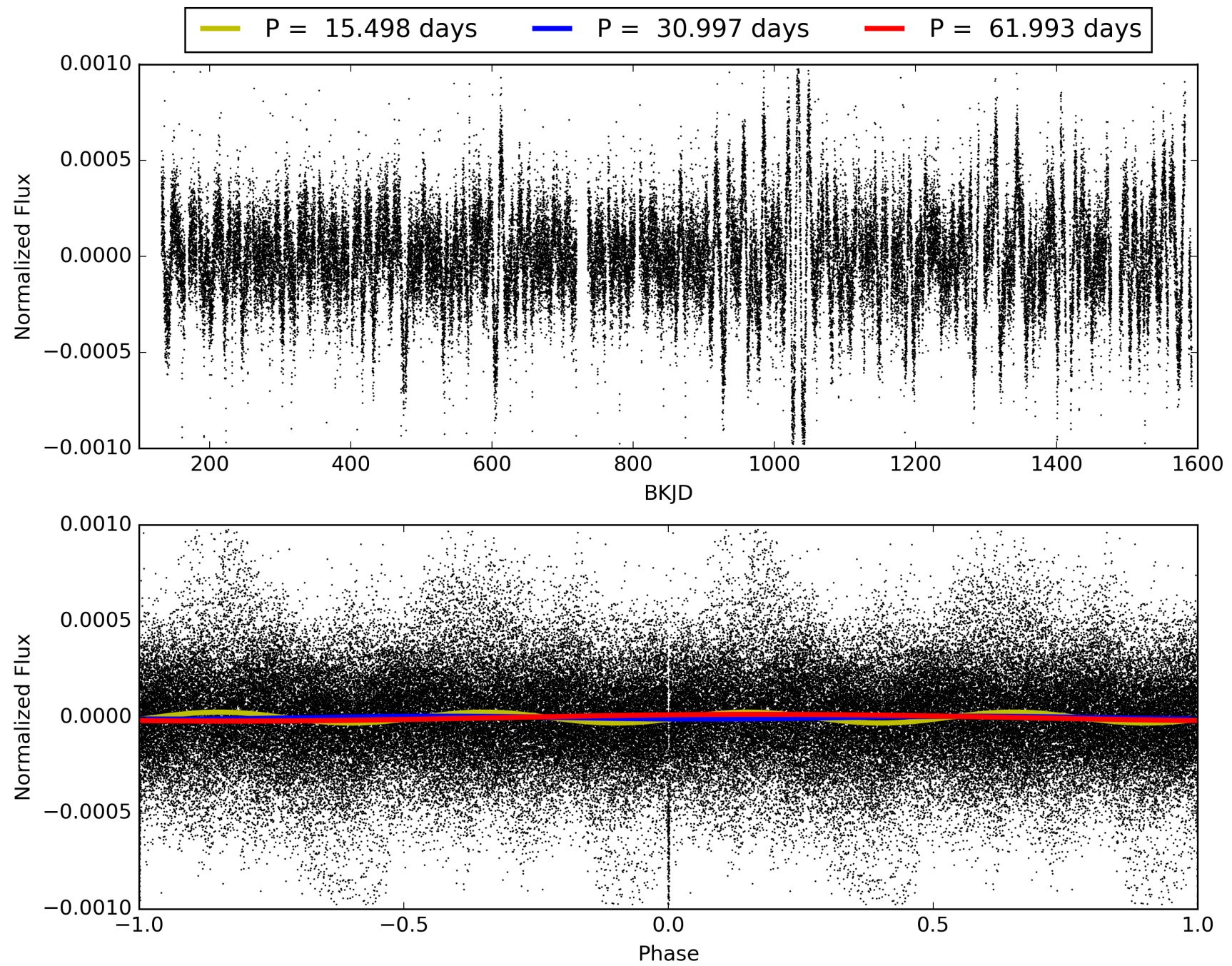
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 05:51:50 Z

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

TCE 005121511-01, PDC Light Curves

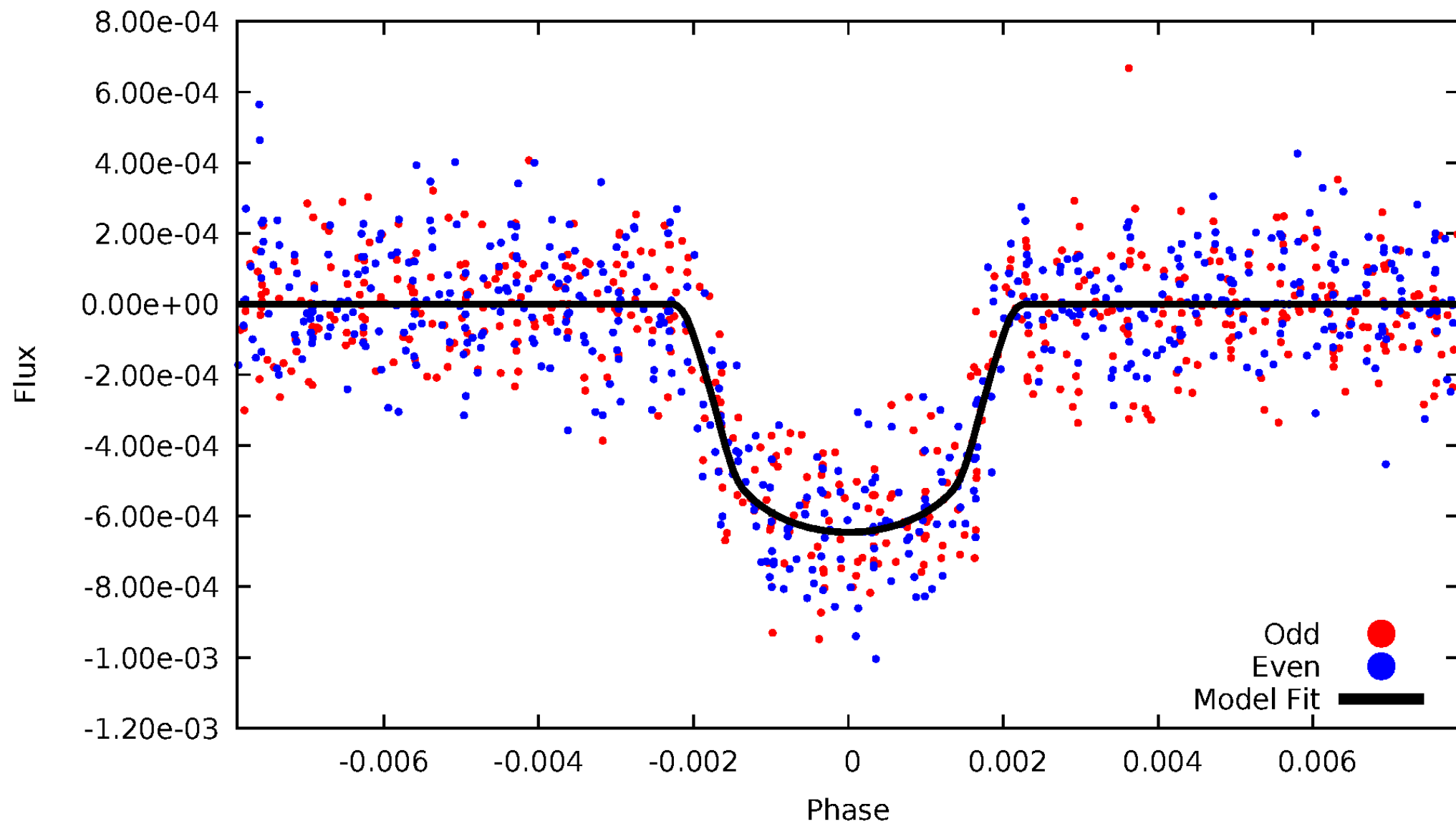


TCE 005121511-01



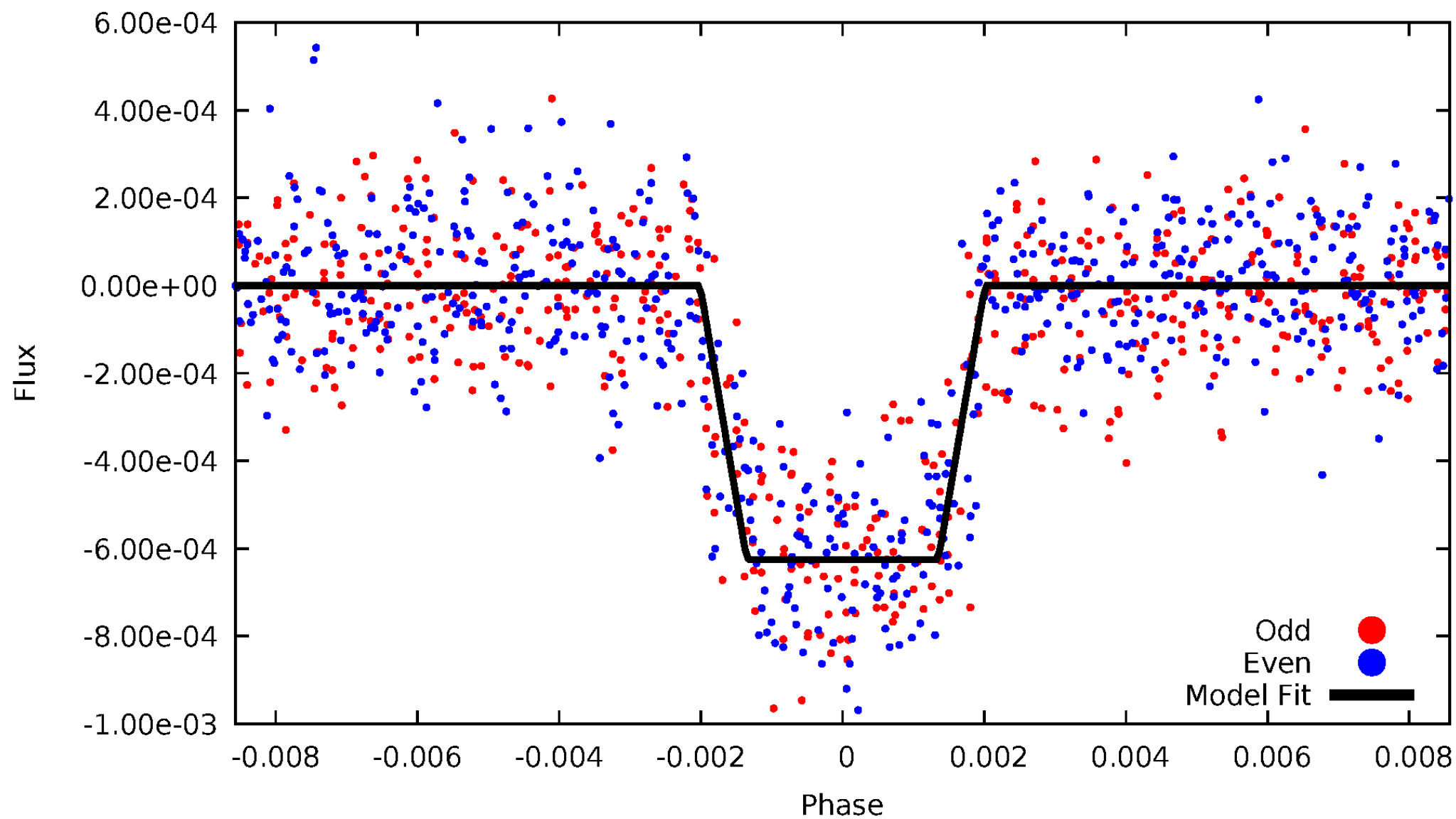
DV Odd/Even

TCE 005121511-01



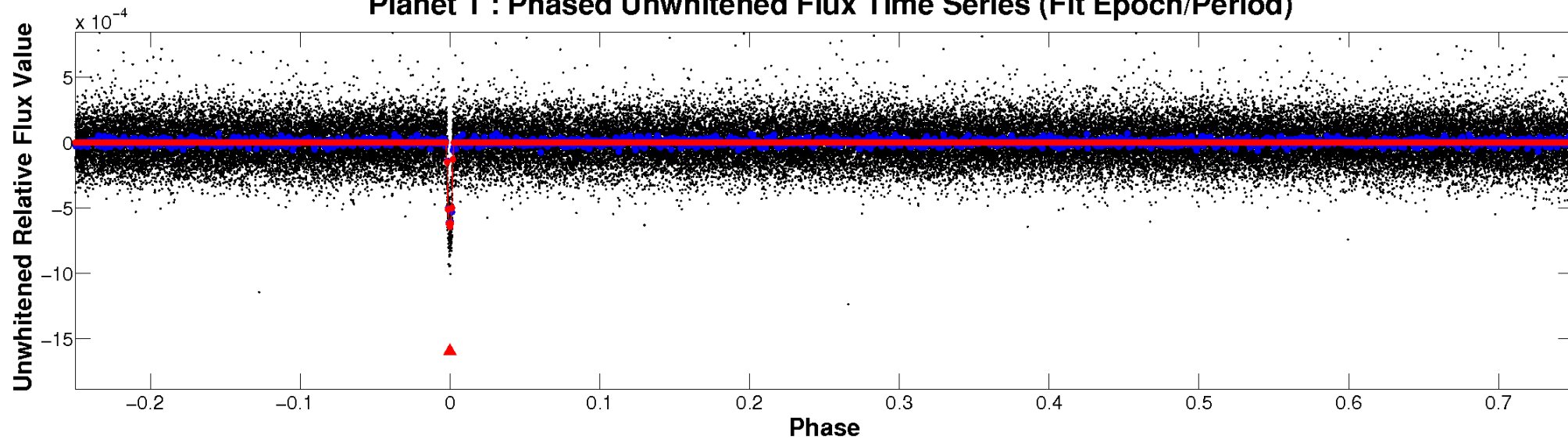
ALT Odd/Even

TCE 005121511-01

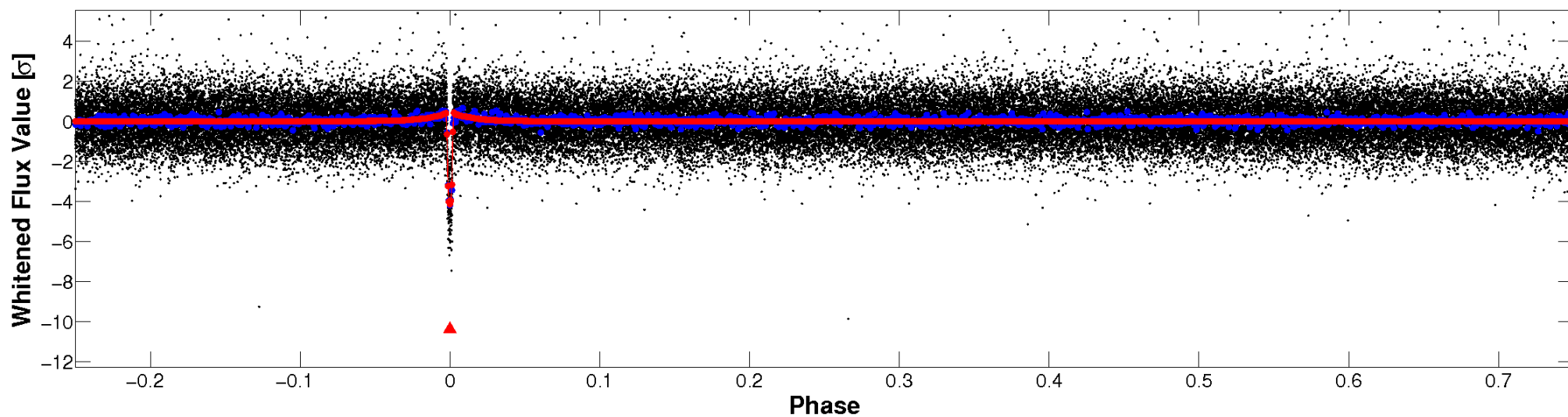


Non-Whitened Vs. Whitened Light Curve

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

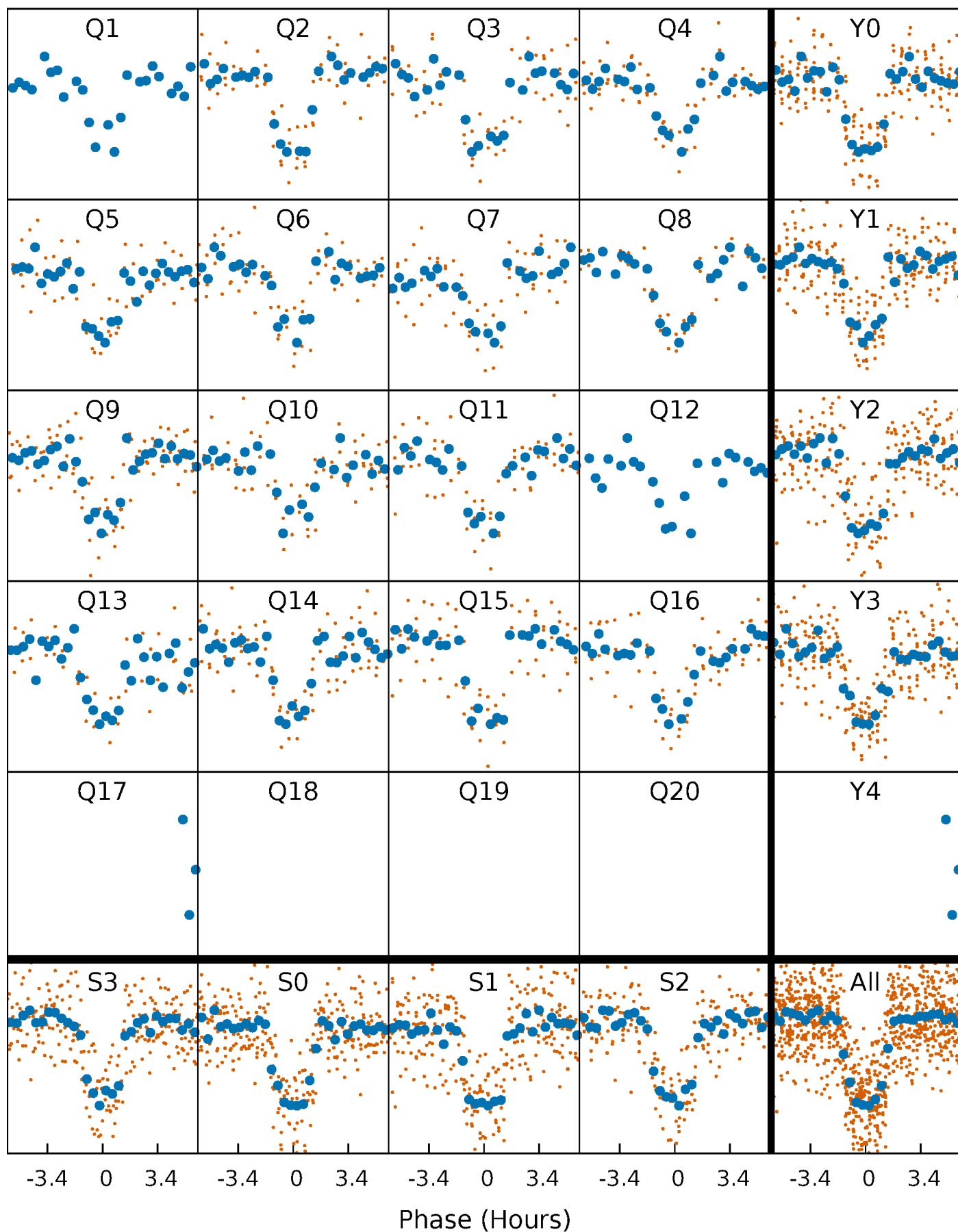


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



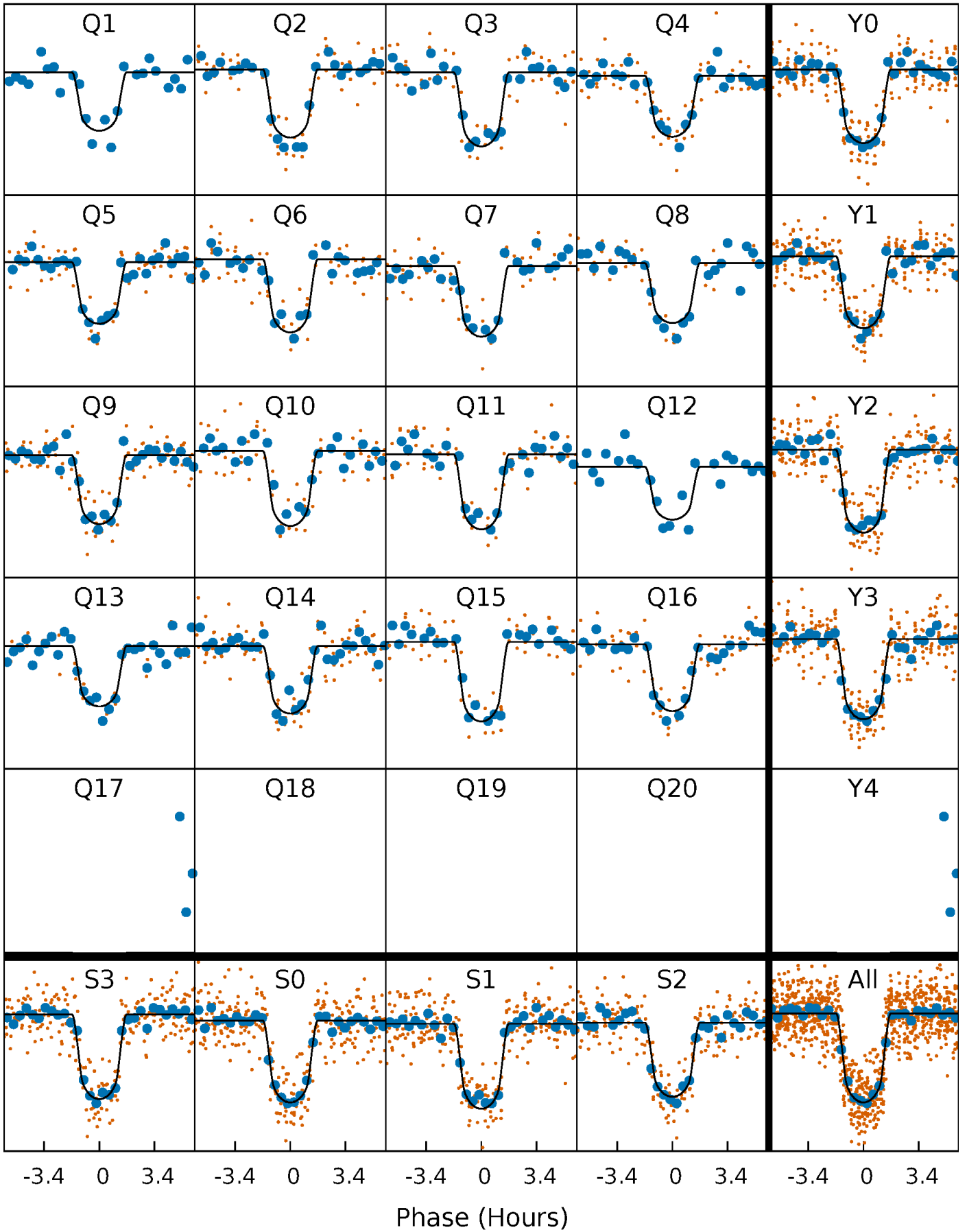
PDC Quarter-Phased Transit Curves

TCE 005121511-01 P= 30.996653 Days $T_0=160.788108$ (BKJD)



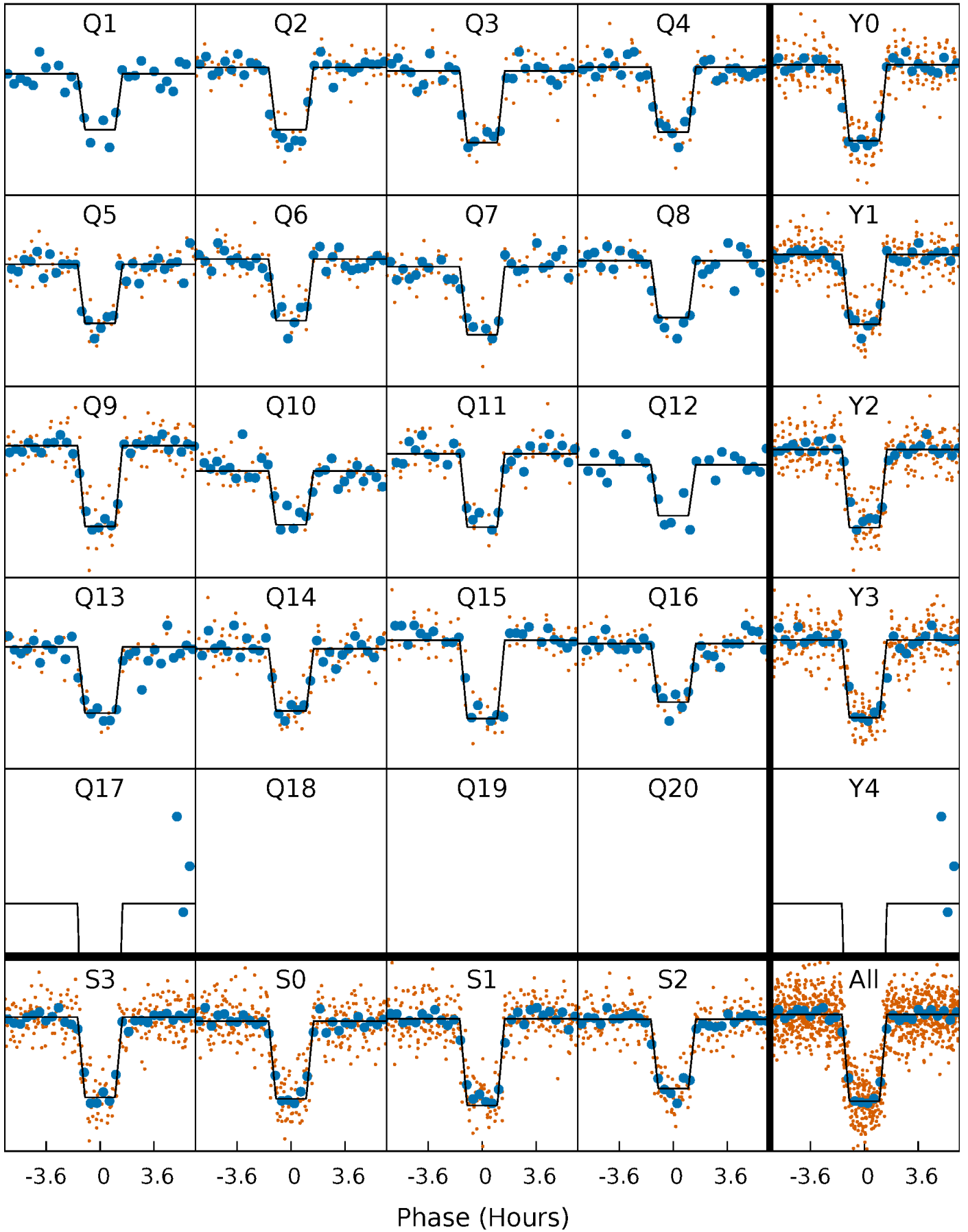
DV Quarter-Phased Transit Curves

TCE 005121511-01 P= 30.996653 Days $T_0=160.788108$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

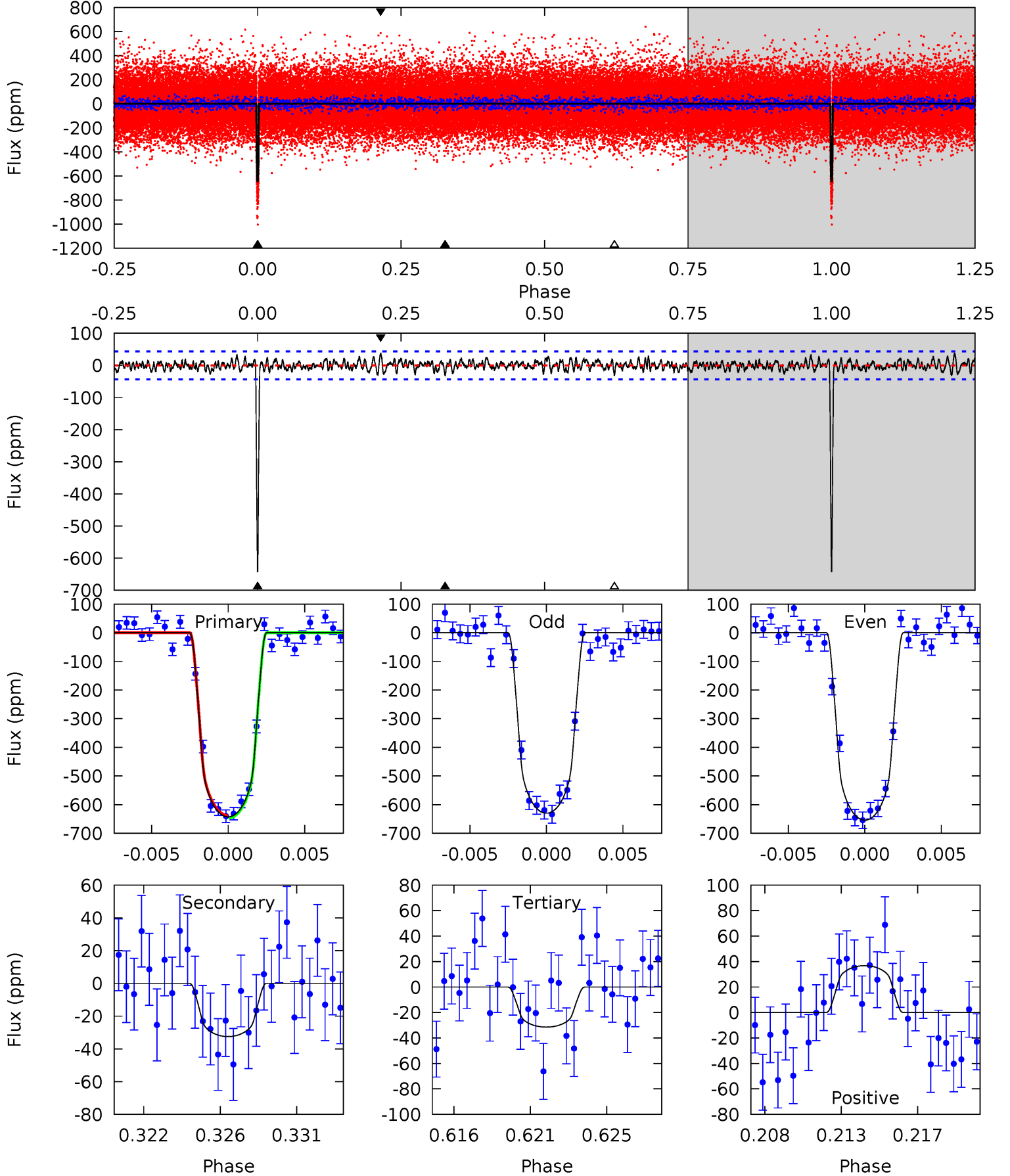
TCE 005121511-01 P= 30.996367 Days $T_0=160.794588$ (BKJD)



DV Model-Shift Uniqueness Test

005121511-01, $P = 30.996653$ Days, $E = 129.791455$ Days

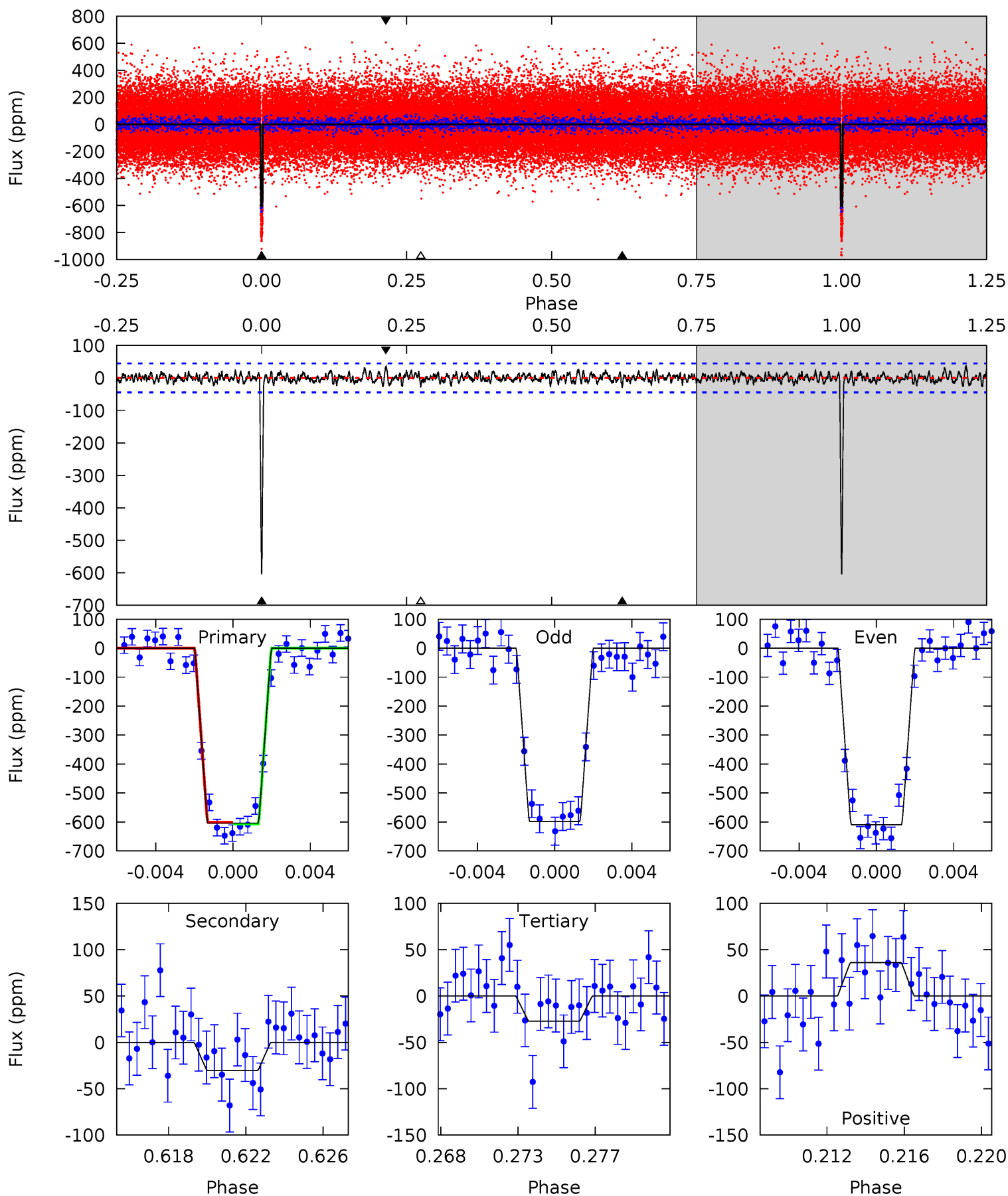
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
76.8	3.88	3.76	4.39	5.18	2.84	1.31	73.1	72.4	0.12	-0.51	1.45	1.03	0.05	0.55



Alt Model-Shift Uniqueness Test

005121511-01, $P = 30.996367$ Days, $E = 129.798221$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
70.2	3.51	3.17	4.18	5.20	2.87	1.15	67.0	66.0	0.34	-0.68	0.69	1.01	0.06	0.33



Stellar Parameters For KIC 005121511

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5324^{+106}_{-106}	$4.544^{+0.024}_{-0.090}$	$0.210^{+0.150}_{-0.150}$	$0.853^{+0.092}_{-0.039}$	$0.928^{+0.037}_{-0.059}$	$2.106^{+0.216}_{-0.566}$
	+2%/-2%	+1%/-2%	+71%/-71%	+11%/-5%	+4%/-6%	+10%/-27%
Source	SPE59	SPE59	SPE59	DSEP		

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

Secondary Eclipse Parameters for KIC 005121511-01 / KOI 0640.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-32 ± 8	$2.51^{+0.45}_{-0.41}$	706^{+21}_{-19}	3079^{+214}_{-182}	98^{+55}_{-35}
Alt.	-30 ± 9	$2.40^{+0.44}_{-0.45}$	705^{+22}_{-19}	3097^{+209}_{-214}	100^{+63}_{-37}

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 $A_{\text{obs}} \gg 1.0$

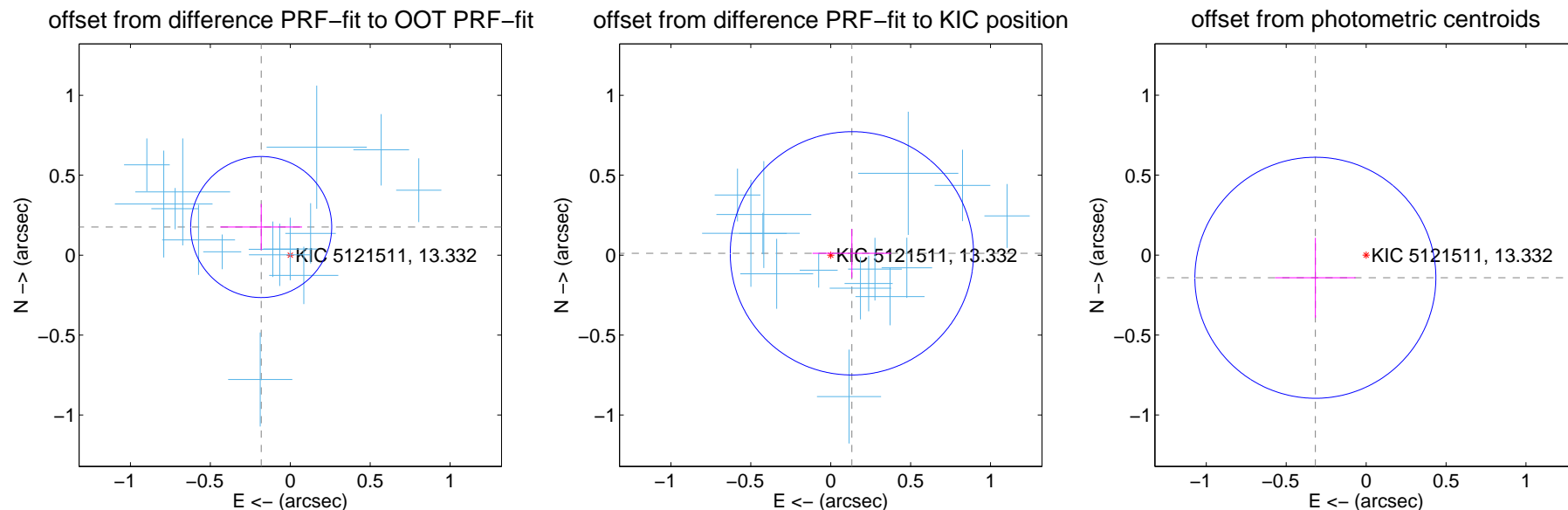
DV Centroid Data

Supplemental centroid analysis for 005121511-01. Kepler magnitude: 13.33. Transit SNR 54.63

There are 15 quarters with good PRF difference image offsets

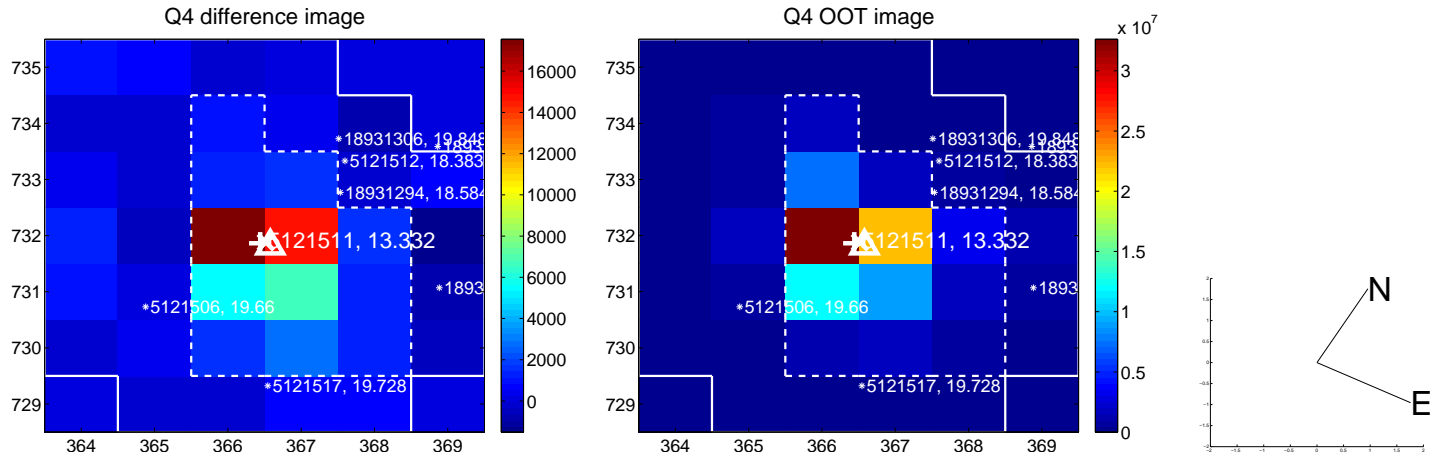
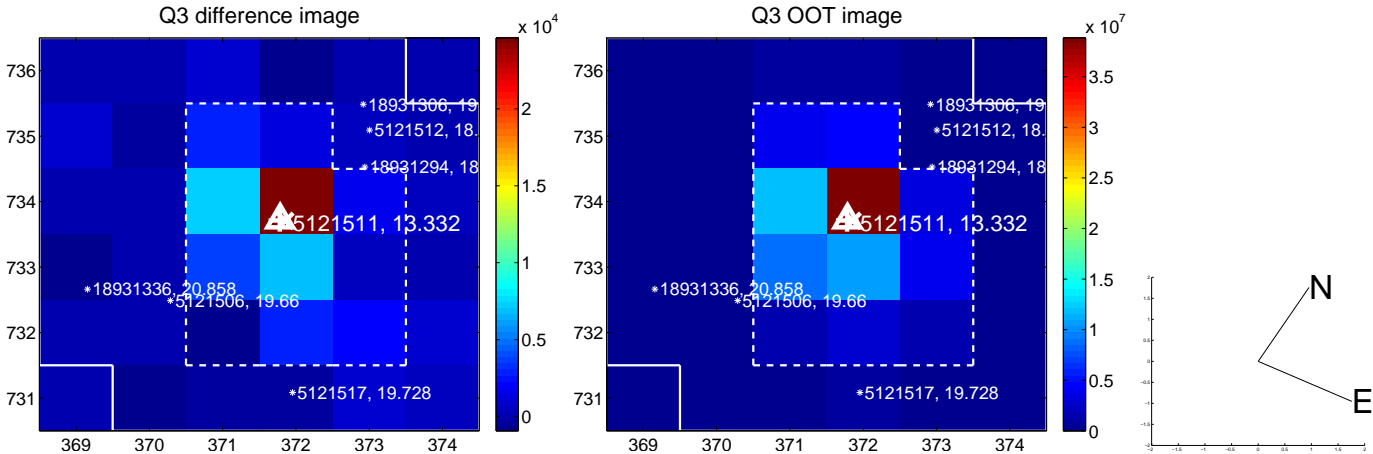
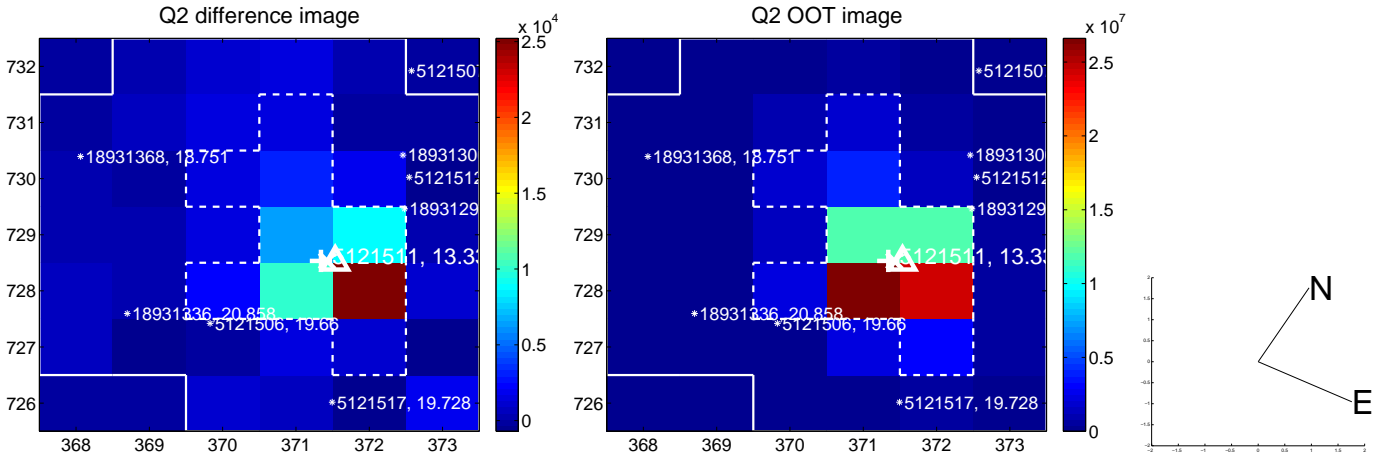
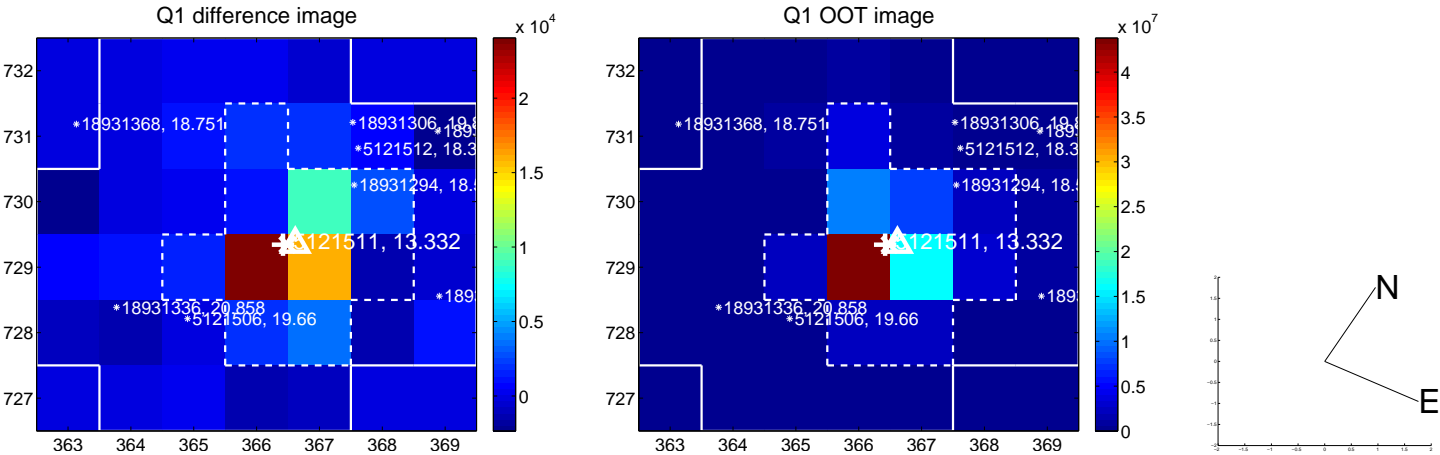
The direct PRF centroid is offset from the target star catalog position by about 0.34 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.253 ± 0.147	1.72	0.182 ± 0.256	0.176 ± 0.144
PRF-fit source offset from KIC position	0.133 ± 0.254	0.52	-0.132 ± 0.246	0.011 ± 0.153
photometric centroid source offset	0.35 ± 0.25	1.38	0.32 ± 0.25	-0.14 ± 0.25

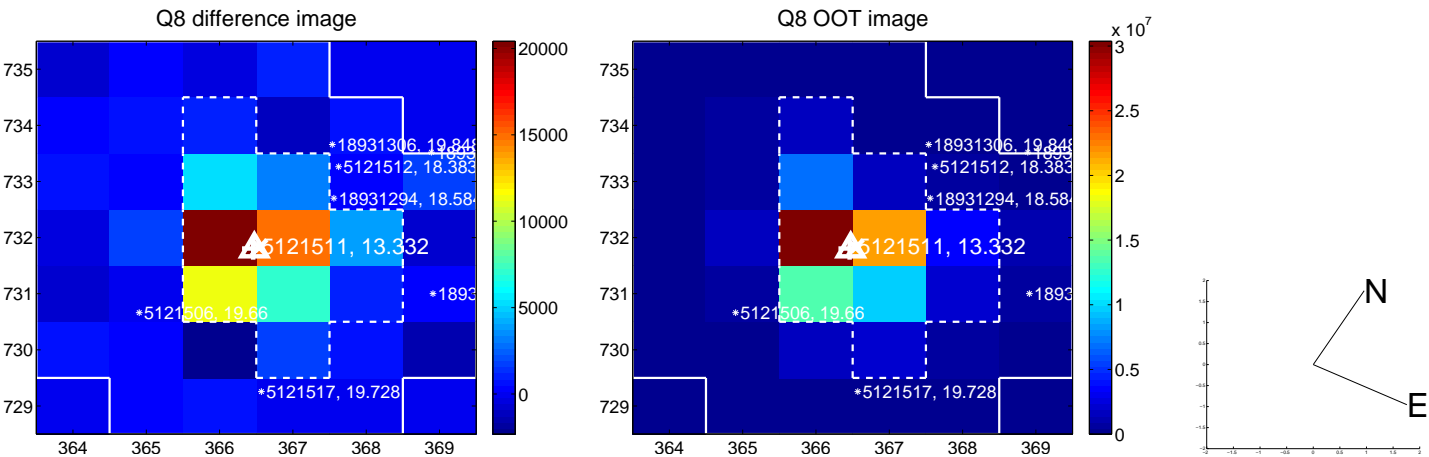
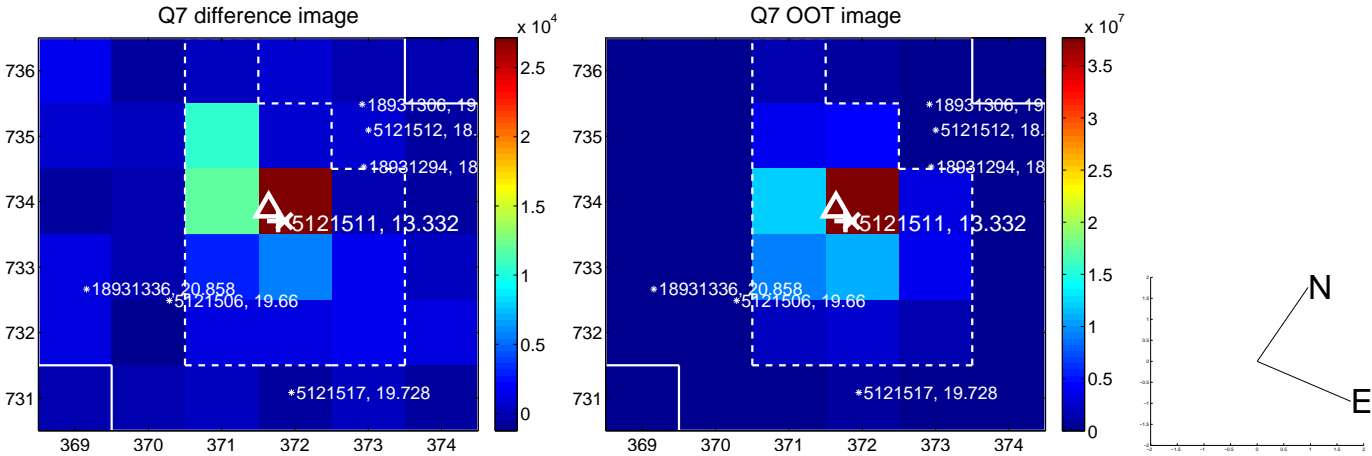
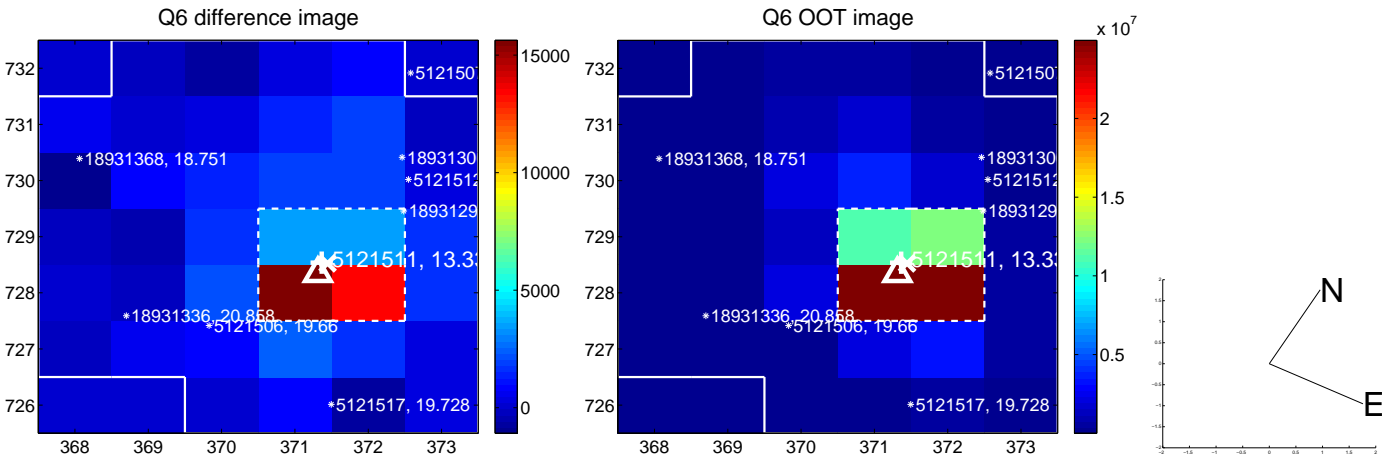
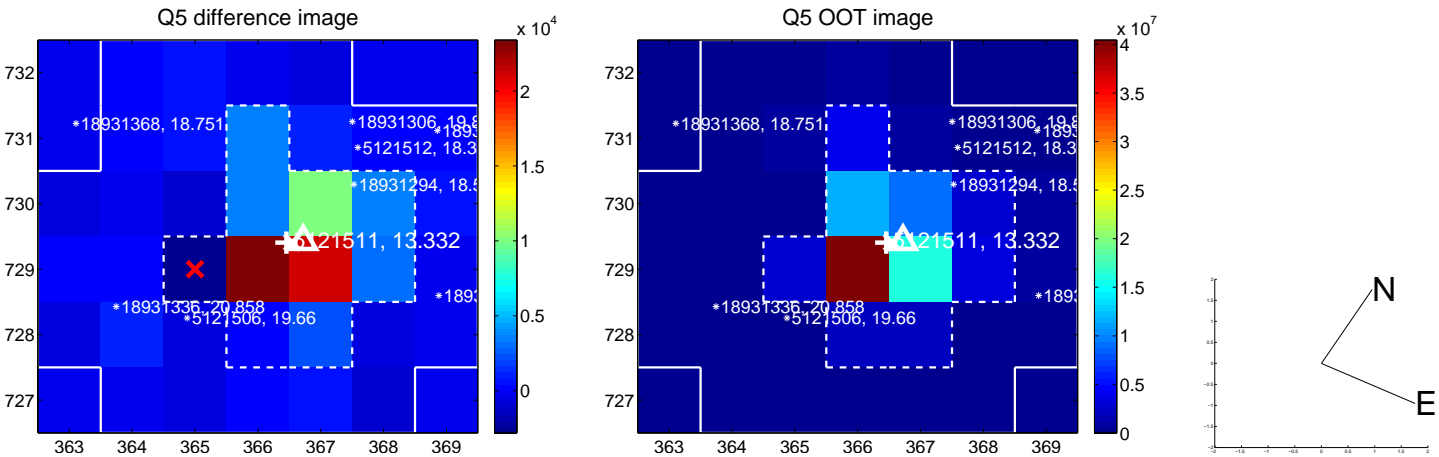


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

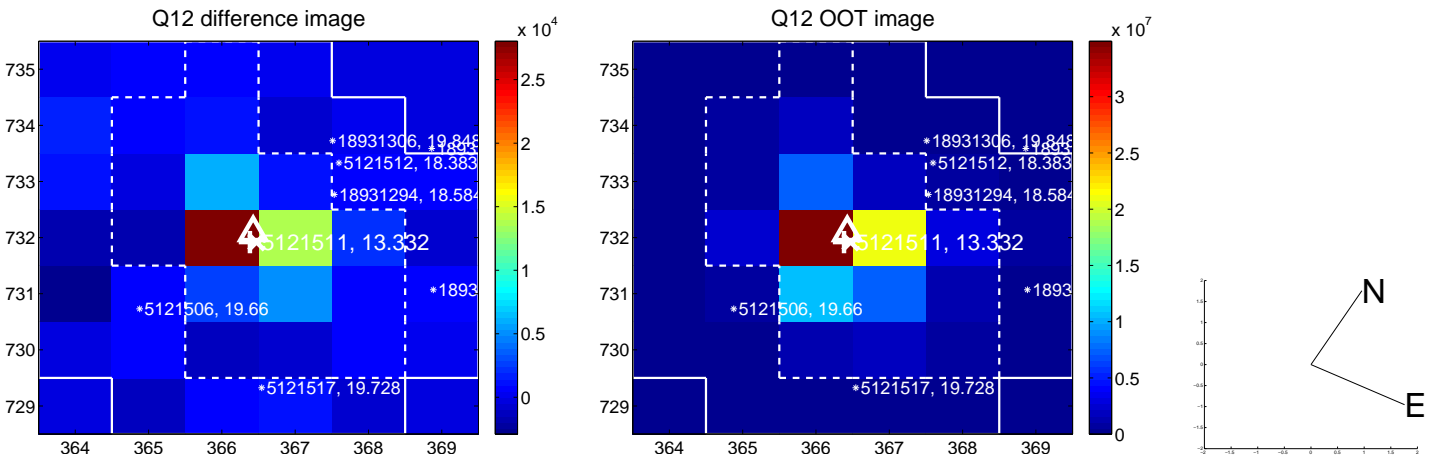
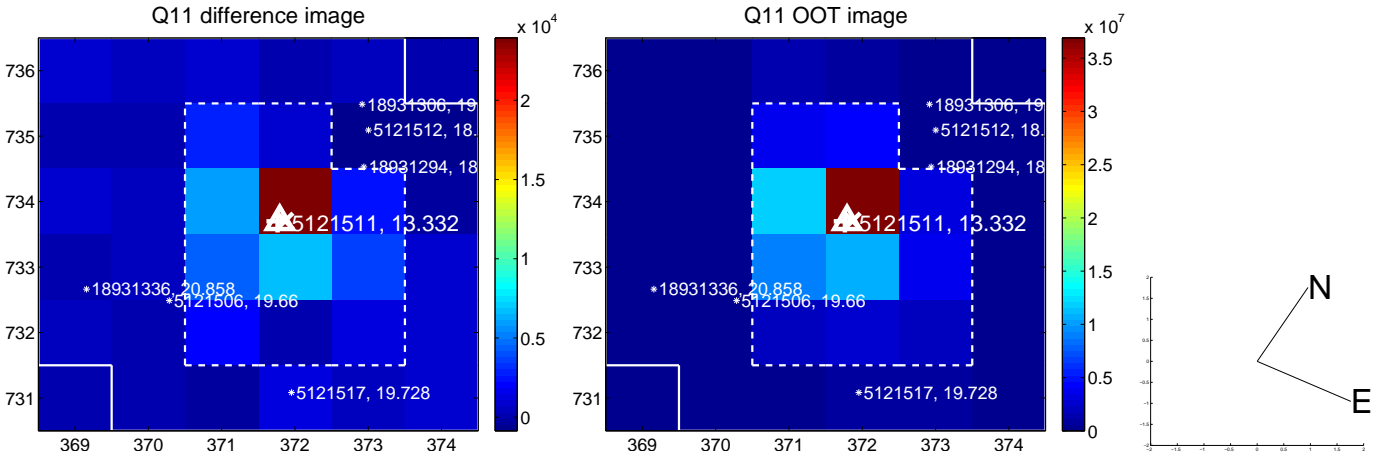
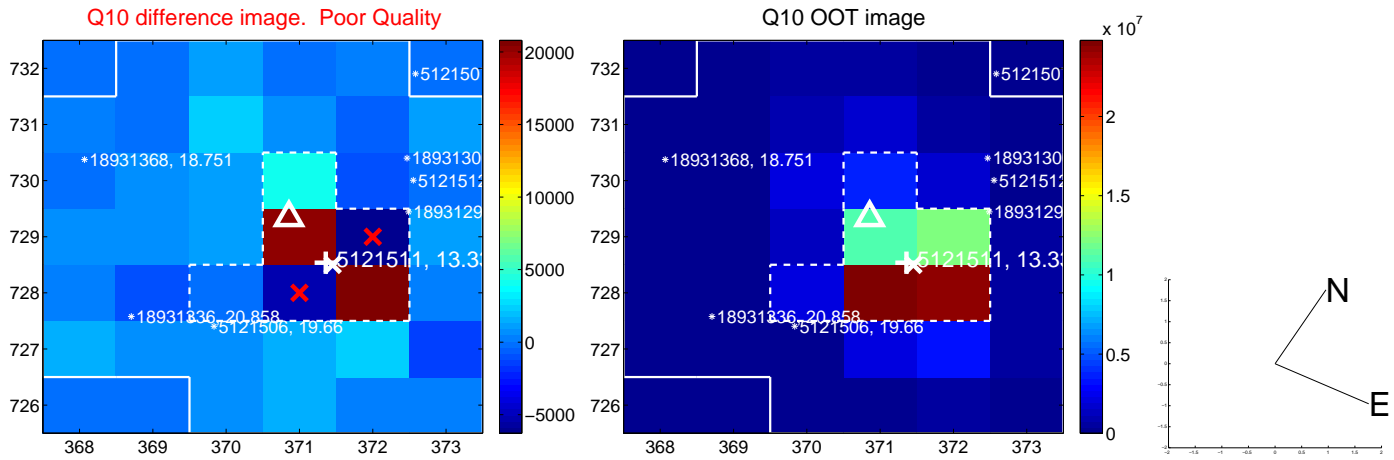
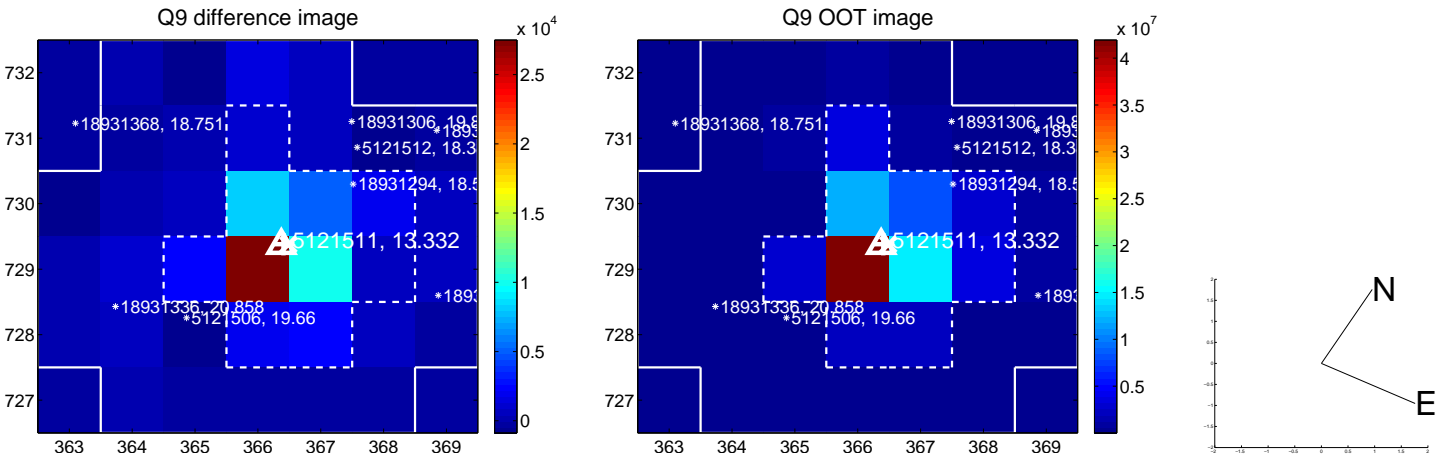
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



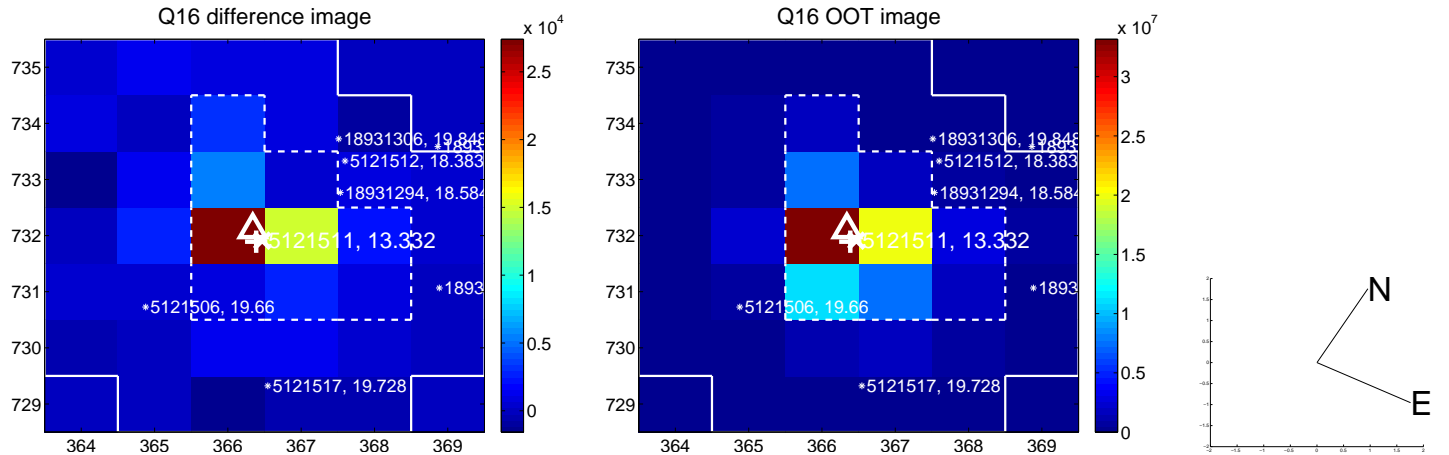
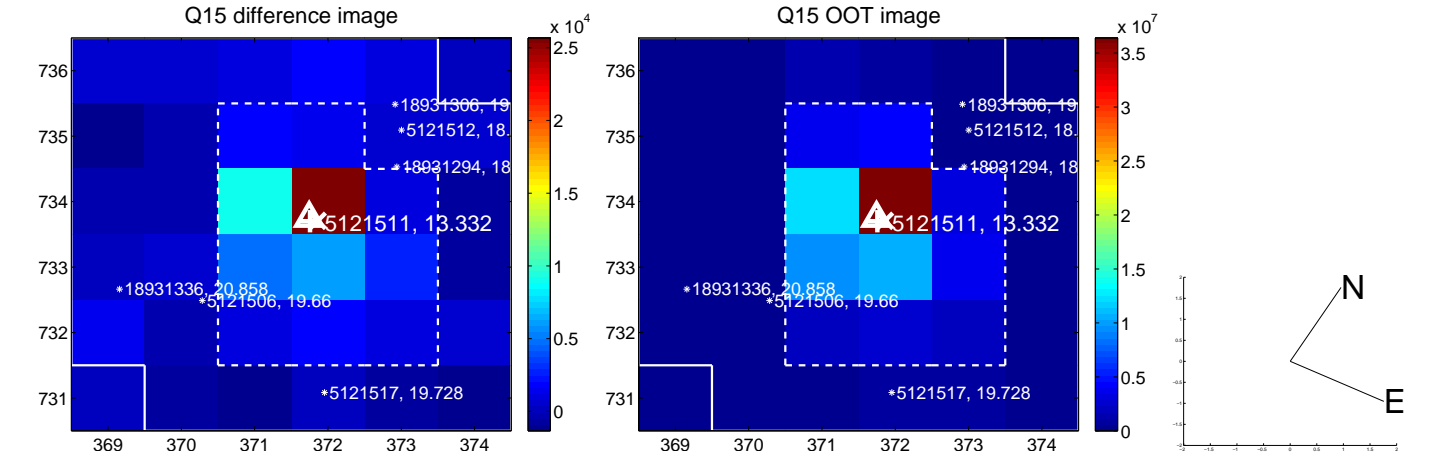
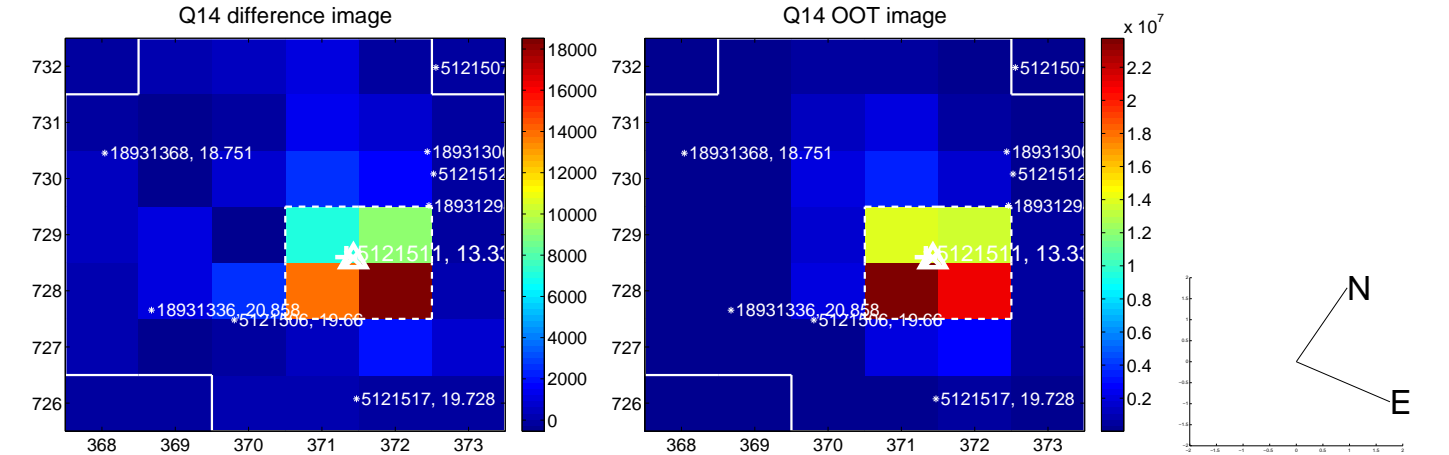
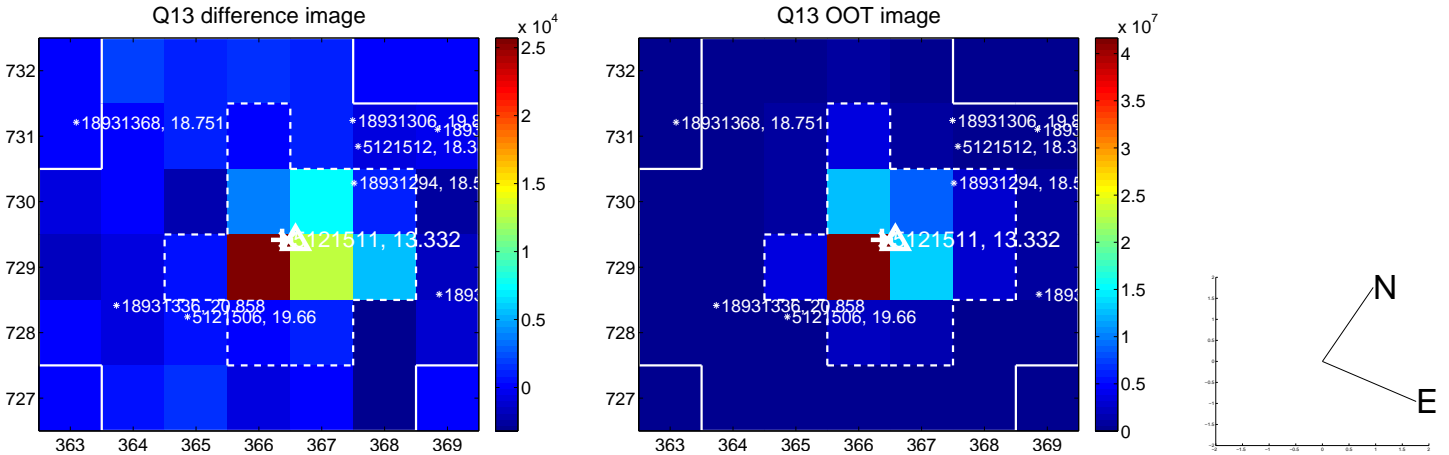
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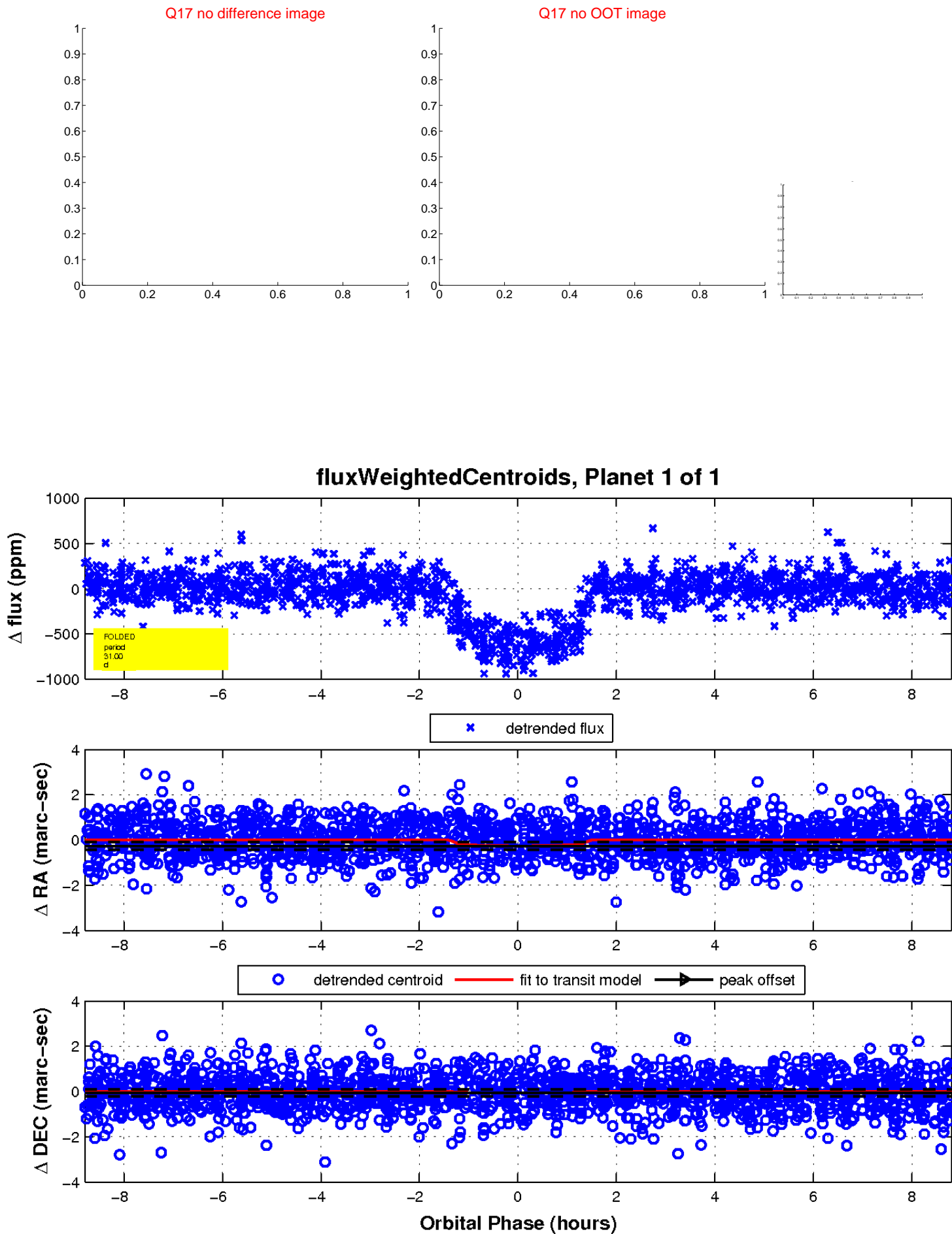
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UKIRT Image

Declination

