

KIC 010489525

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})
010489525-01	OBS	0106.01	1.612216	131.867606	99.9	2.571	32.1	35.0	2.57	6732	3.00	12825.75

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010489525-01	OBS	FP	0.00	0	1	1	1	MOD_ODDEVEN_DV—CENT_RESOLVED_OFFSET—EPHEM_MATCH

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 010489525-01

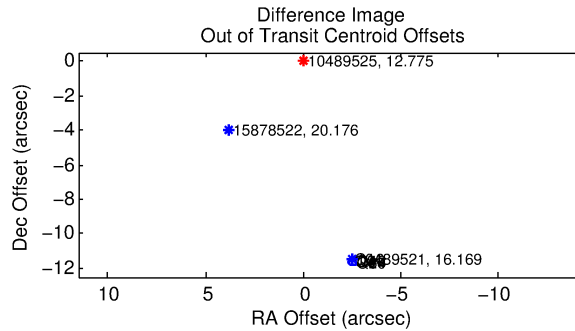
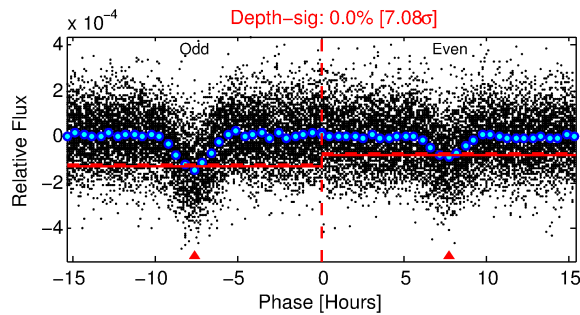
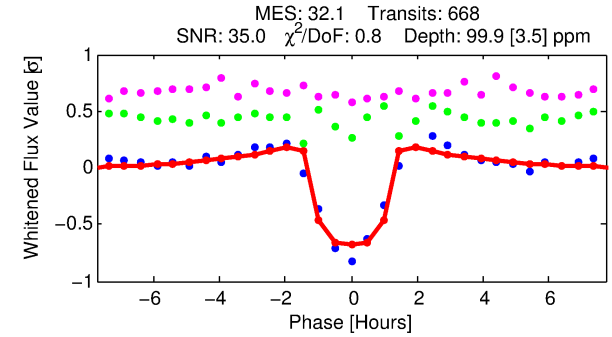
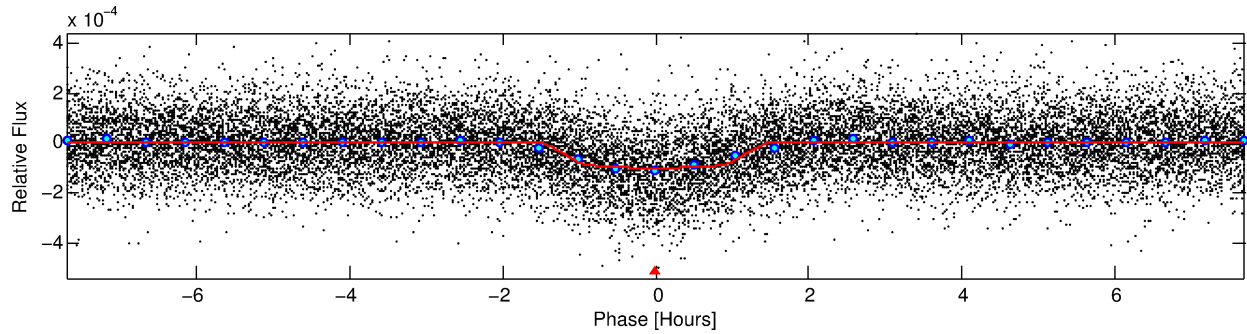
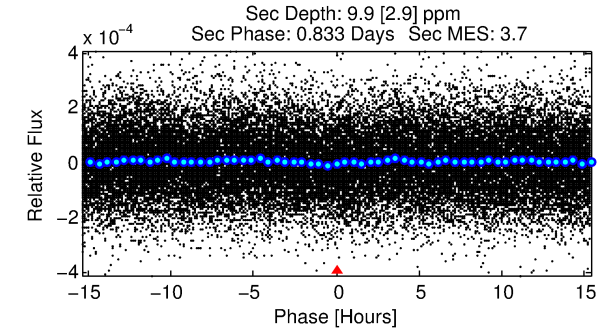
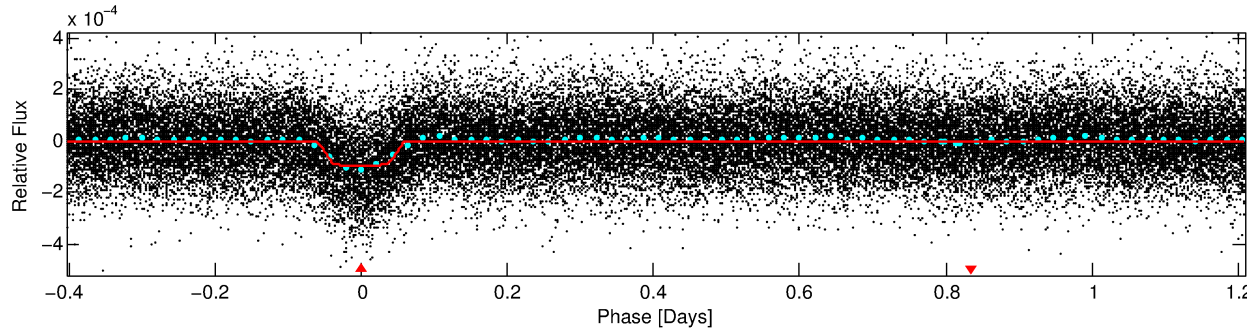
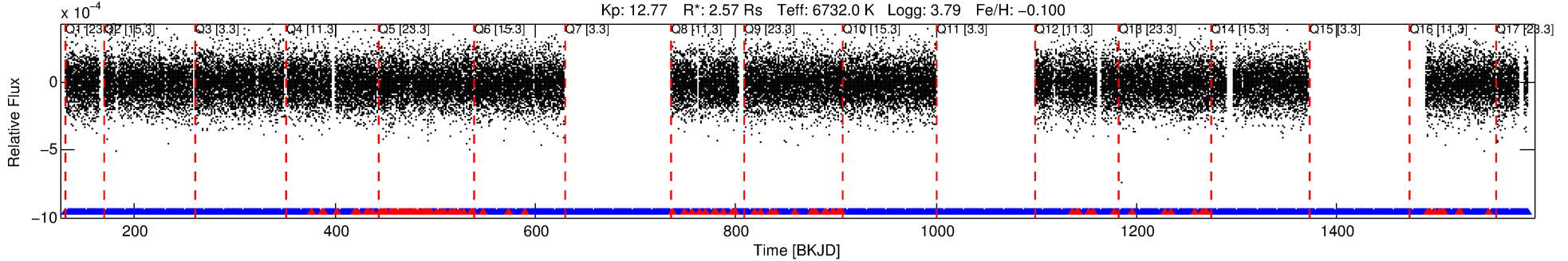
TCE (1)	KIC	Parent (2)	Parent KIC	$P_1:P_2$	Dist ($''$)	Δ Row	Δ Col	m_2	m_1	D_2/D_1	Mechanism	Flag	σ_P	σ_T
010489525-01	10489525	3625.01	10489521	1:2	11.8	-2	-2	16.17	12.78	4735.00	Direct-PRF	0	2.62	0.71

Notes: $P_1:P_2$ is the period ratio. Dist is the distance in arcseconds. Δ Row and Δ Col are the number of pixels apart in row and column. m_2 and m_1 are the magnitudes of the parent and child. D_2/D_1 is the parent's transit depth divided by the child's. σ_P and σ_T are the significance of the match in period and epoch. For a match to be considered significant $\sigma_P < 5.0$ and $\sigma_T < 5.0$. Matches which have σ_P and σ_T very close to this cutoff should receive extra scrutiny, especially if the period ratio is very large.

DV One-Page Summary

KIC: 10489525 Candidate: 1 of 1 Period: 1.612 d
KOI: K00106.01 Corr: 0.778

Kp: 12.77 R*: 2.57 Rs Teff: 6732.0 K Logg: 3.79 Fe/H: -0.100



DV Fit Results:

Period = 1.61222 [0.00000] d
Epoch = 131.8676 [0.0008] BKJD
Rp/R* = 0.0107 [0.0013]
a/R* = 2.39 [1.43]
b = 0.90 [0.15]
Seff = 12825.75 [6680.92]
Teq = 2714 [353] K
Rp = 2.99 [1.08] Re
a = 0.0308 [0.0098] AU
Ag = 0.58 [0.36] [-1.16σ]
Teffp = 3658 [373] K [1.84σ]

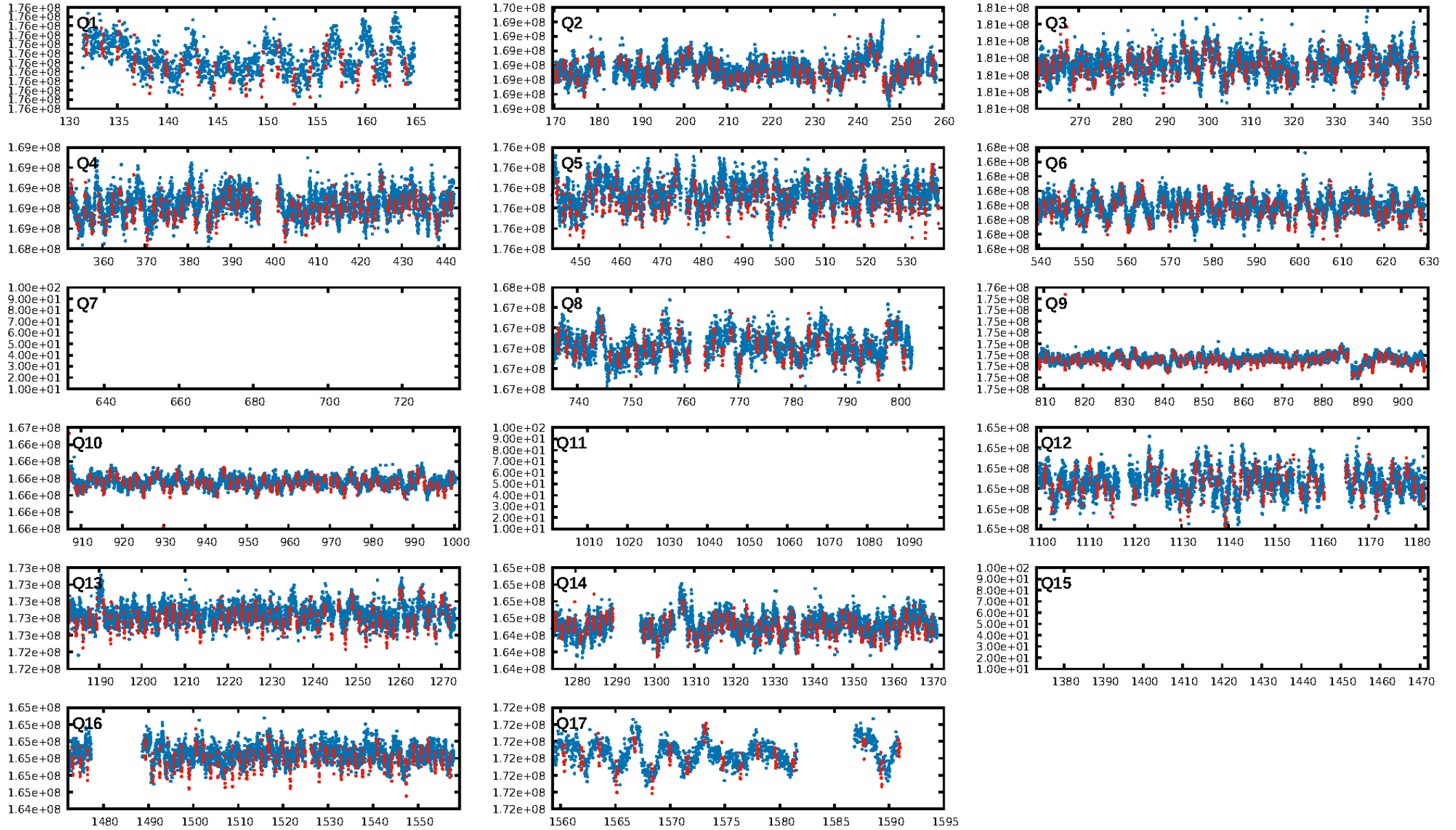
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 7.92e-204
RollingBand-fgt: 0.85 [533/630]
GhostDiagnostic-chr: -0.3981
Centroid-sig: 0.0%
Centroid-so: 355.457 arcsec [1072.26σ]
OotOffset-rm: 11.887 arcsec [169.19σ]
KicOffset-rm: 11.991 arcsec [154.63σ]
OotOffset-st: 4/0/4/0 [8]
KicOffset-st: 4/0/4/0 [8]
DiffImageQuality-fgm: 1.00 [8/8]
DiffImageOverlap-fno: 1.00 [14/14]

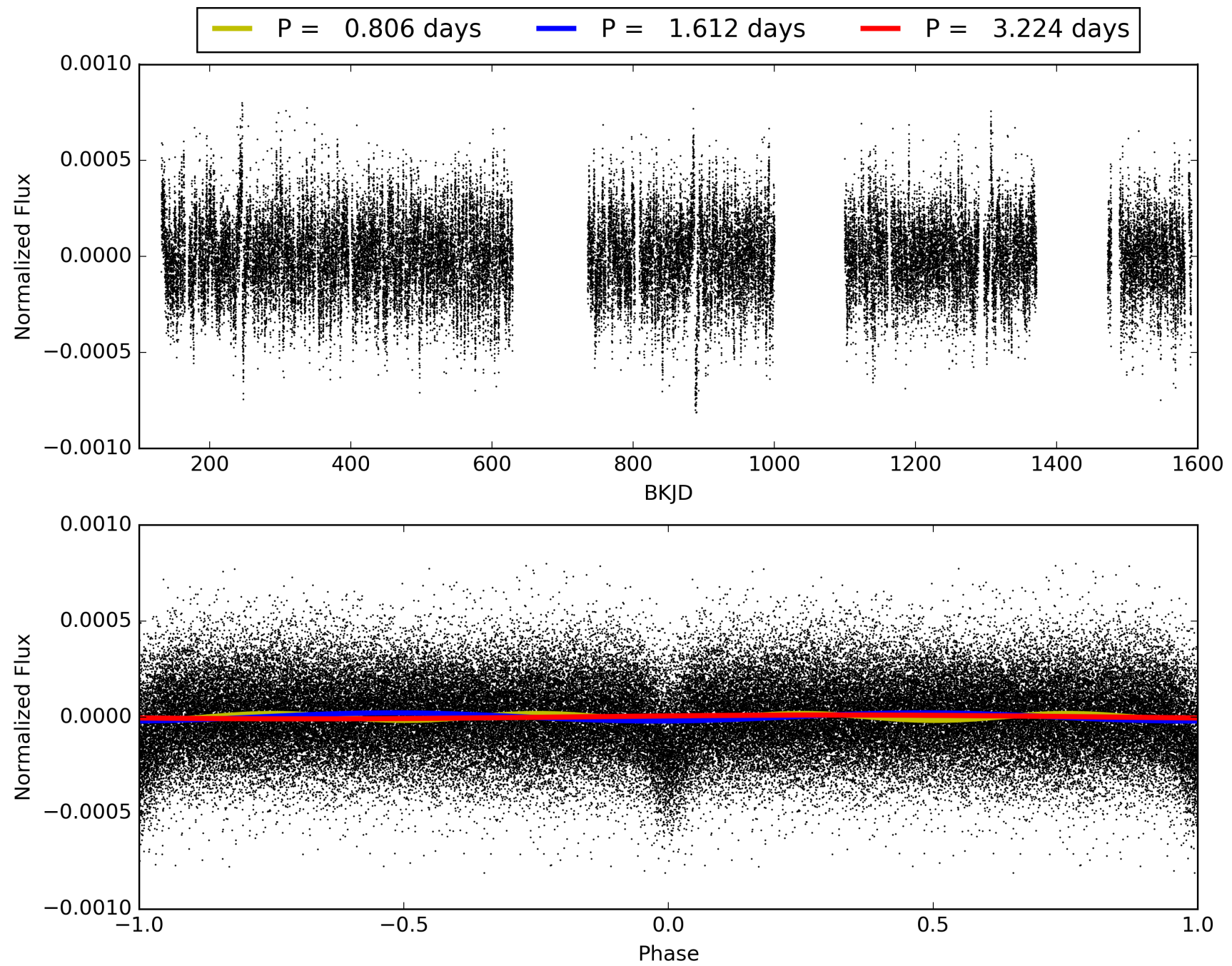
Software Revision: svn-ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 08:58:41 Z

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

TCE 010489525-01, PDC Light Curves

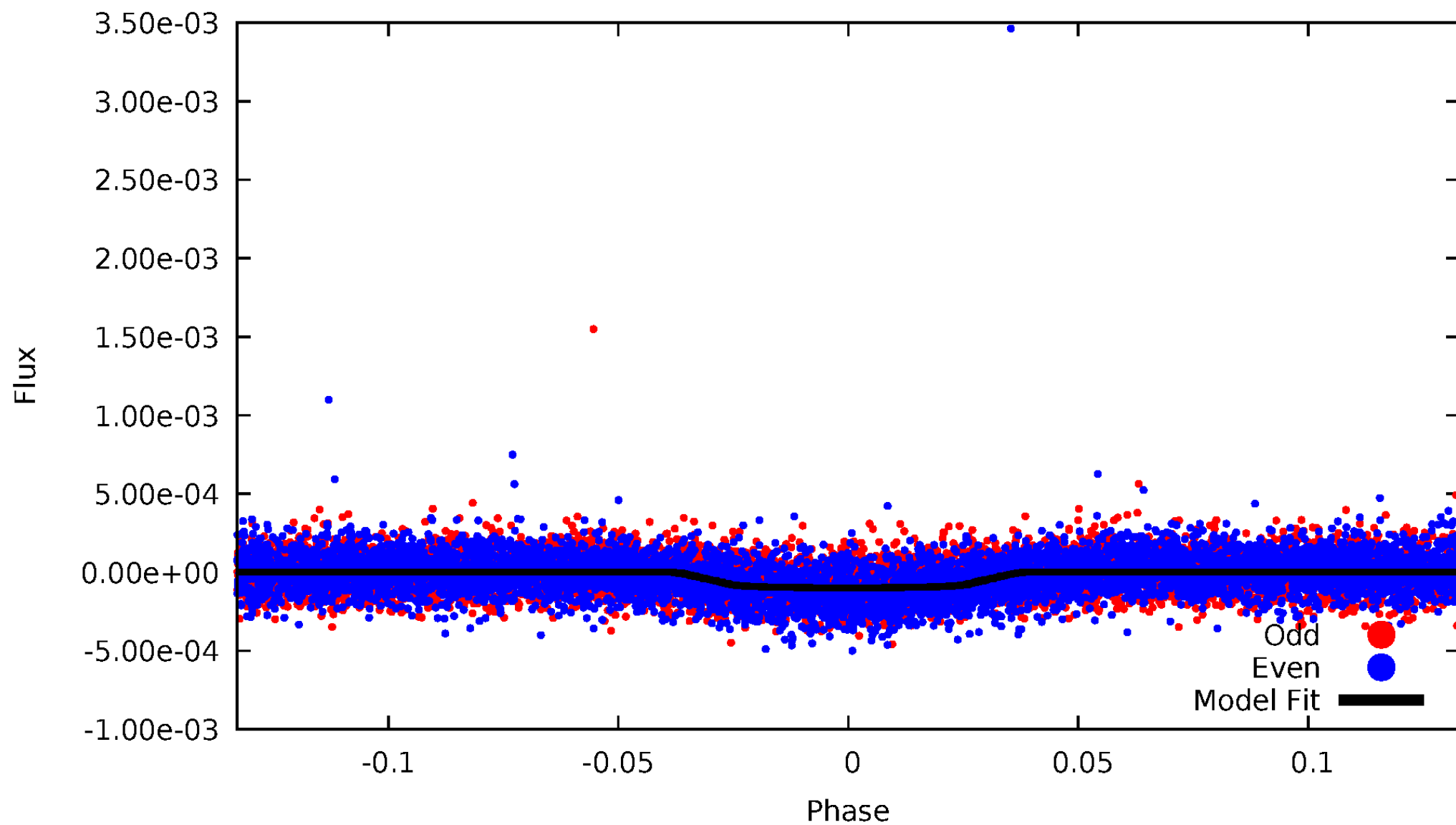


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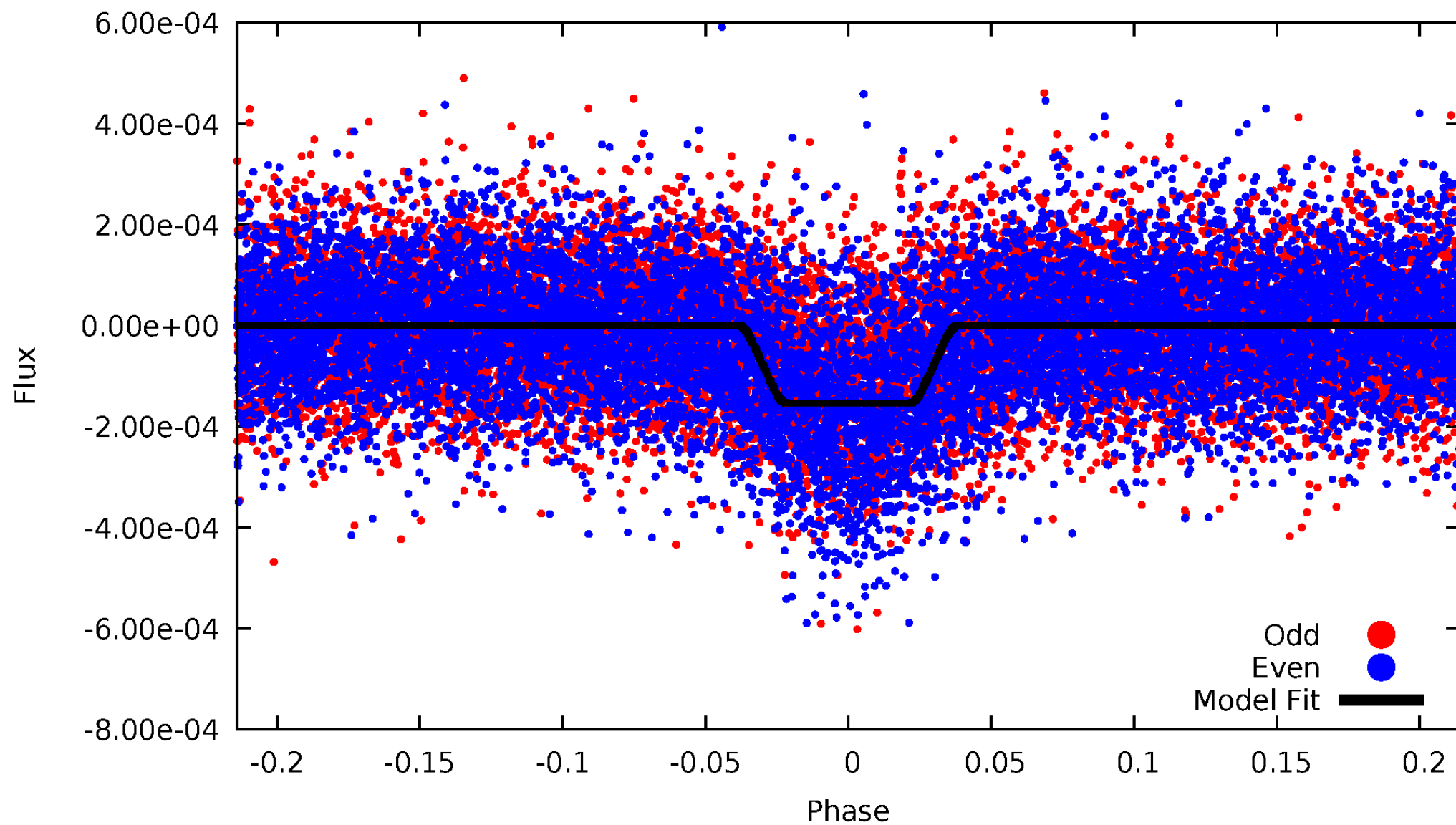
DV Odd/Even

TCE 010489525-01

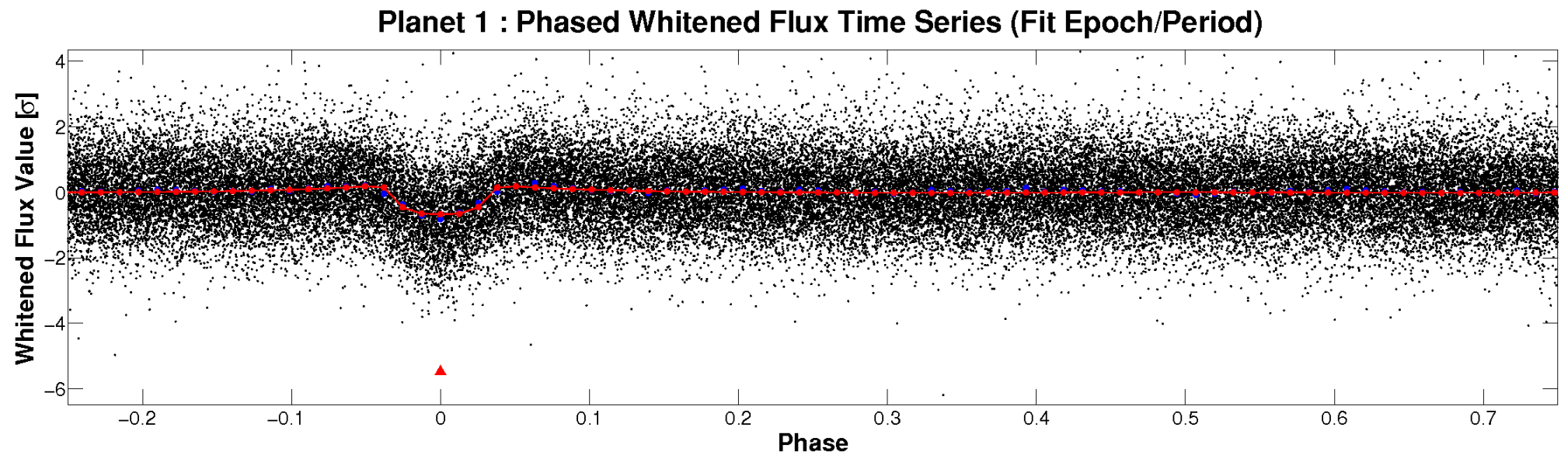
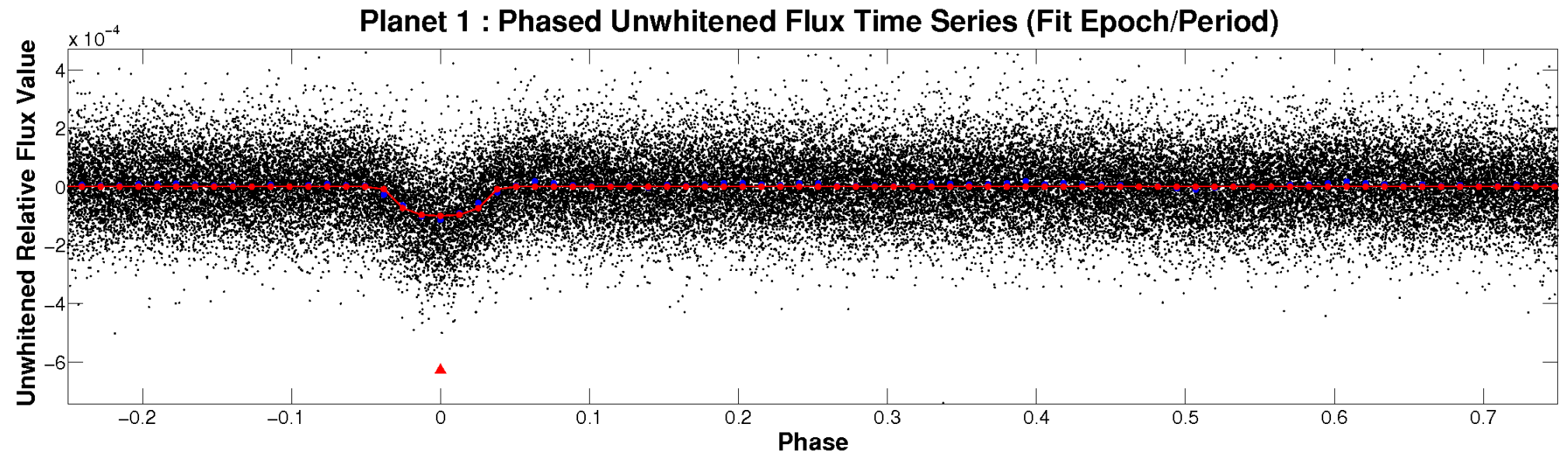


ALT Odd/Even

TCE 010489525-01

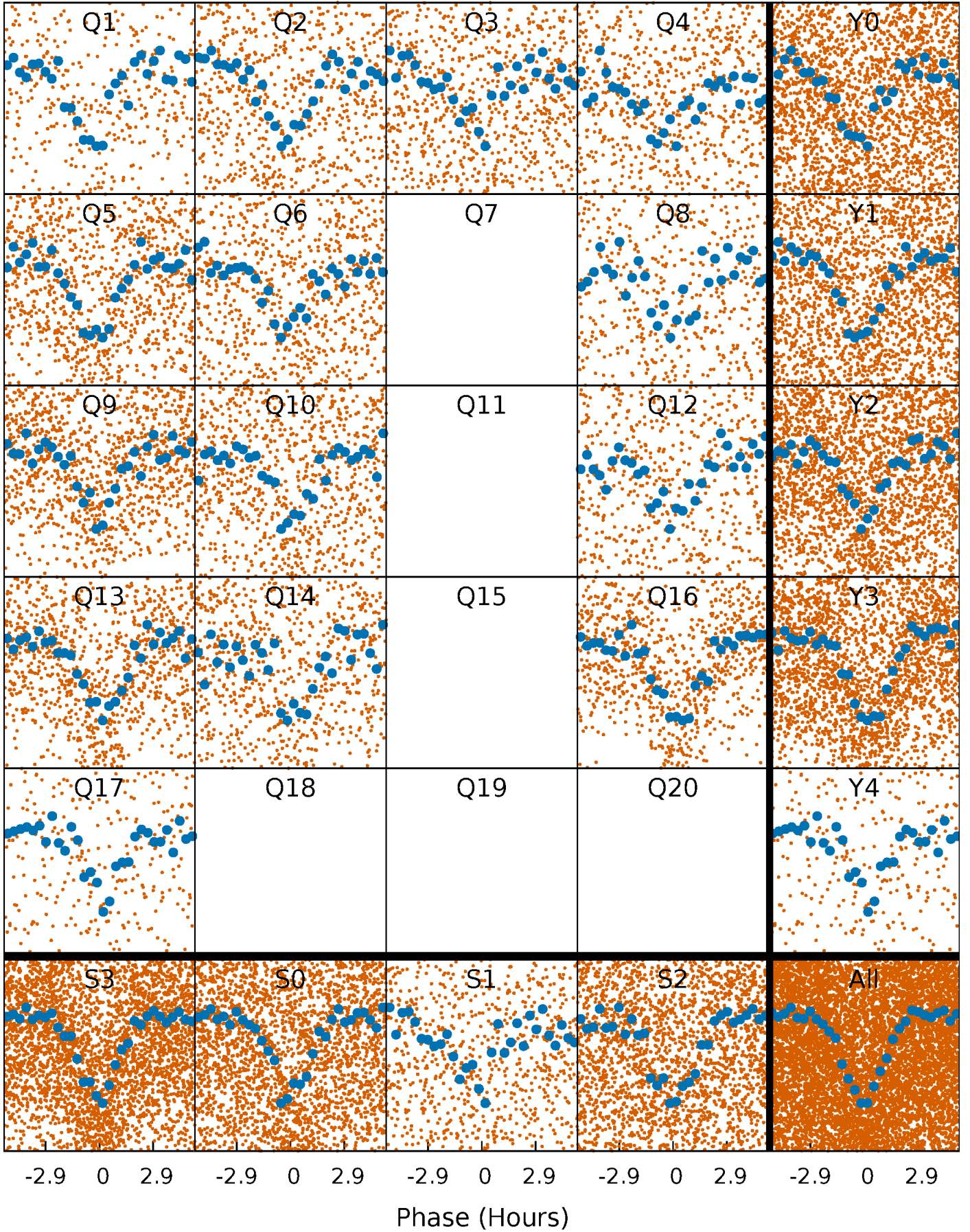


Non-Whitened Vs. Whitened Light Curve



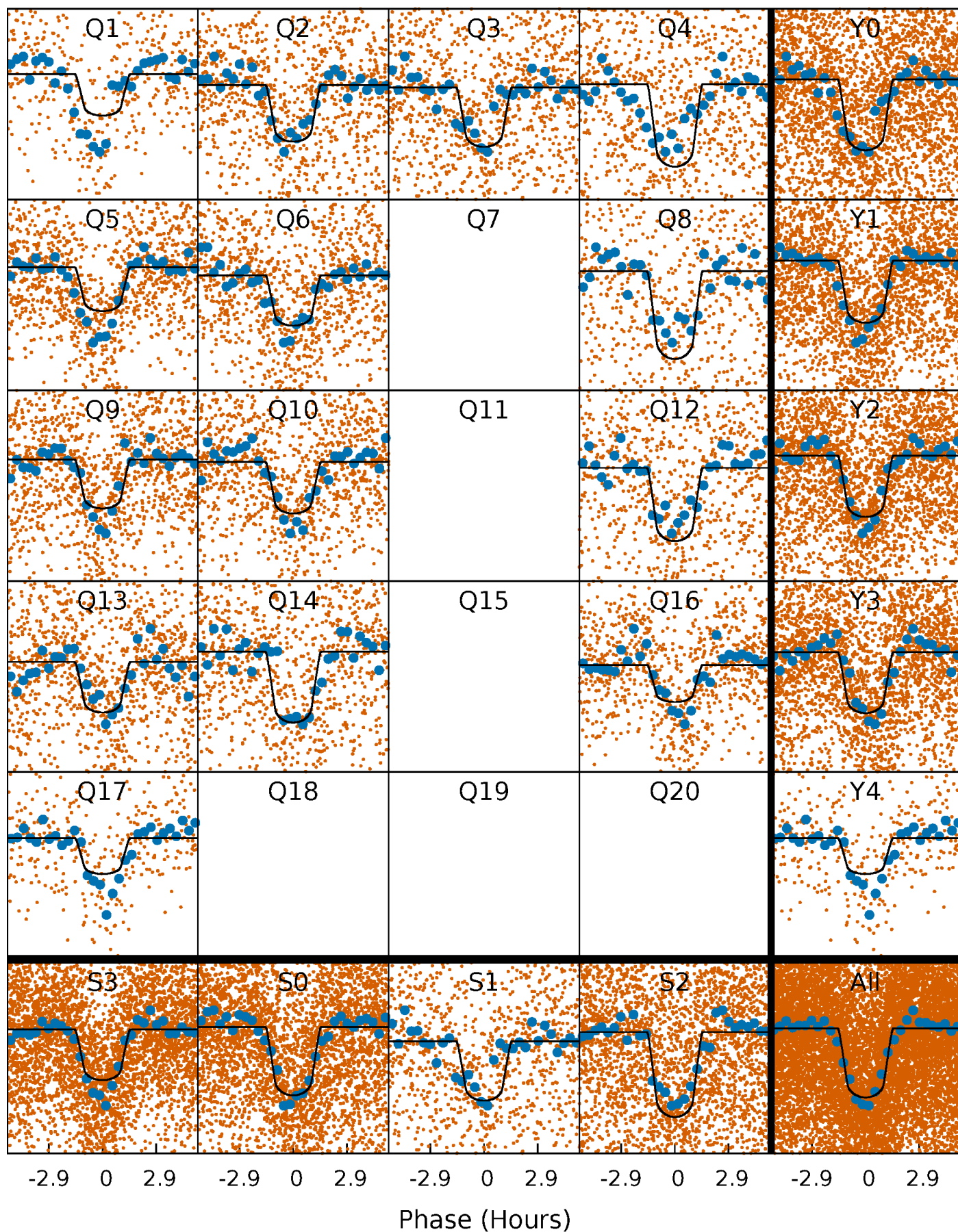
PDC Quarter-Phased Transit Curves

TCE 010489525-01 P= 1.612216 Days $T_0=131.867606$ (BKJD)



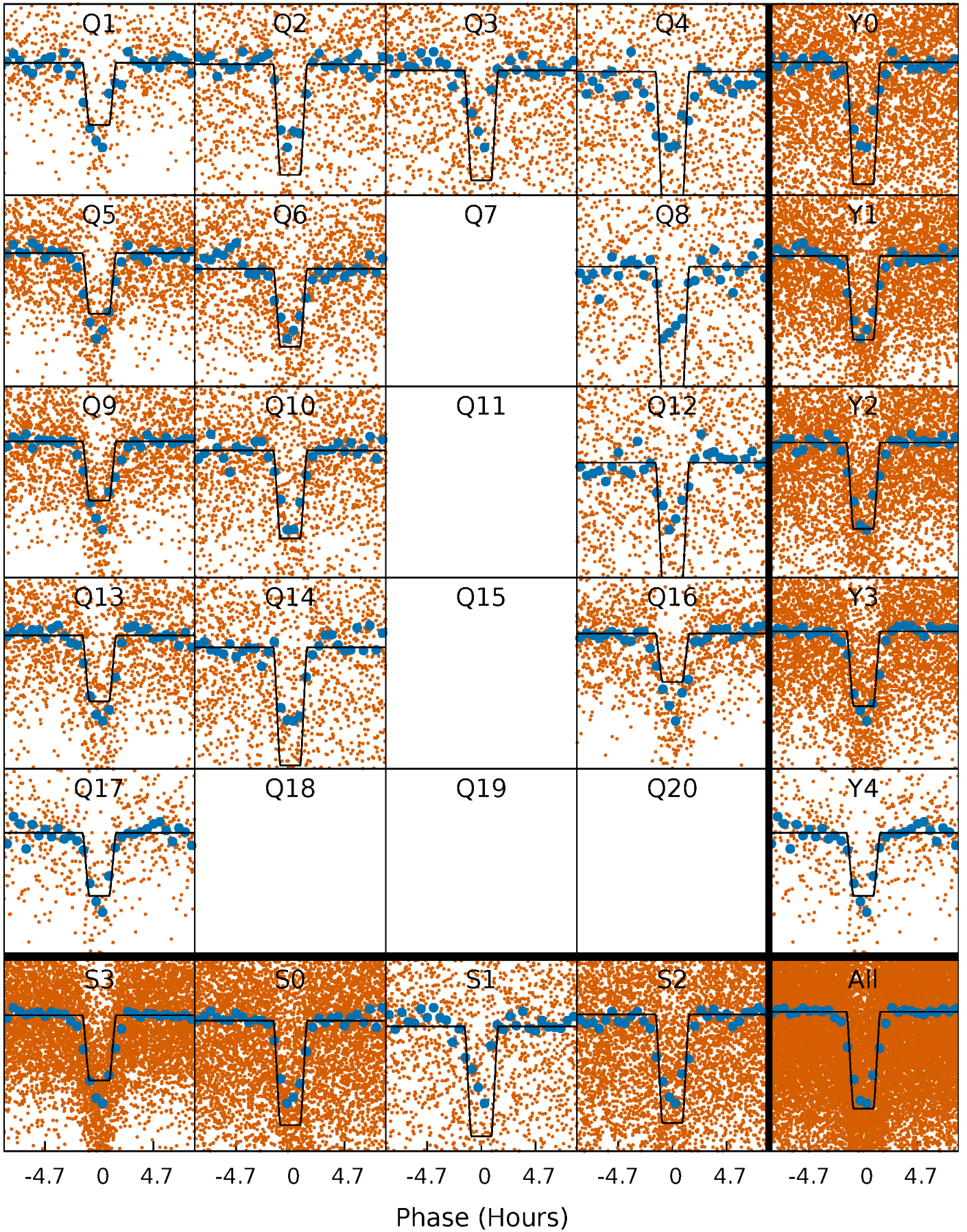
DV Quarter-Phased Transit Curves

TCE 010489525-01 P= 1.612216 Days $T_0=131.867606$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

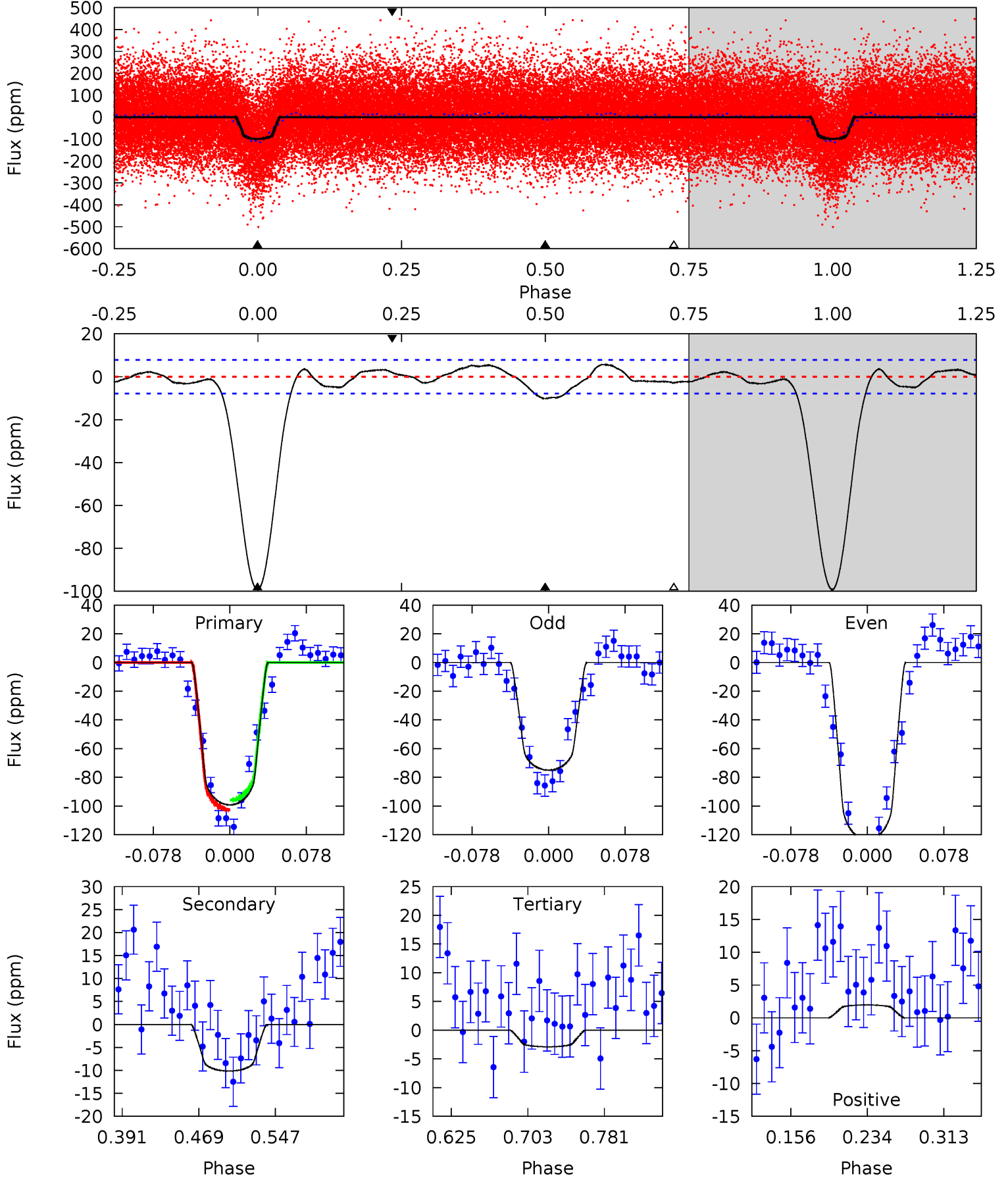
TCE 010489525-01 P= 1.612239 Days $T_0=131.856403$ (BKJD)



DV Model-Shift Uniqueness Test

010489525-01, P = 1.612216 Days, E = 130.255390 Days

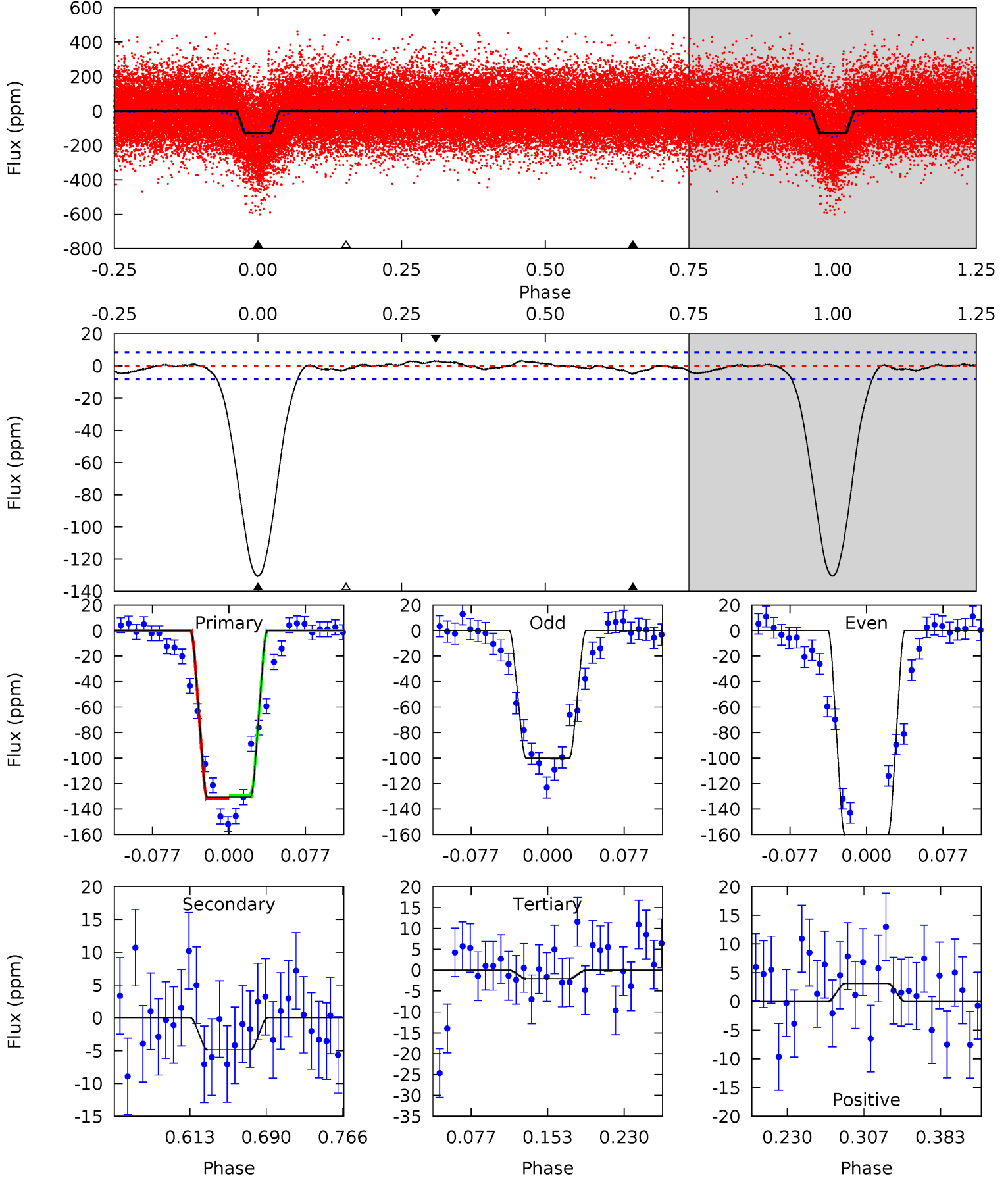
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
58.2	5.94	1.70	1.15	4.62	1.76	1.71	56.5	57.0	4.25	4.79	14.3	0.96	0.05	1.96



Alt Model-Shift Uniqueness Test

010489525-01, P = 1.612239 Days, E = 130.244164 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
72.1	2.69	1.15	1.73	4.62	1.77	1.01	71.0	70.4	1.54	0.96	16.6	0.99	0.02	0.66



Stellar Parameters For KIC 010489525

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	ρ_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6732^{+187}_{-234}	$3.793^{+0.292}_{-0.097}$	$-0.100^{+0.300}_{-0.250}$	$2.569^{+0.536}_{-0.871}$	$1.495^{+0.249}_{-0.249}$	$0.124^{+0.225}_{-0.045}$
	+3%/-3%	+8%/-3%	+300%/-250%	+21%/-34%	+17%/-17%	+181%/-36%
Source	PHO1	FLK73	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 010489525-01 / KOI 0106.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-10 ± 2	$2.86^{+0.54}_{-0.54}$	3695^{+259}_{-323}	3558^{+349}_{-391}	$0.642^{+0.338}_{-0.199}$
Alt.	-5 ± 2	$3.33^{+0.59}_{-0.65}$	3712^{+242}_{-324}	-2776^{+5627}_{-489}	$0.234^{+0.158}_{-0.100}$

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

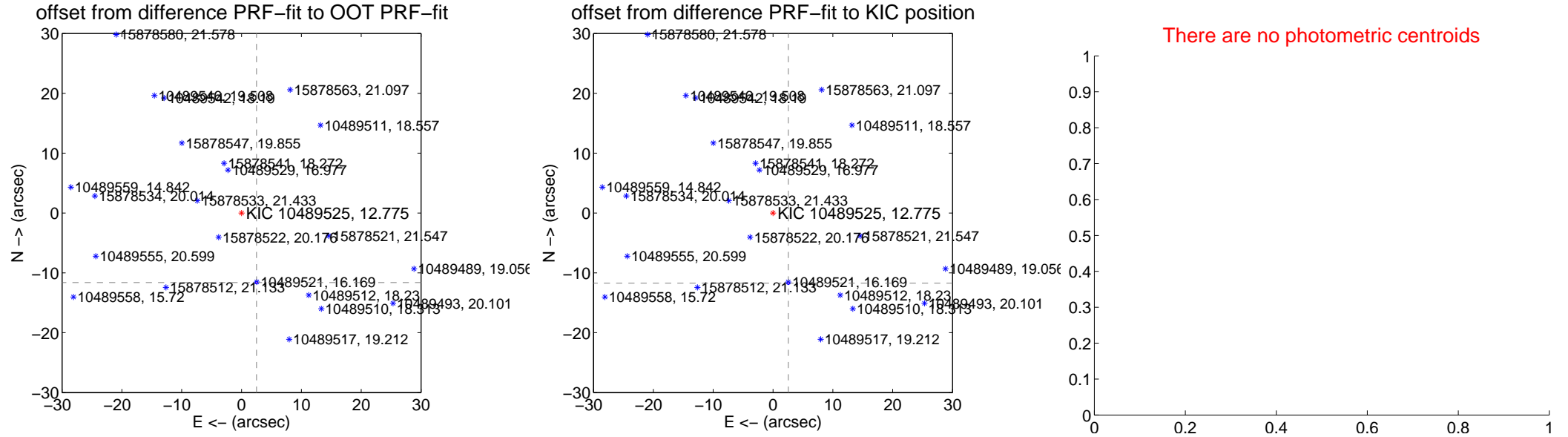
DV Centroid Data

Supplemental centroid analysis for 010489525-01. Kepler magnitude: 12.78. Transit SNR 34.95

There are 8 quarters with good PRF difference image offsets

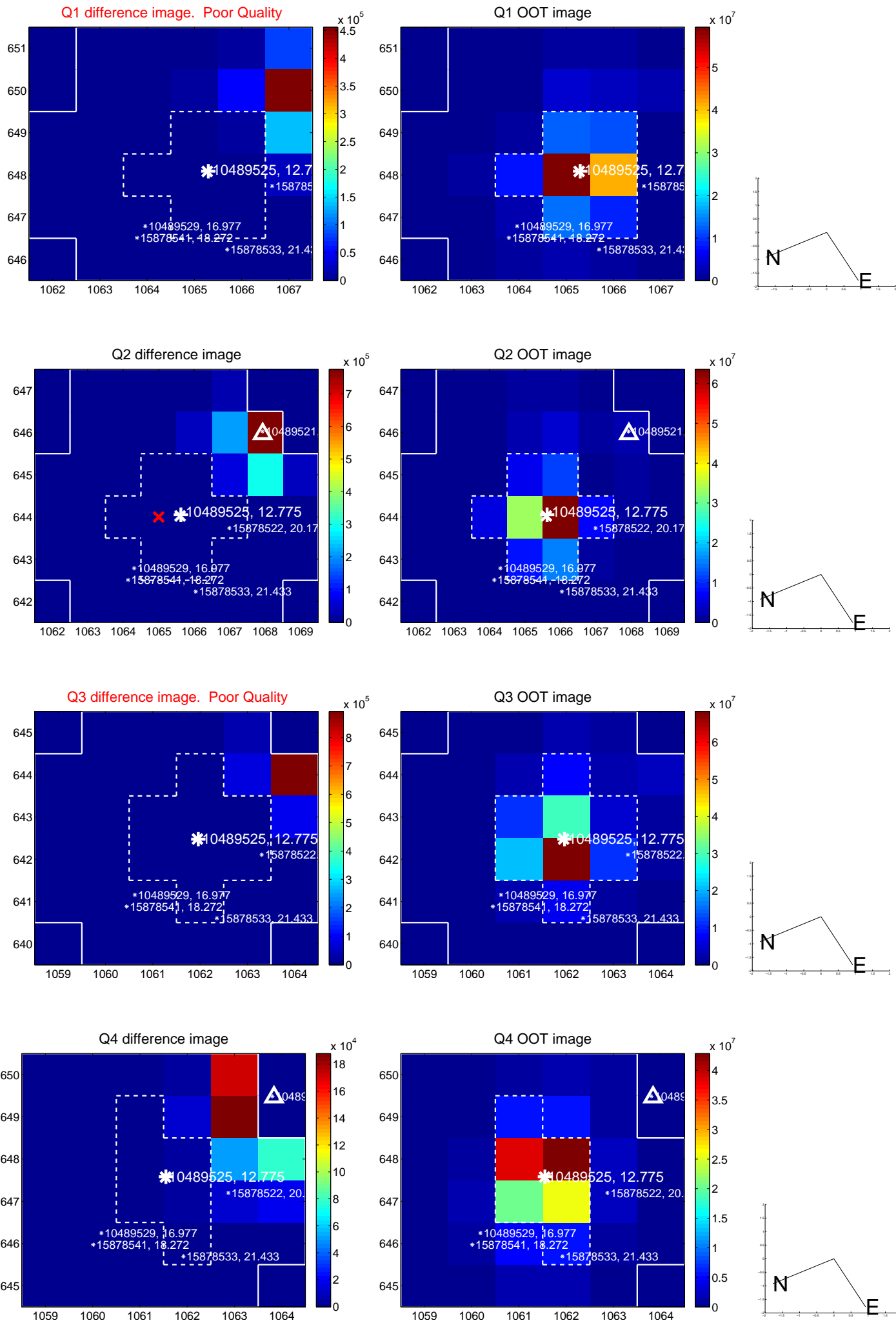
The direct PRF centroid is offset from the target star catalog position by about 0.04 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	11.887 \pm 0.070	169.19	-2.505 \pm 0.067	-11.620 \pm 0.070
PRF-fit source offset from KIC position	11.991 \pm 0.078	154.63	-2.558 \pm 0.070	-11.715 \pm 0.076
photometric centroid source offset	—	—	—	—

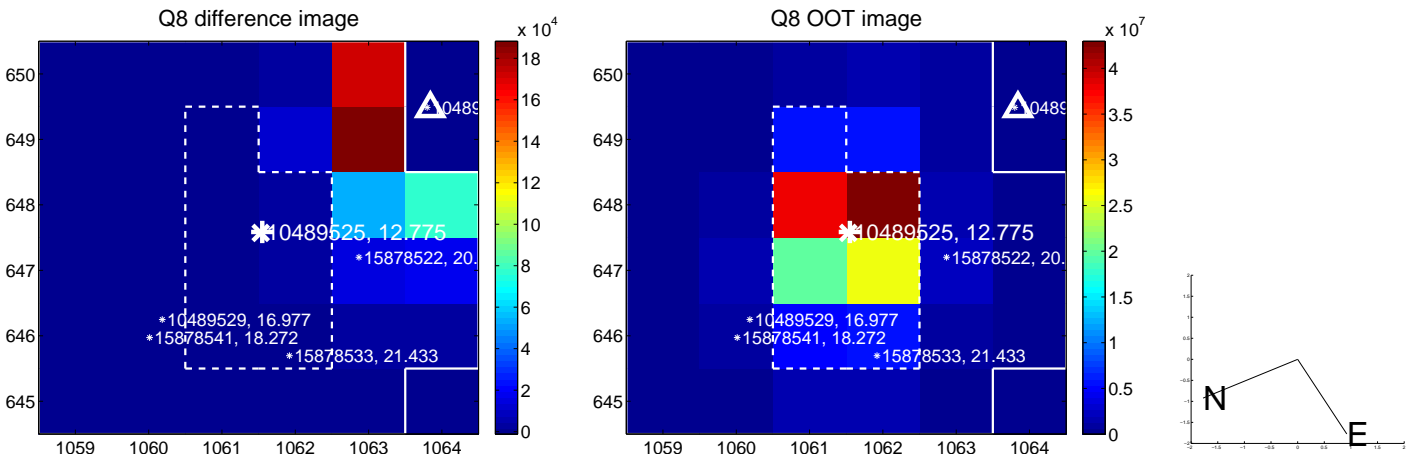
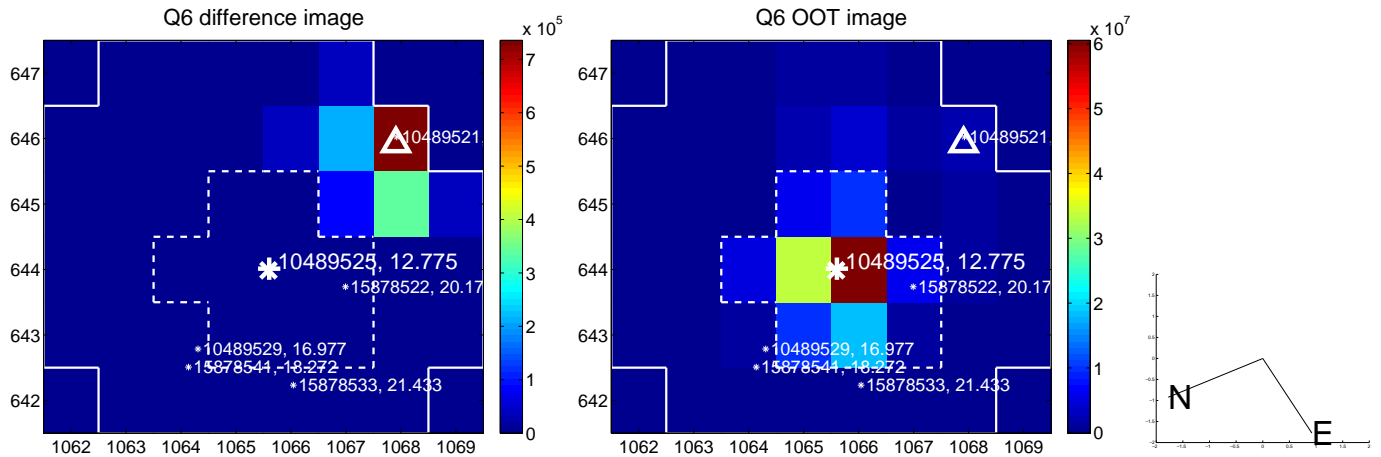
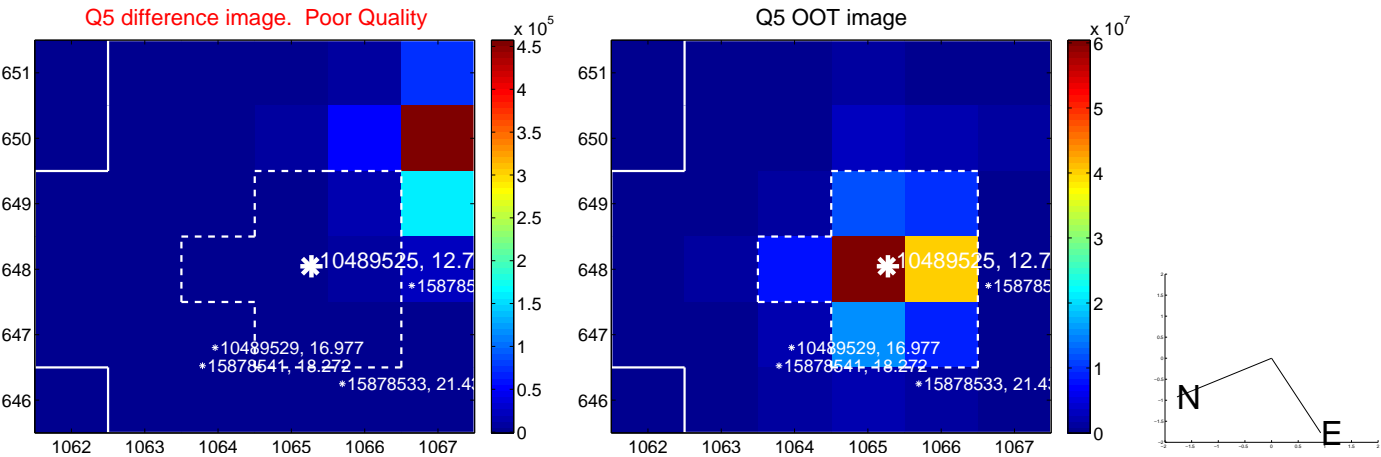


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

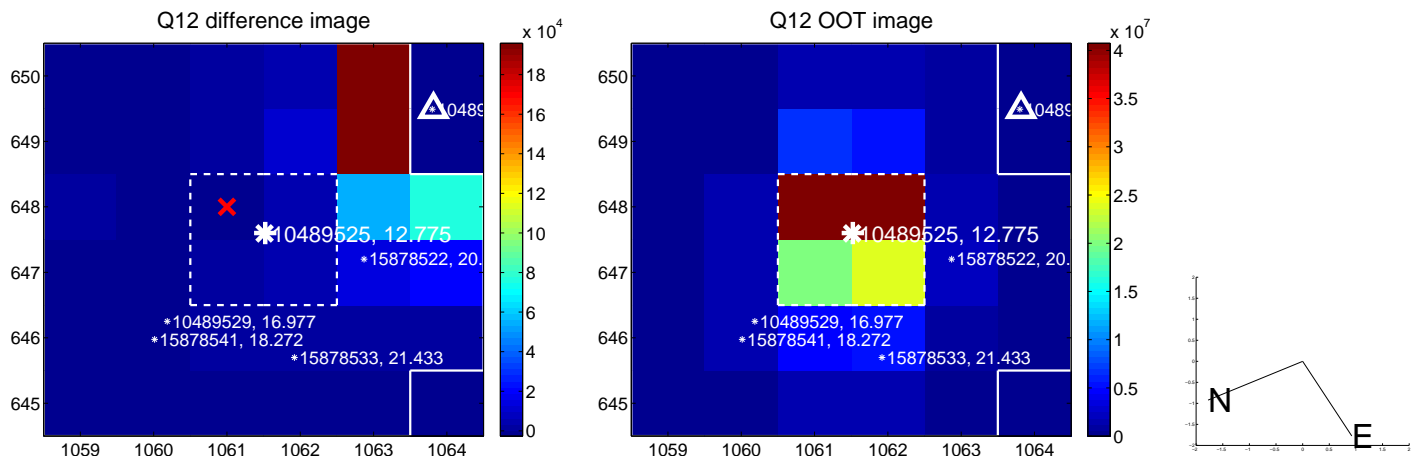
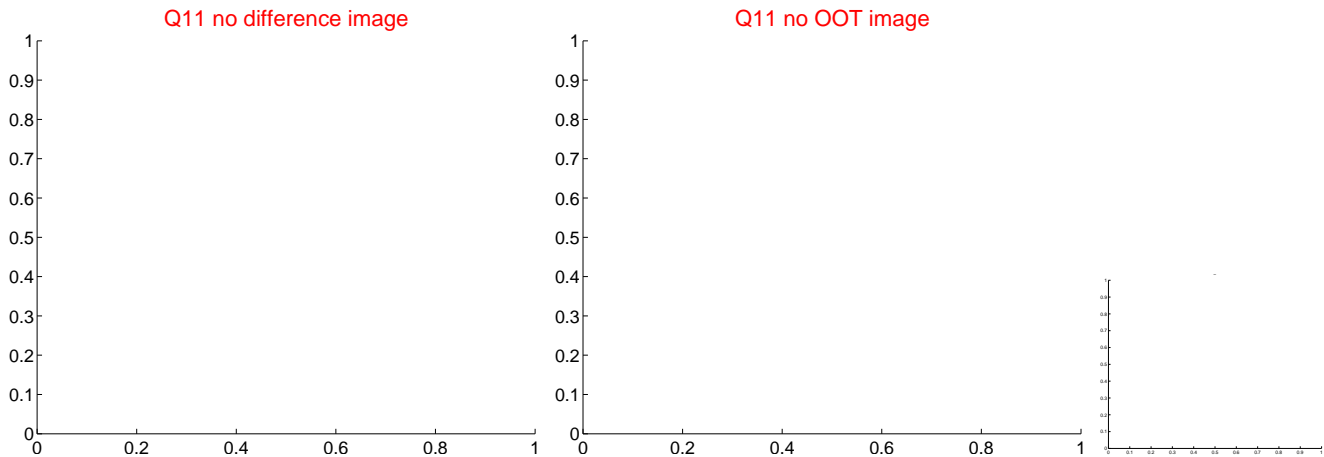
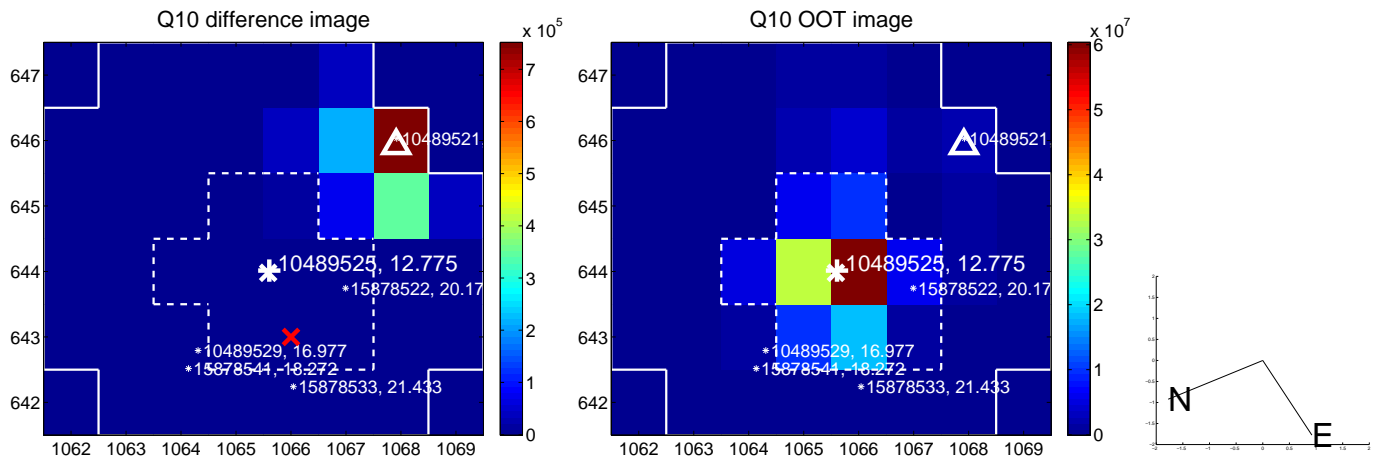
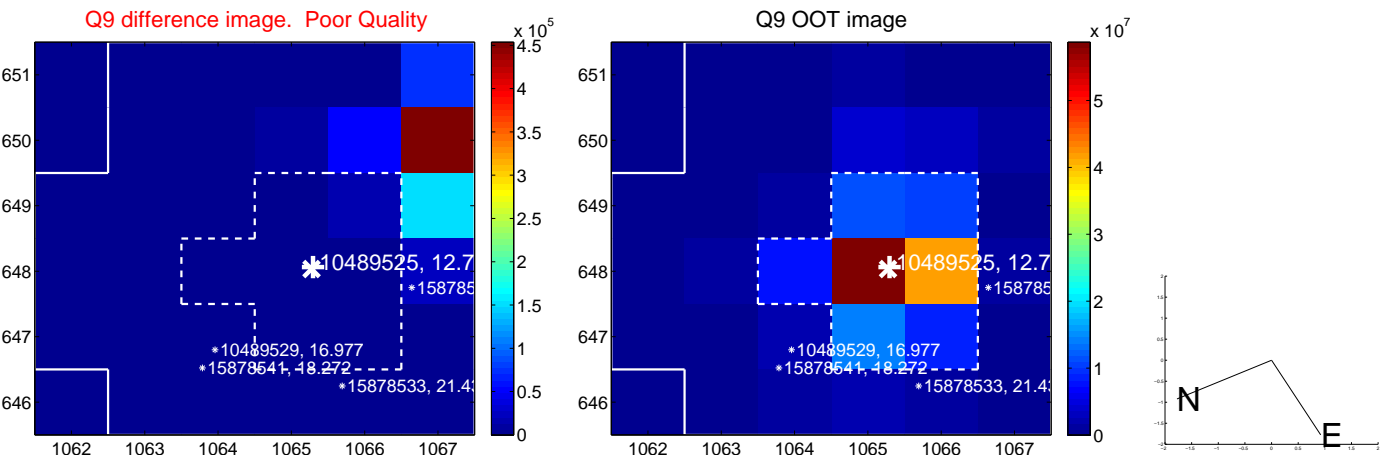
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



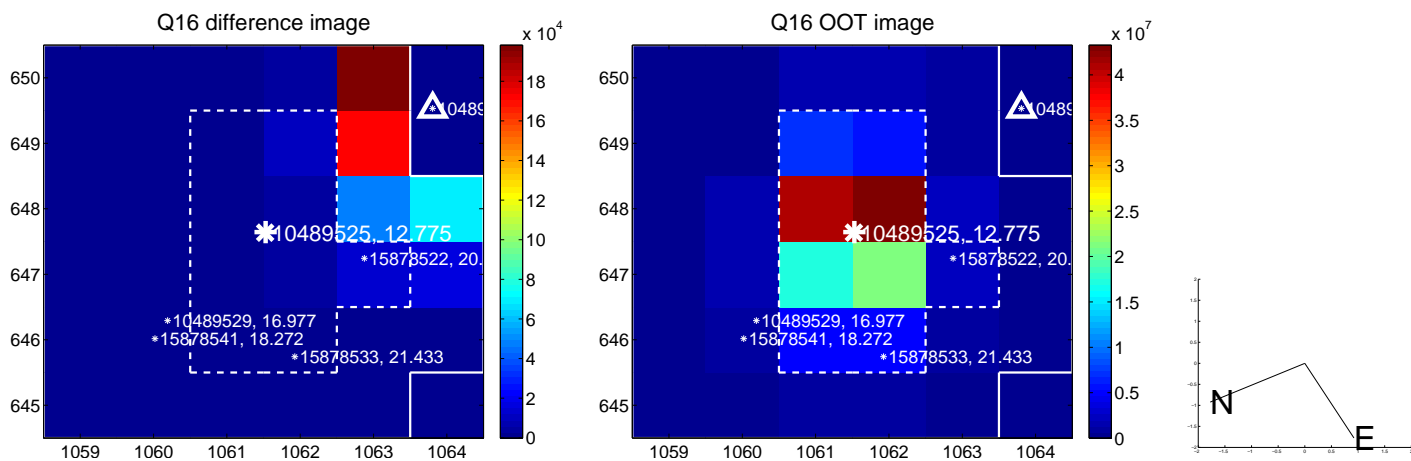
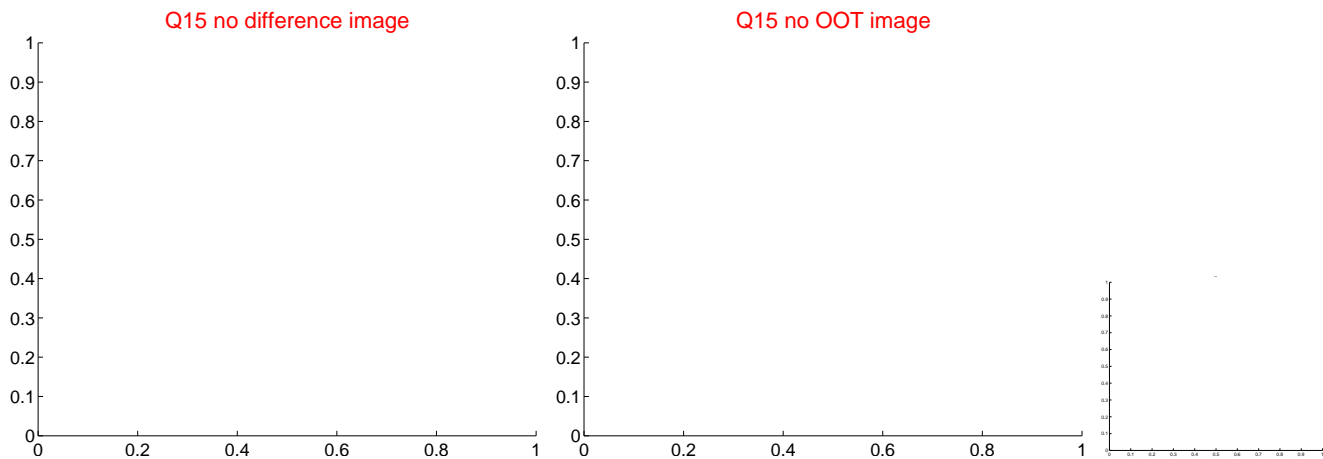
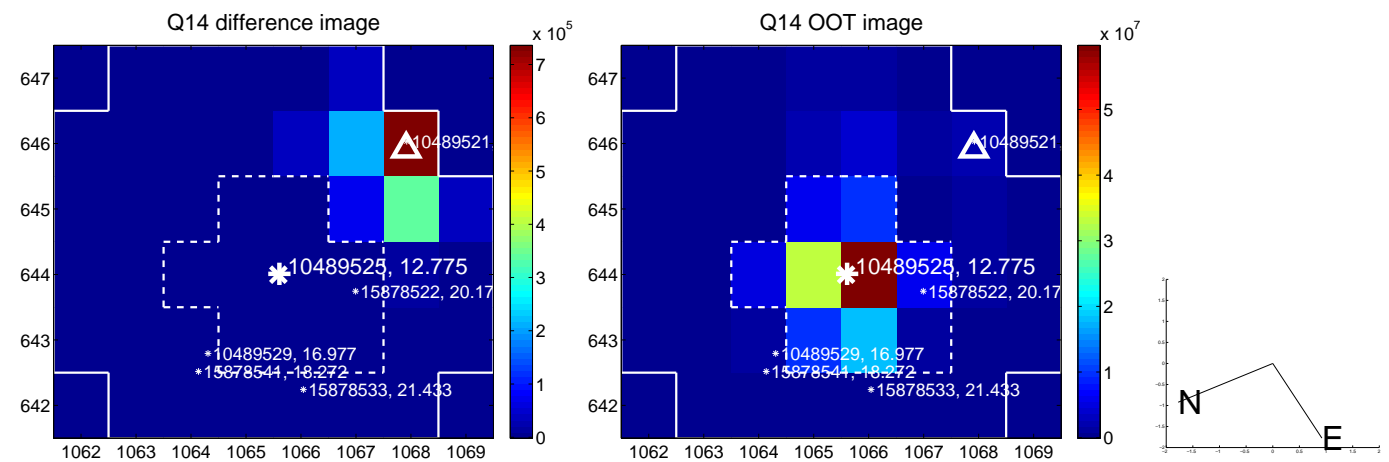
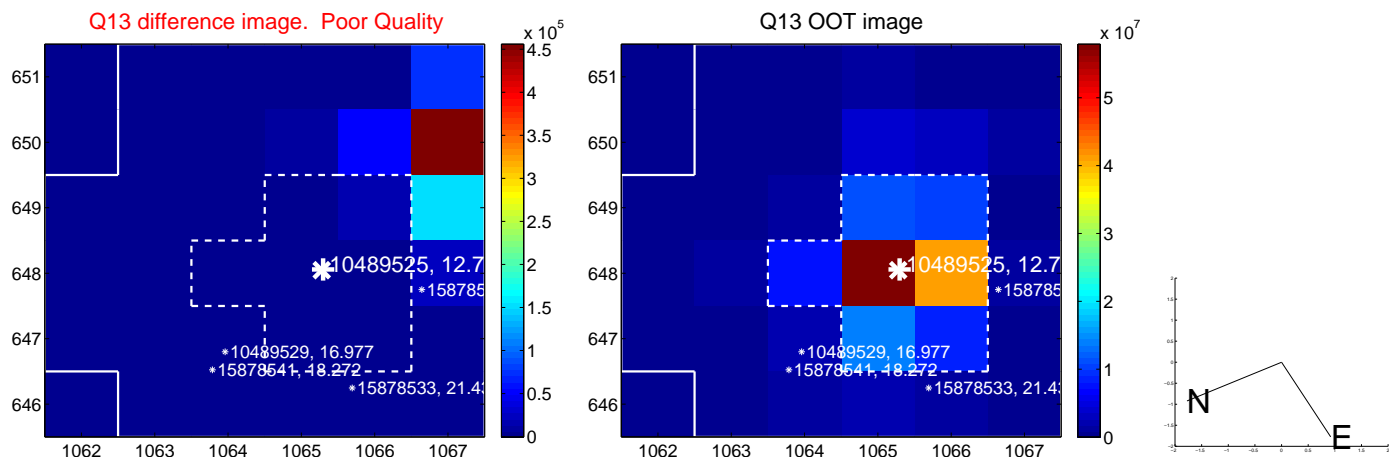
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



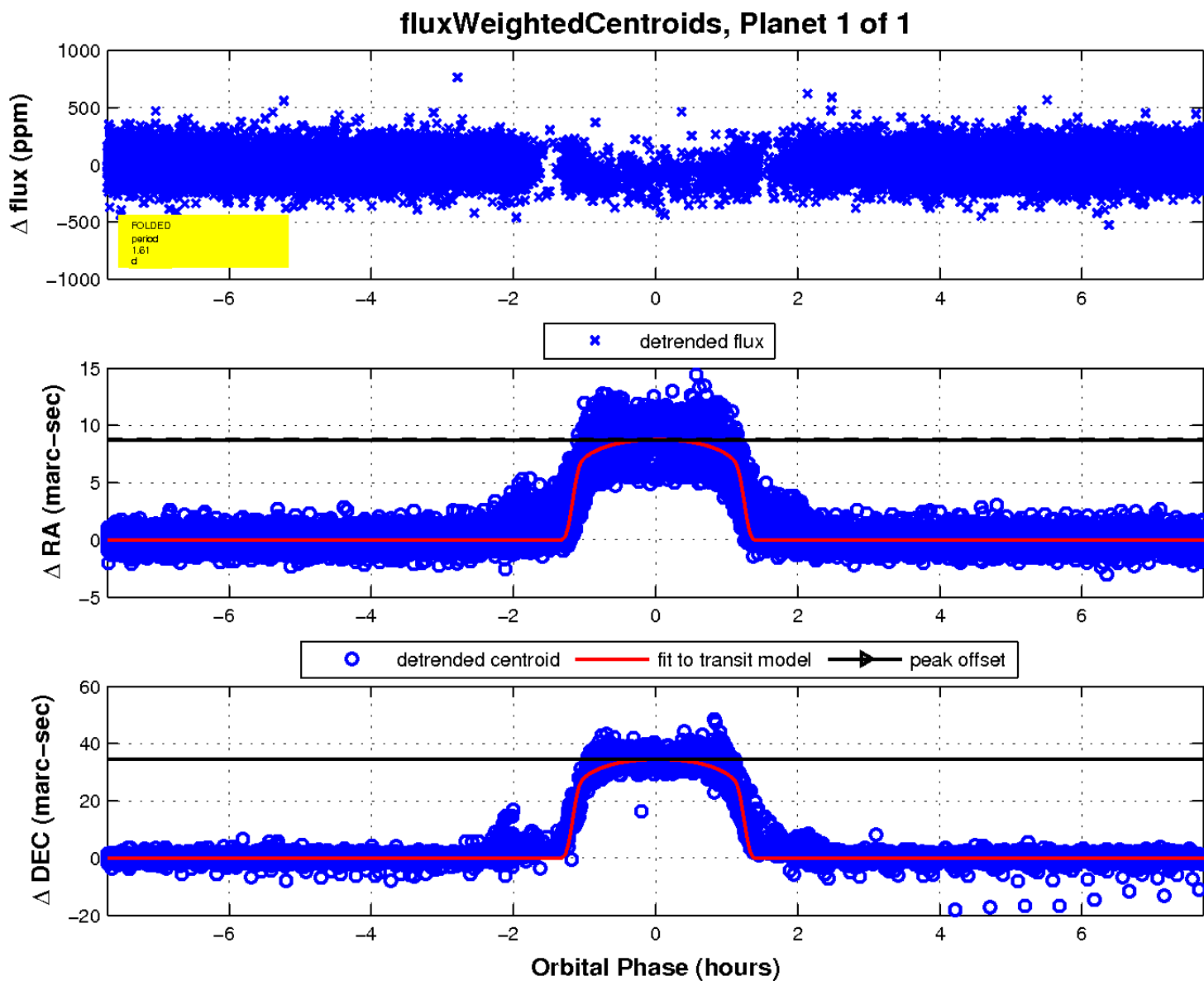
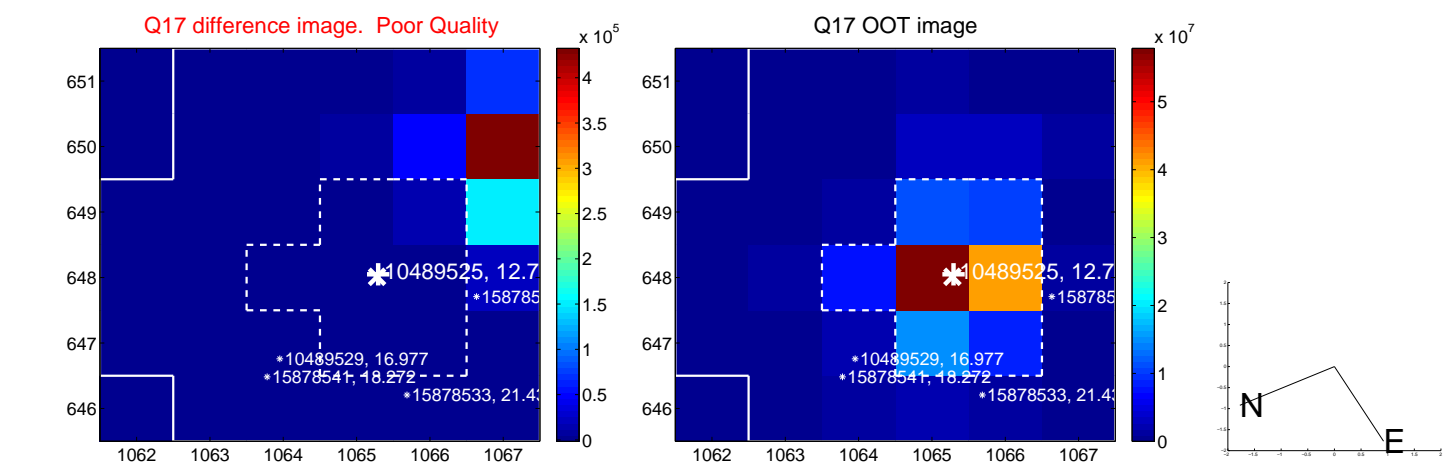
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UKIRT Image

Declination

