

KIC 005529643

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 _⊕)
005529643-01	OBS	1679.01	0.759733	131.805898	107.6	3.022	19.9	16.7	1.03	6174	1.26	4857.11

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005529643-01	OBS	FP	0.00	0	1	1	1	MOD_SEC_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 005529643-01

TCE (1)	KIC	Parent (2)	Parent KIC	P ₁ :P ₂	Dist (″)	ΔRow	ΔCol	m ₂	m ₁	D ₂ /D ₁	Mechanism	Flag	σ _P	σ _T
005529643-01	5529643	005444392-01	5444392	1:1	45.7	11	-2	11.38	15.93	3657.90	Direct-PRF	0	3.89	0.88

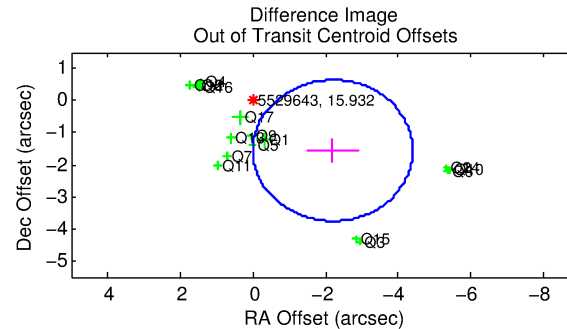
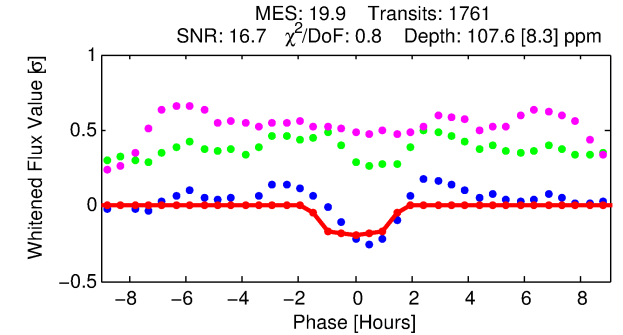
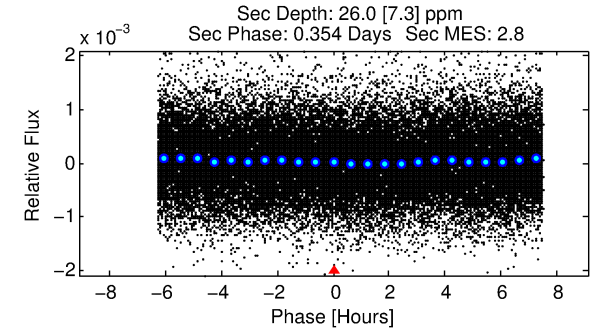
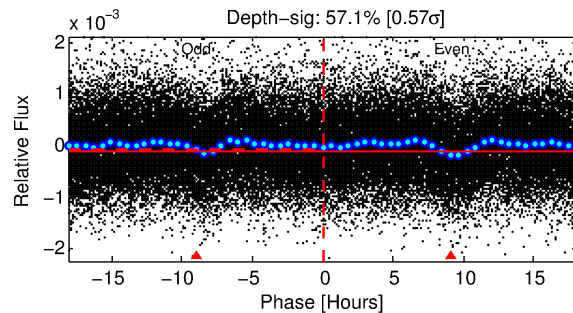
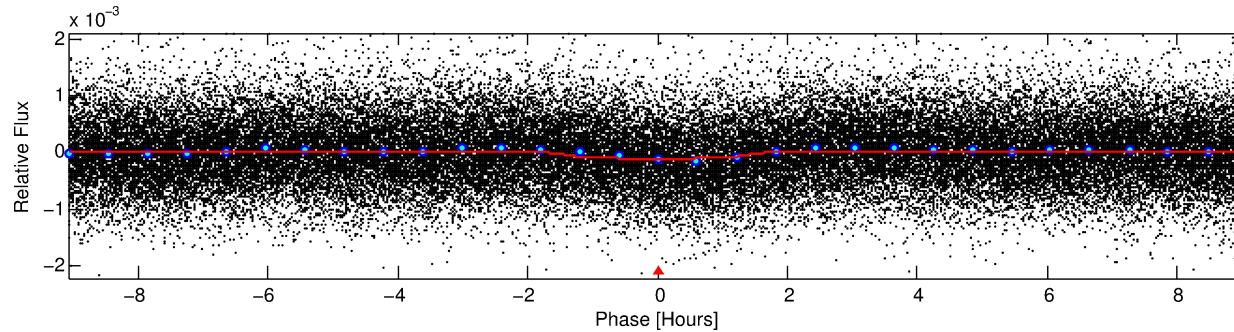
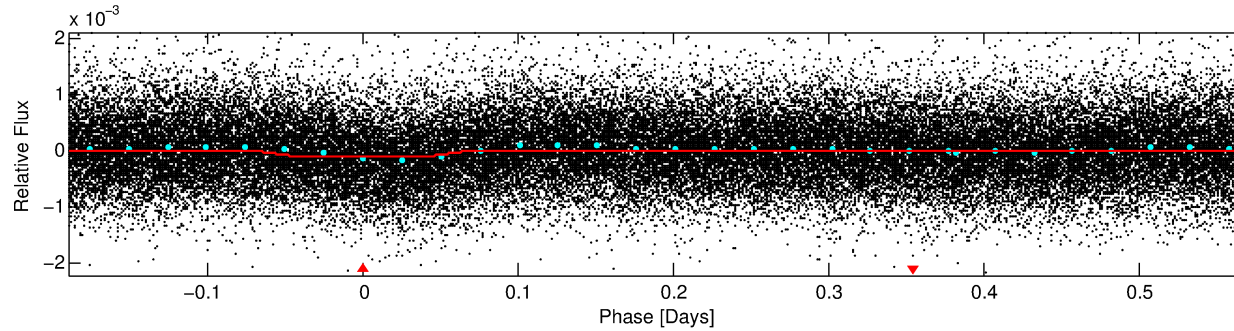
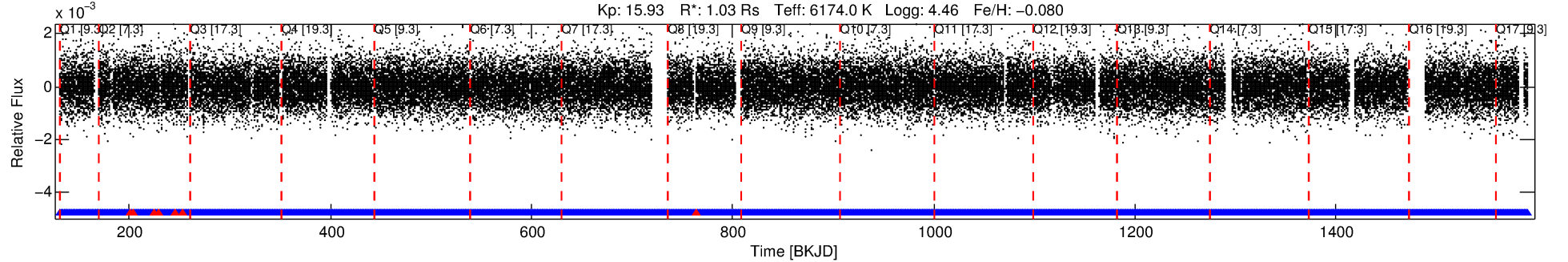
Notes: P₁:P₂ is the period ratio. Dist is the distance in arcseconds. ΔRow and ΔCol are the number of pixels apart in row and column. m₂ and m₁ are the magnitudes of the parent and child. D₂/D₁ is the parent's transit depth divided by the child's. σ_P and σ_T are the significance of the match in period and epoch. For a match to be considered significant σ_P < 5.0 and σ_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: 5529643 Candidate: 1 of 1 Period: 0.760 d

KOI: K01679.01 Corr: 0.756

Kp: 15.93 R*: 1.03 Rs Teff: 6174.0 K Logg: 4.46 Fe/H: -0.080



DV Fit Results:

Period = 0.75973 [0.00001] d
Epoch = 131.8059 [0.0023] BKJD
Rp/R* = 0.0112 [0.0042]
a/R* = 1.28 [1.01]
b = 0.90 [0.41]
Seff = 4857.11 [1890.45]
Teq = 2129 [207] K
Rp = 1.26 [0.60] Re
a = 0.0168 [0.0041] AU
Ag = 2.56 [2.23] [0.70σ]
Teff = 4161 [843] K [2.34σ]

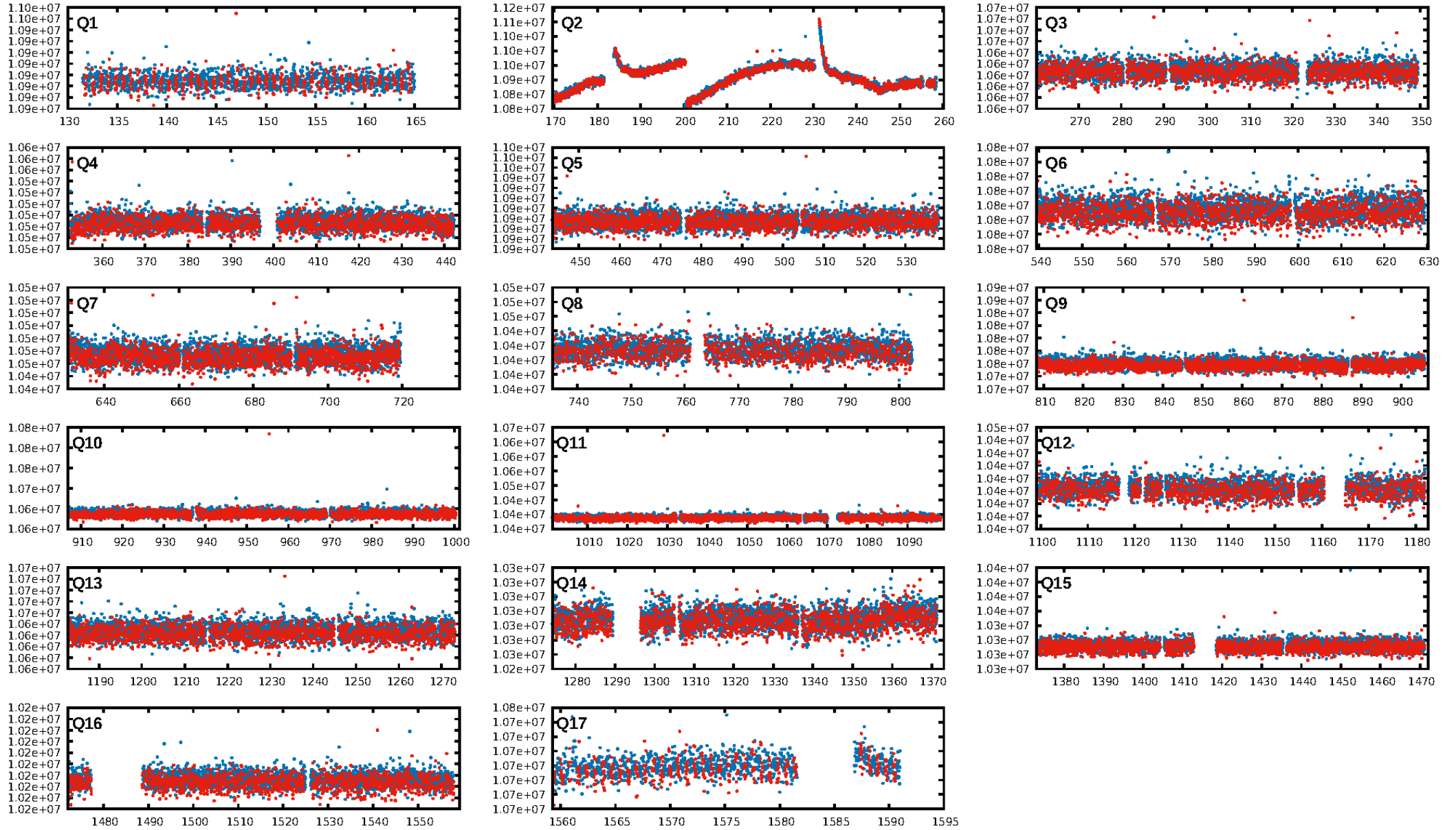
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 8.82e-74
RollingBand-fgt: 1.00 [1674/1682]
GhostDiagnostic-chr: -1.703
Centroid-sig: 0.0%
Centroid-so: 5.712 arcsec [6.55σ]
OotOffset-rm: 2.694 arcsec [3.68σ]
KicOffset-rm: 2.604 arcsec [3.81σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.00 [0/17]
DiffImageOverlap-fno: 1.00 [17/17]

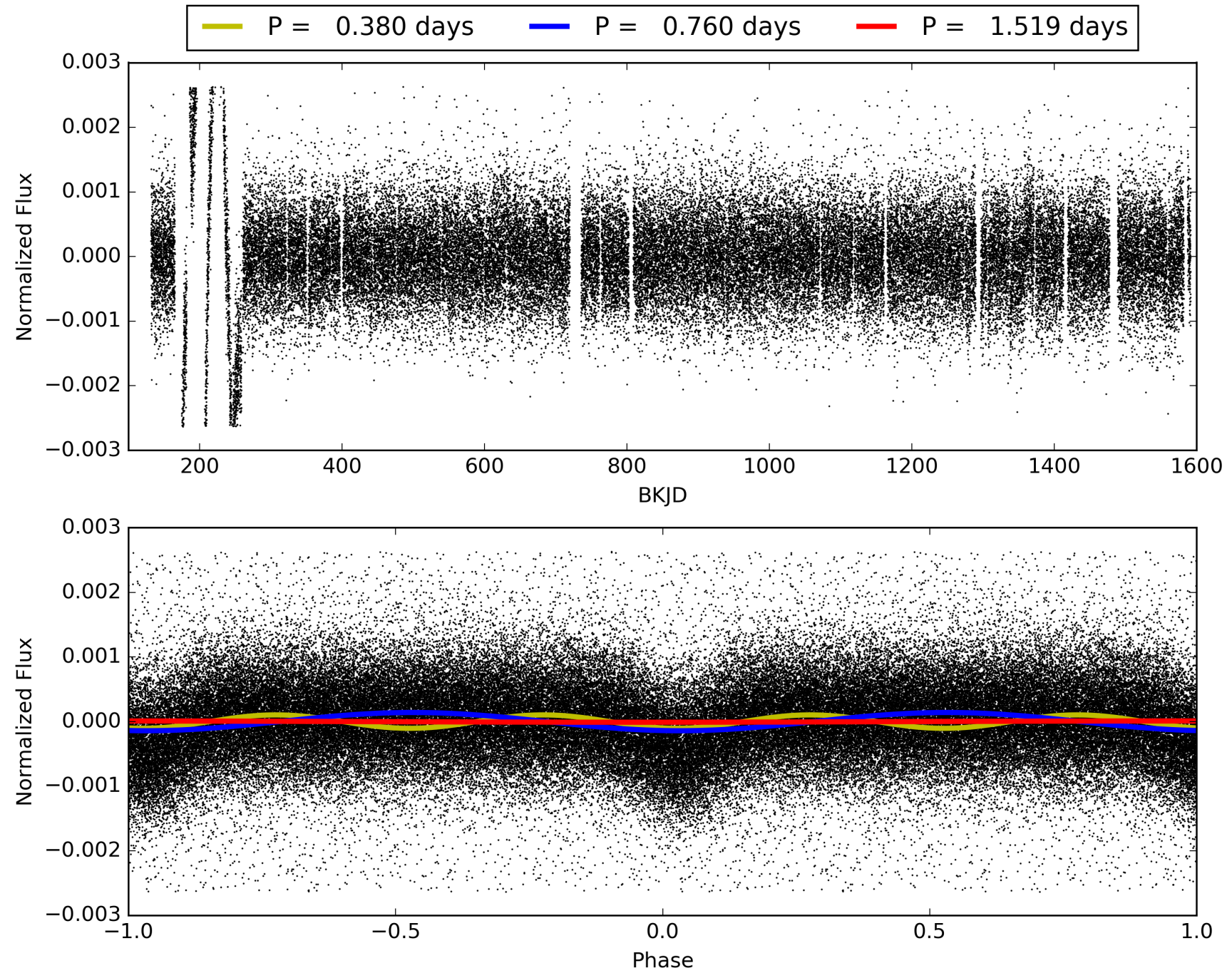
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 11:10:23 Z

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

TCE 005529643-01, PDC Light Curves

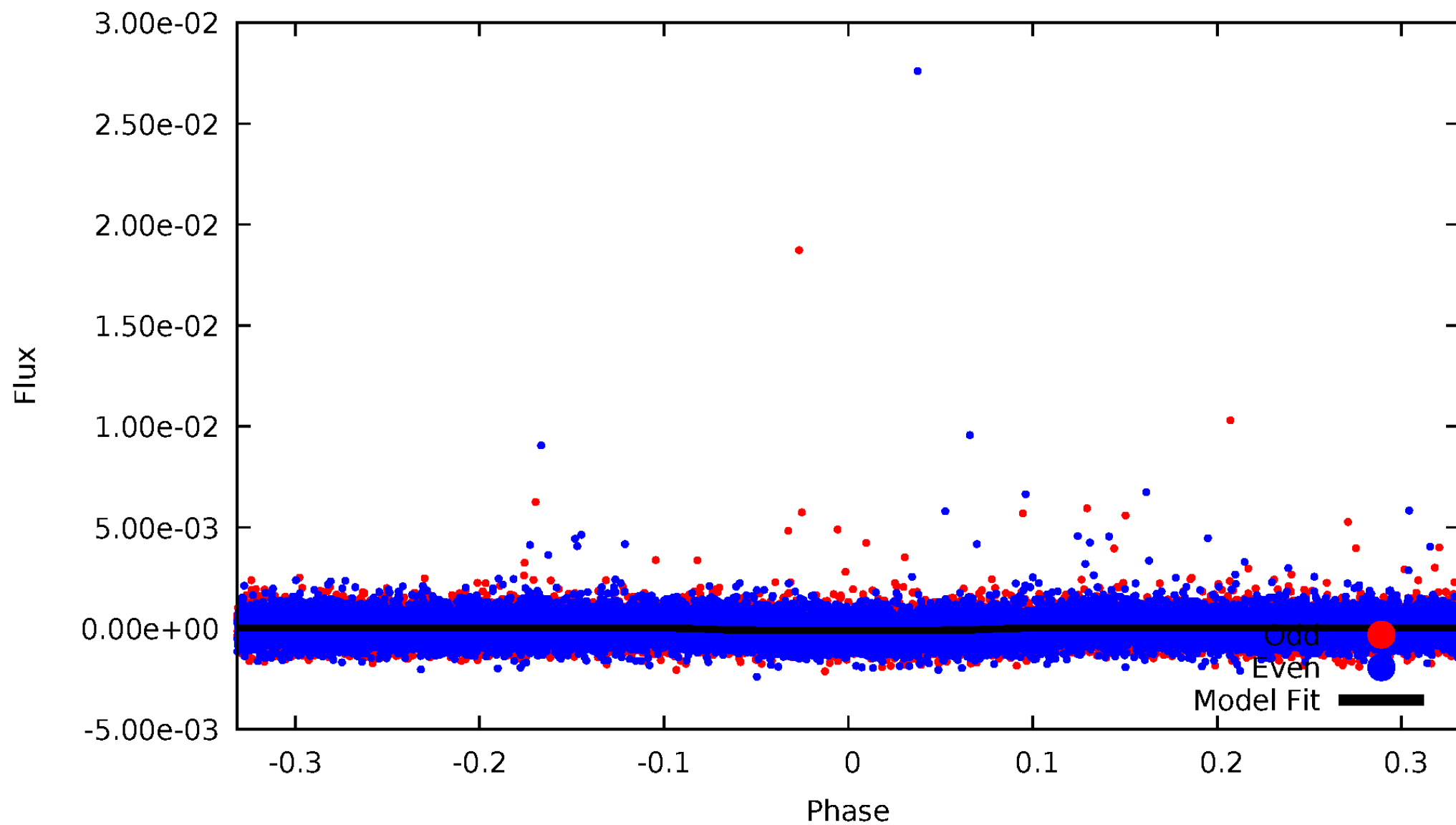


TCE 005529643-01



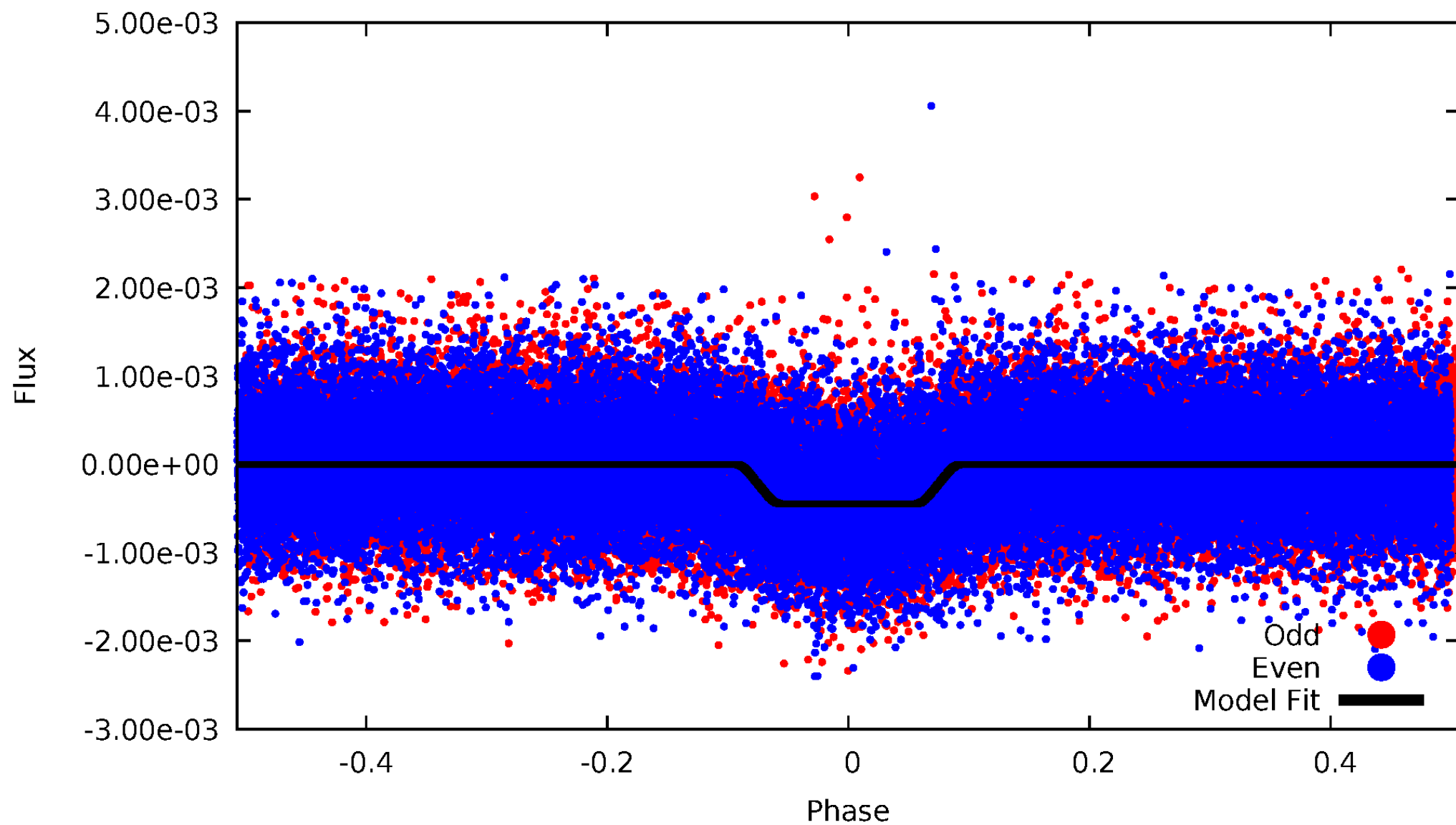
DV Odd/Even

TCE 005529643-01



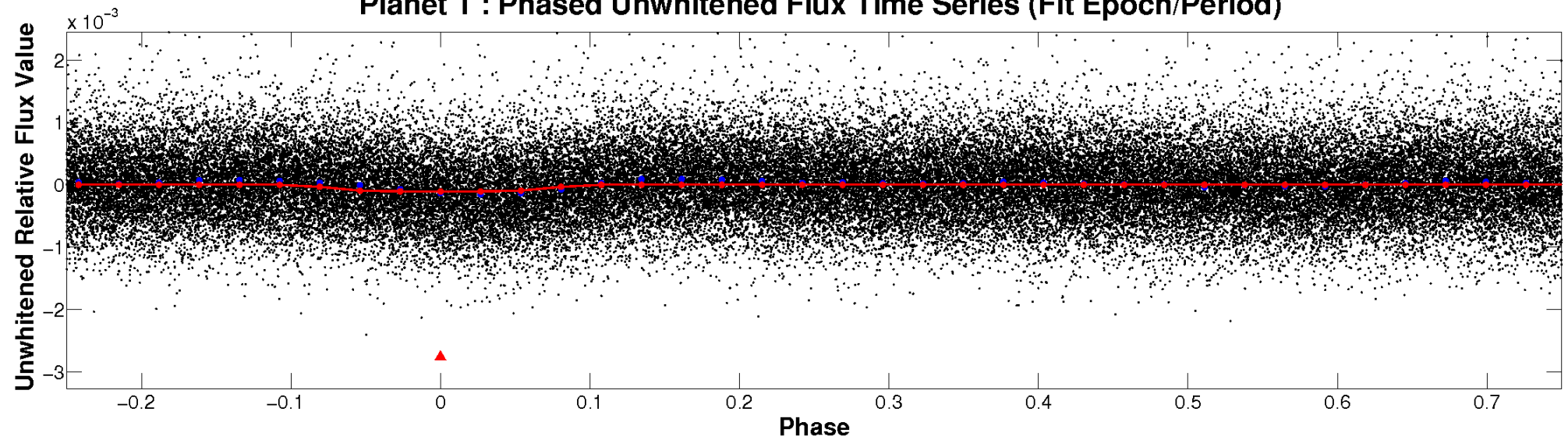
ALT Odd/Even

TCE 005529643-01

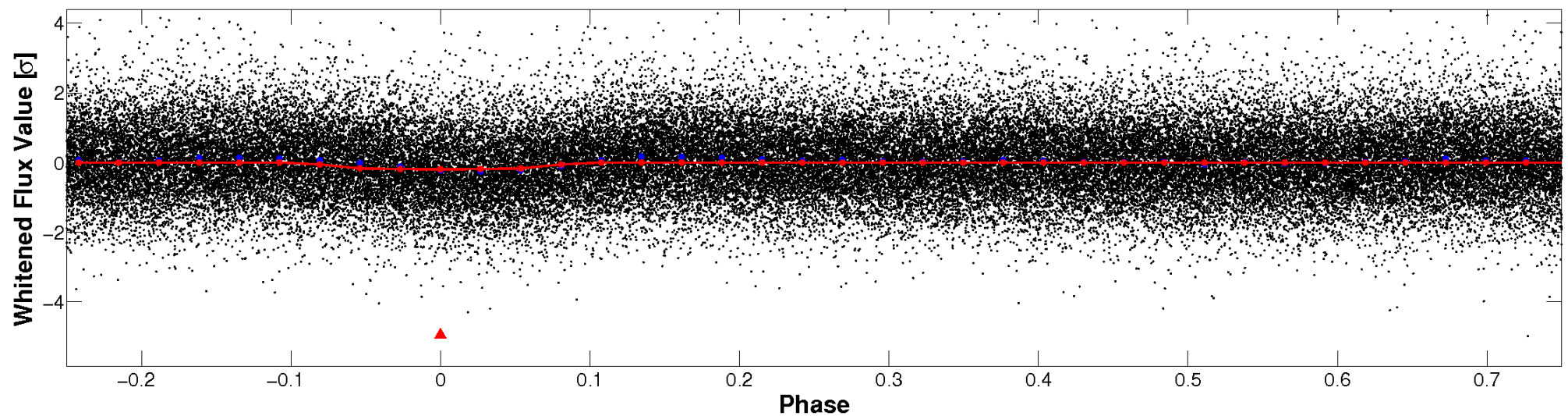


Non-Whitened Vs. Whitened Light Curve

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

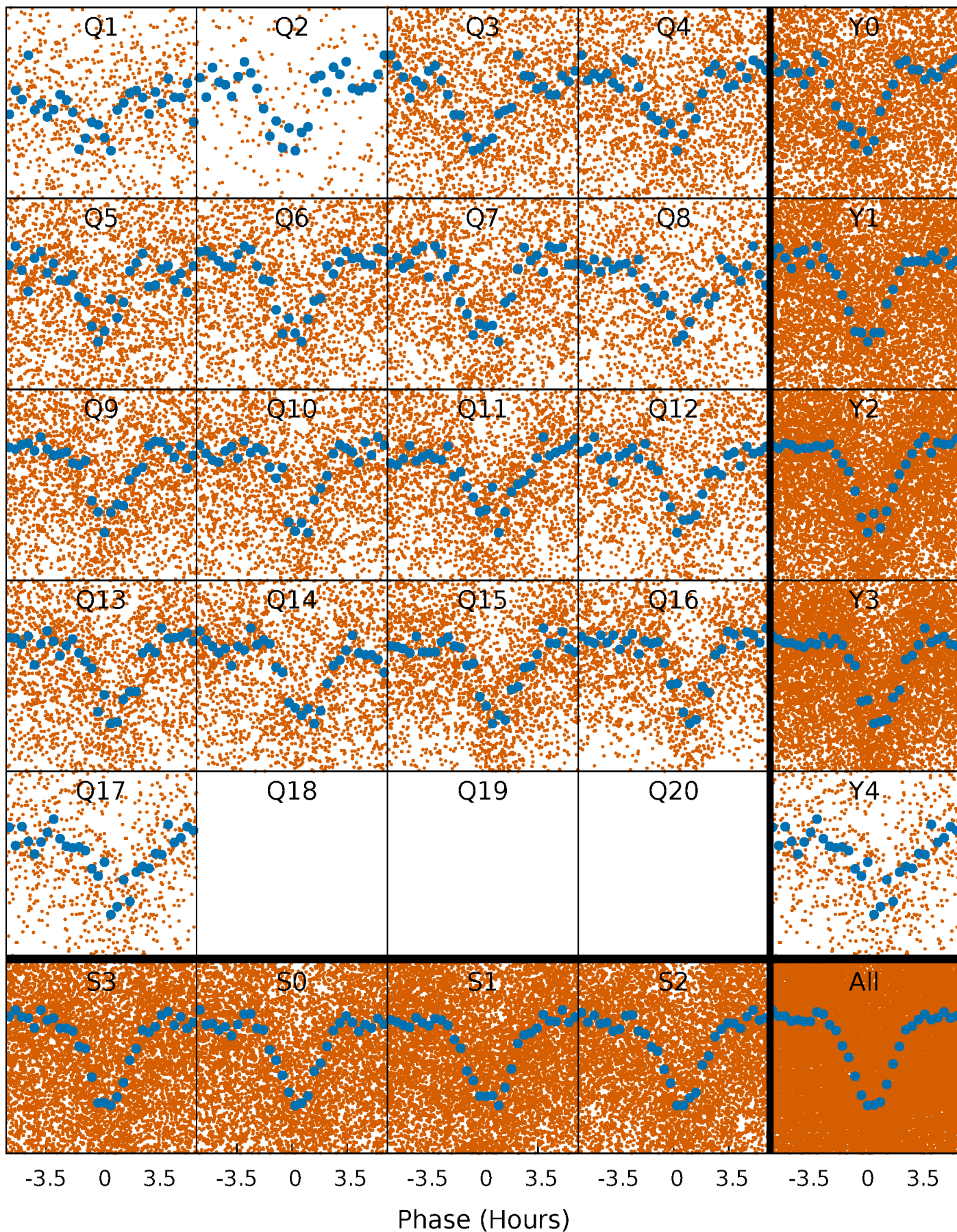


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



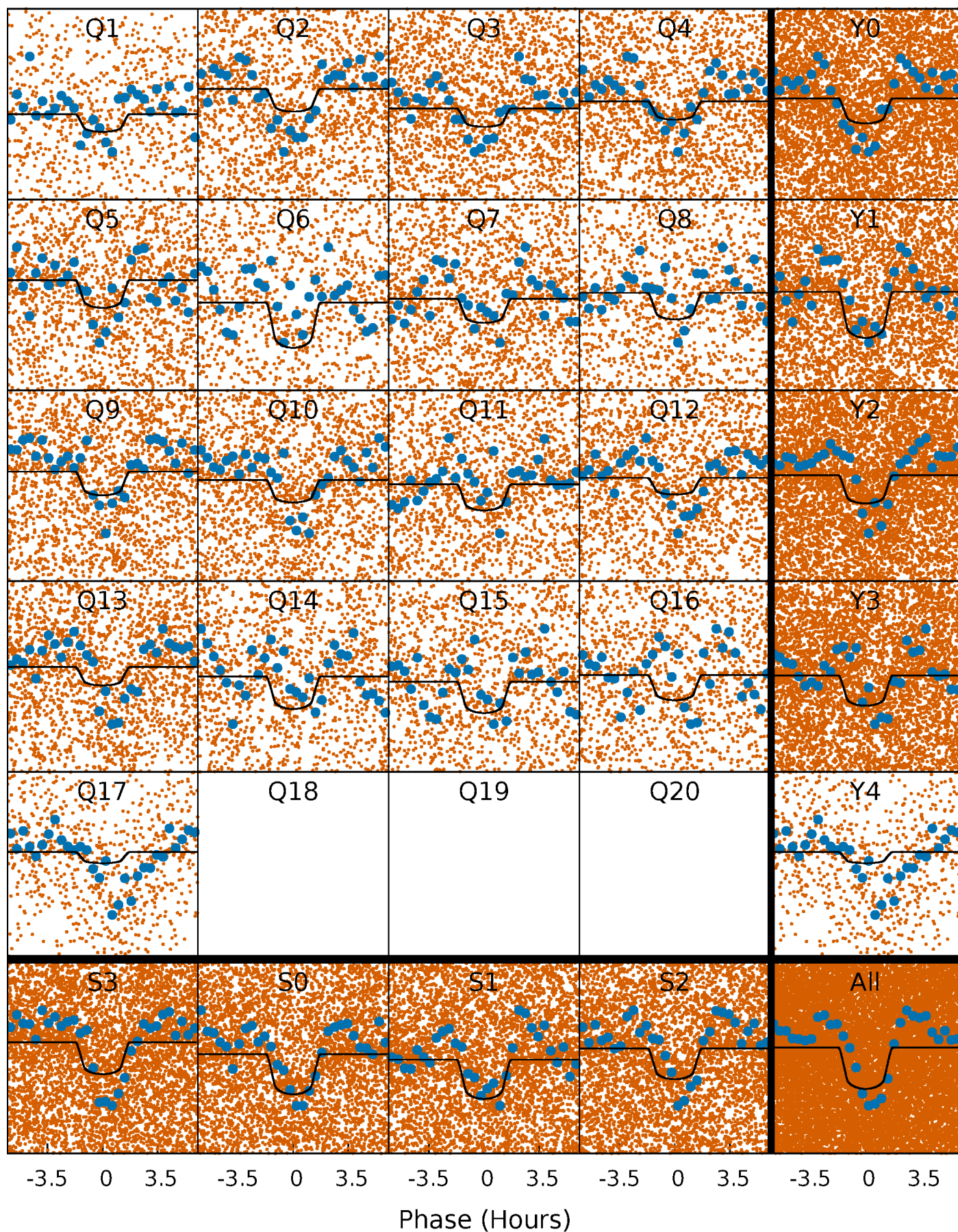
PDC Quarter-Phased Transit Curves

TCE 005529643-01 P= 0.759733 Days $T_0=131.805899$ (BKJD)



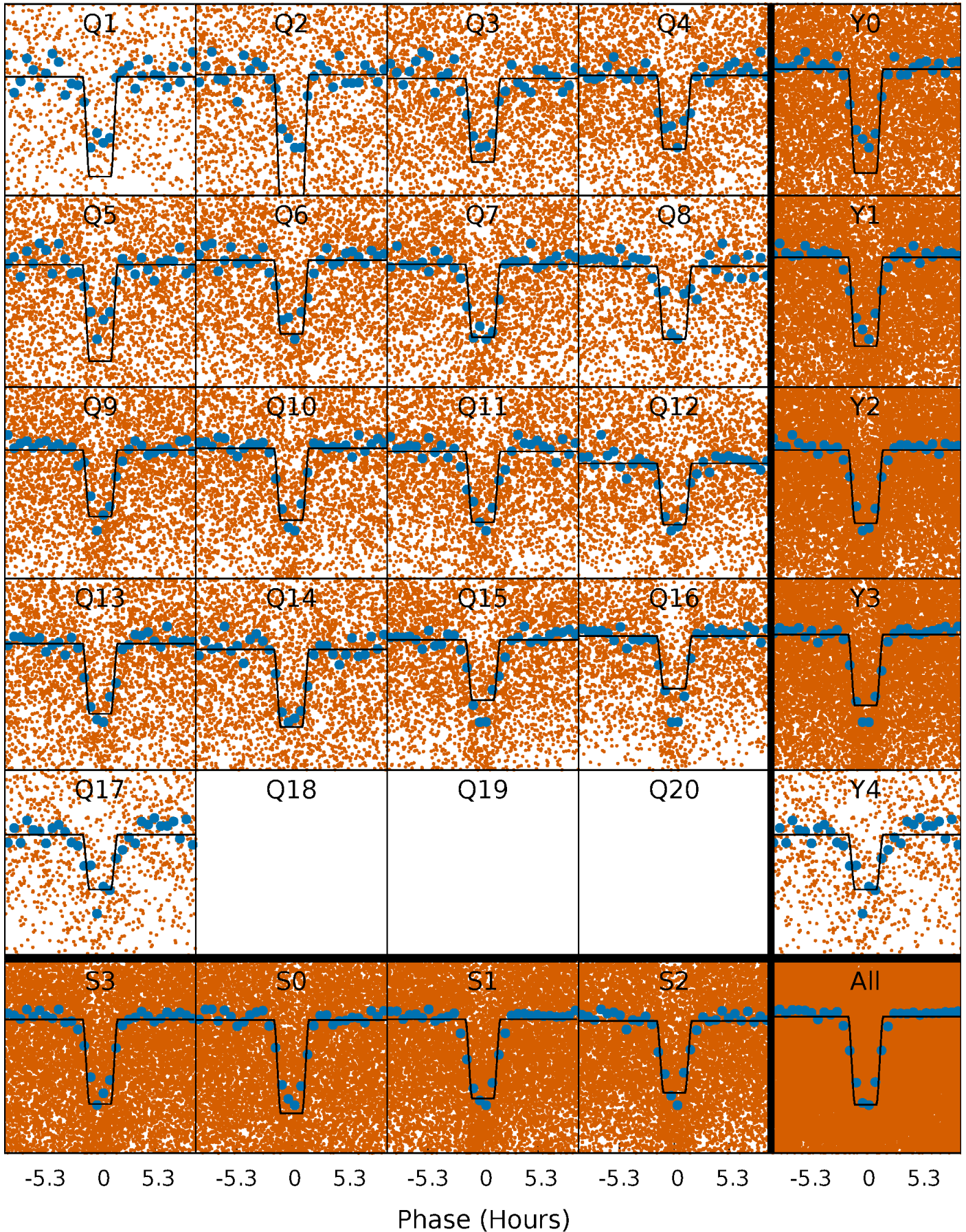
DV Quarter-Phased Transit Curves

TCE 005529643-01 P= 0.759733 Days $T_0=131.805899$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

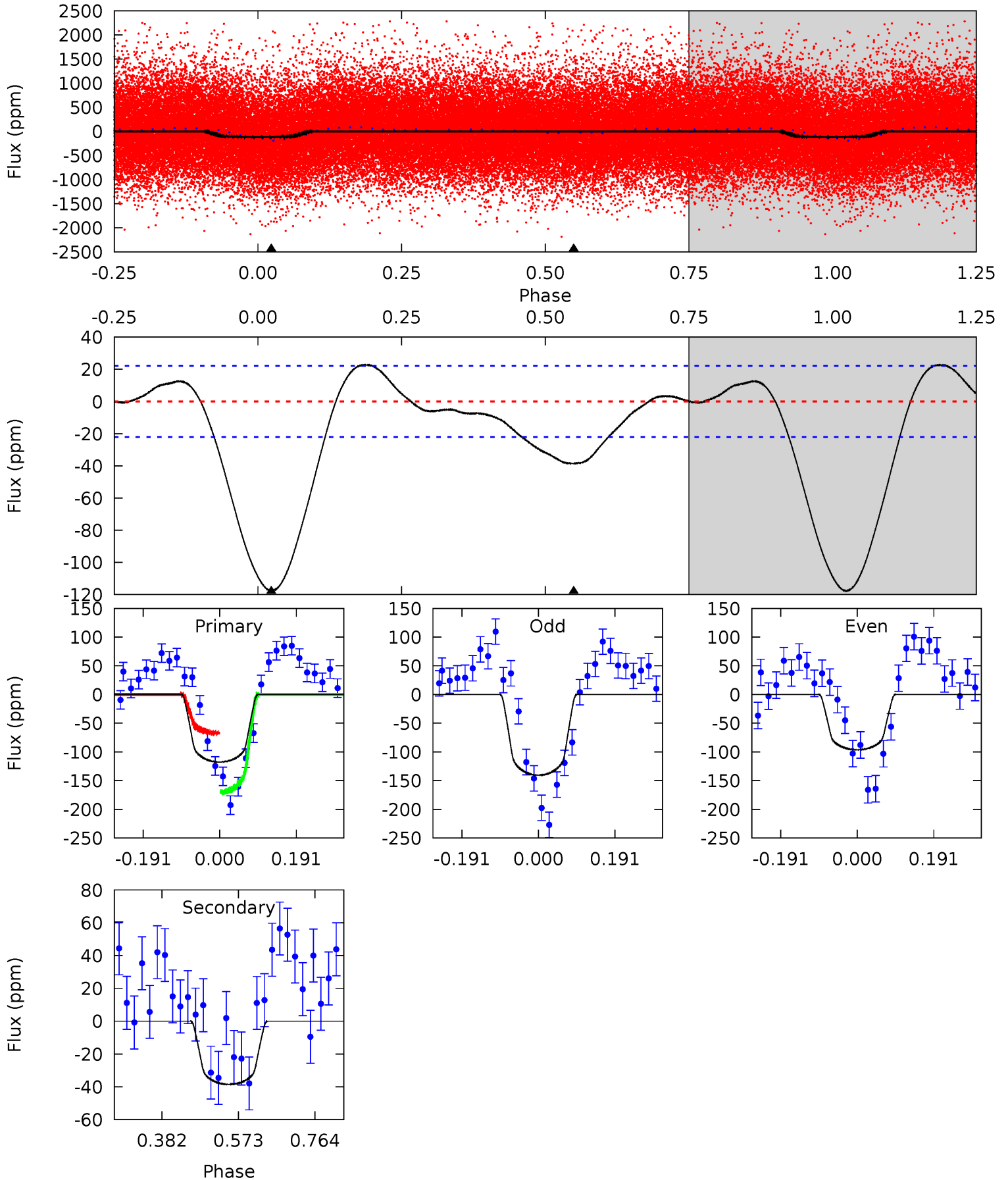
TCE 005529643-01 P= 0.759764 Days $T_0=131.793598$ (BKJD)



DV Model-Shift Uniqueness Test

005529643-01, P = 0.759733 Days, E = 131.046166 Days

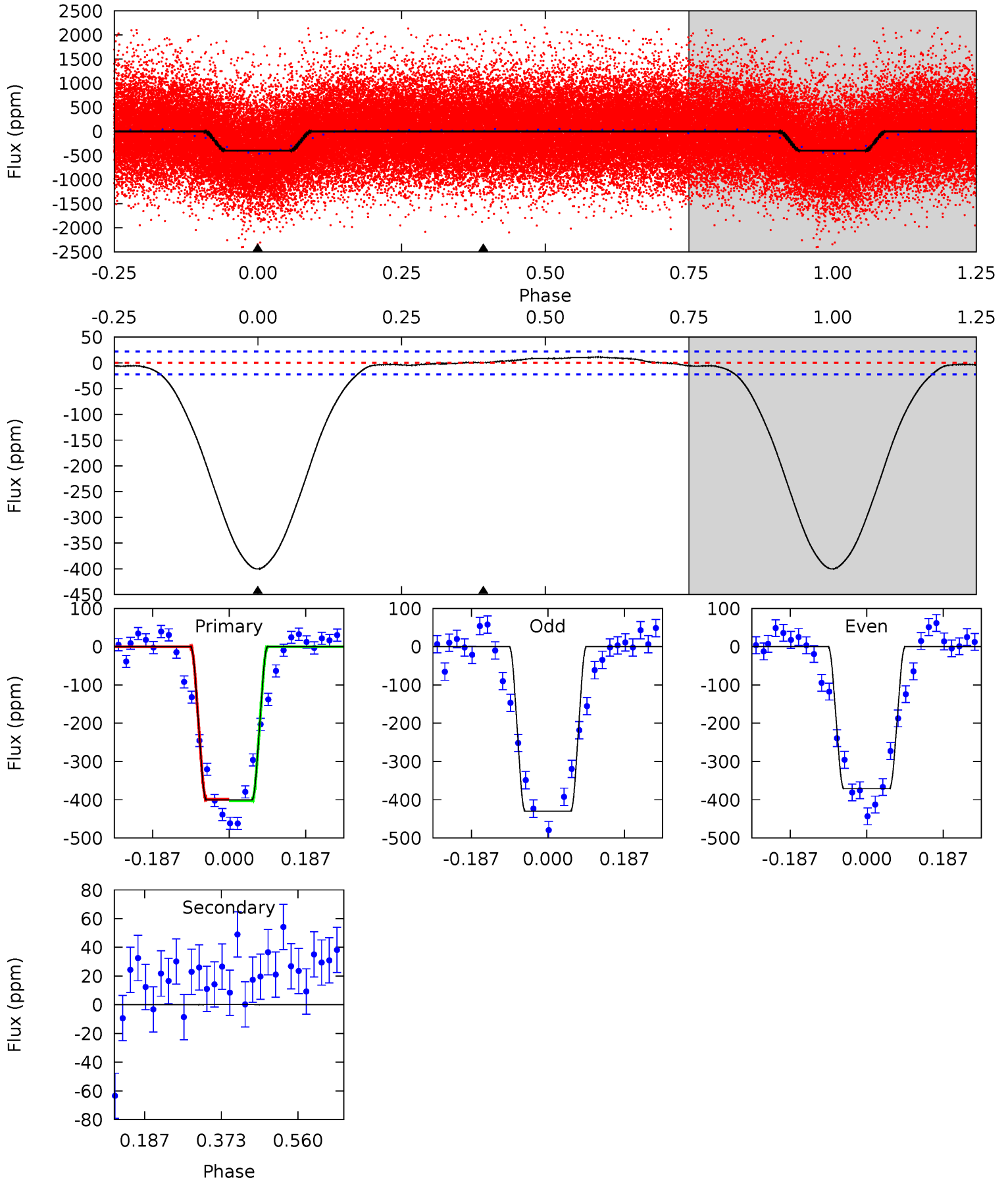
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
23.6	7.72	0	0	4.43	1.31	1.28	23.6	23.6	7.72	7.72	4.46	0.89	0.16	10.3



Alt Model-Shift Uniqueness Test

005529643-01, P = 0.759764 Days, E = 131.033834 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
79.7	-0.03	0	0	4.43	1.32	1.37	79.7	79.7	-0.03	-0.03	5.88	1.00	0.03	0.38



Stellar Parameters For KIC 005529643

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6174^{+193}_{-236}	$4.455^{+0.052}_{-0.195}$	$-0.080^{+0.250}_{-0.350}$	$1.026^{+0.302}_{-0.130}$	$1.090^{+0.139}_{-0.153}$	$1.423^{+0.396}_{-0.747}$
	+3%/-4%	+1%/-4%	+312%/-438%	+29%/-13%	+13%/-14%	+28%/-52%
Source	PHO1	KIC0	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 005529643-01 / KOI 1679.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-39 ± 5	$1.29^{+0.56}_{-0.48}$	3049^{+220}_{-177}	4676^{+1086}_{-657}	$3.471^{+5.336}_{-1.823}$
Alt.	0 ± 5	$2.44^{+0.59}_{-0.53}$	3039^{+210}_{-166}	-3125^{+289}_{-221}	$-0.001^{+0.132}_{-0.124}$

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

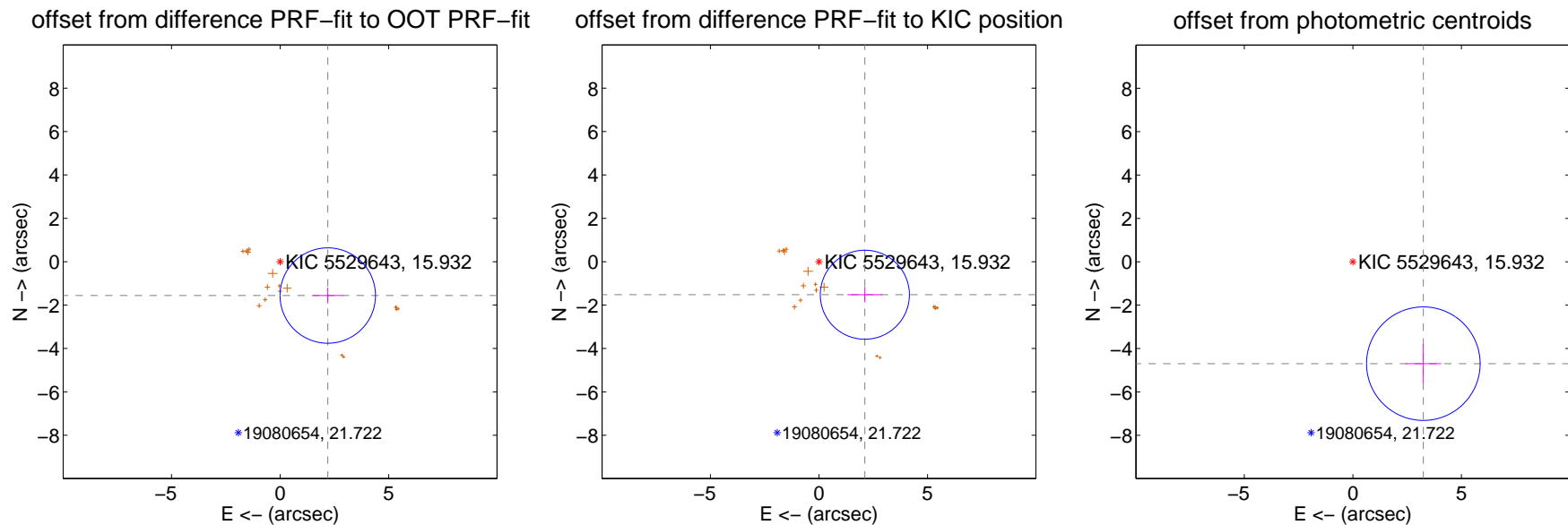
DV Centroid Data

Supplemental centroid analysis for 005529643-01. Kepler magnitude: 15.93. Transit SNR 16.66

There are 0 quarters with good PRF difference image offsets

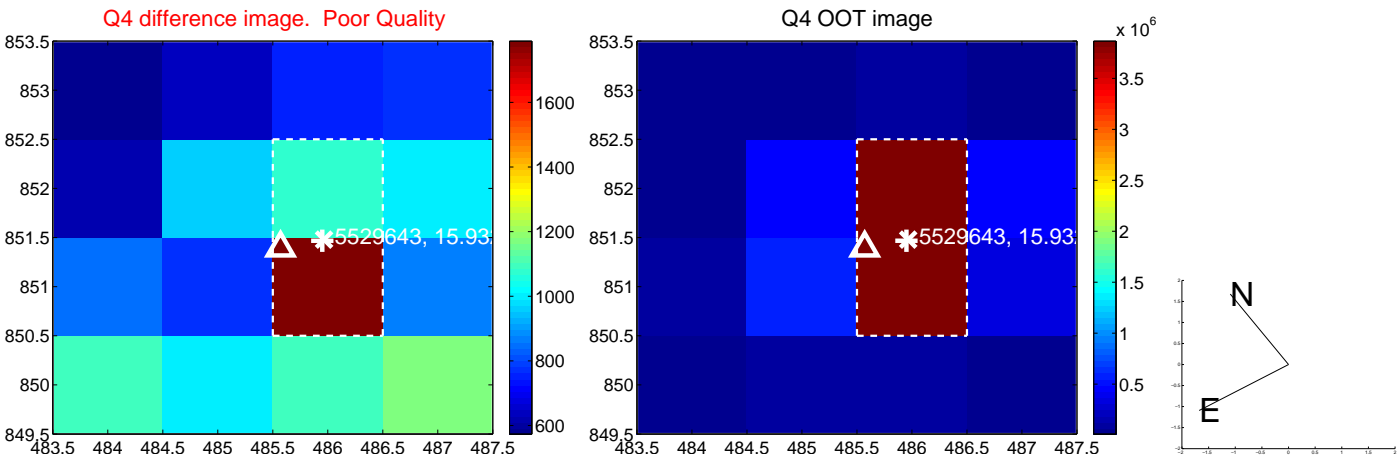
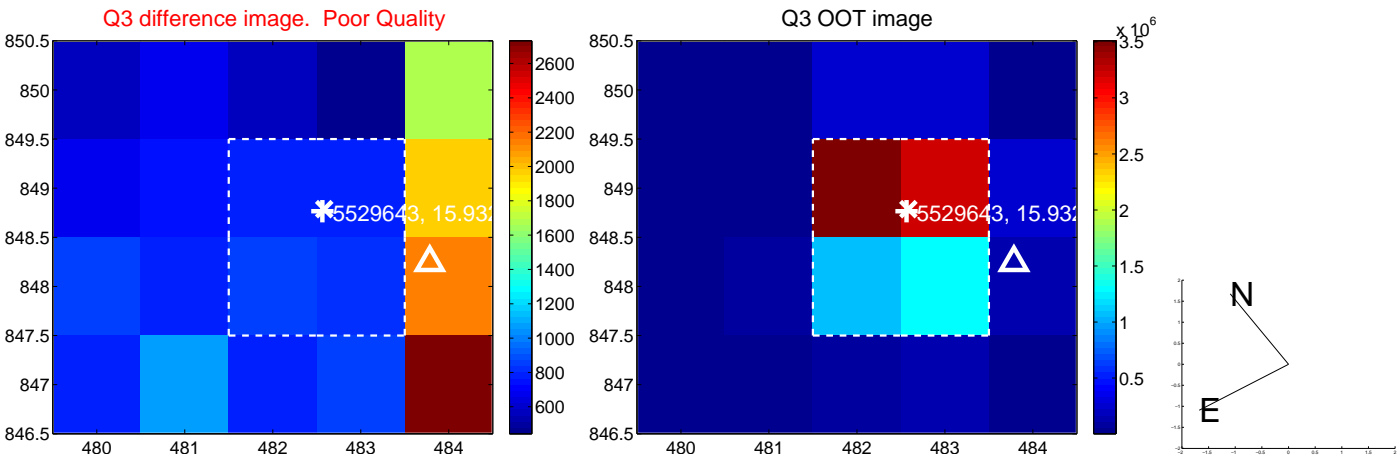
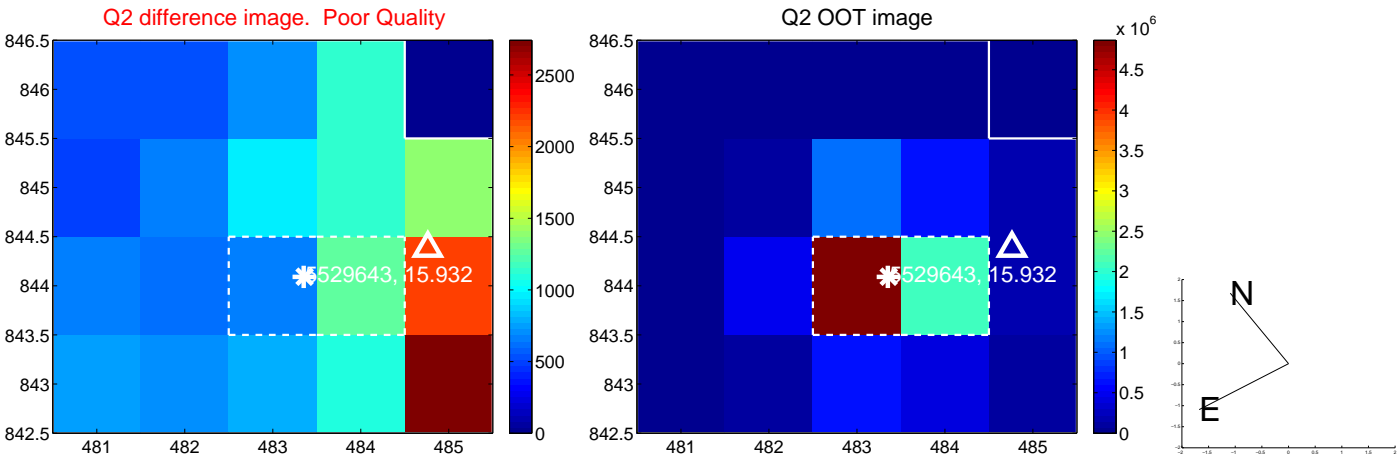
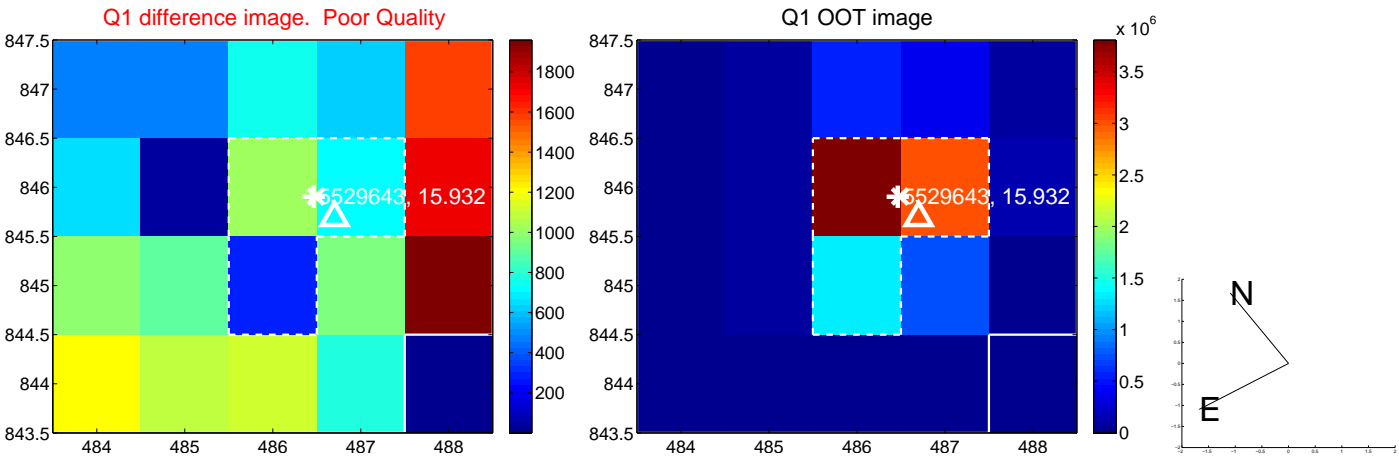
The direct PRF centroid is offset from the target star catalog position by about 0.19 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.694 ± 0.733	3.68	-2.196 ± 0.703	-1.560 ± 0.367
PRF-fit source offset from KIC position	2.604 ± 0.684	3.81	-2.113 ± 0.804	-1.523 ± 0.351
photometric centroid source offset	5.71 ± 0.87	6.55	-3.25 ± 0.83	-4.70 ± 0.89

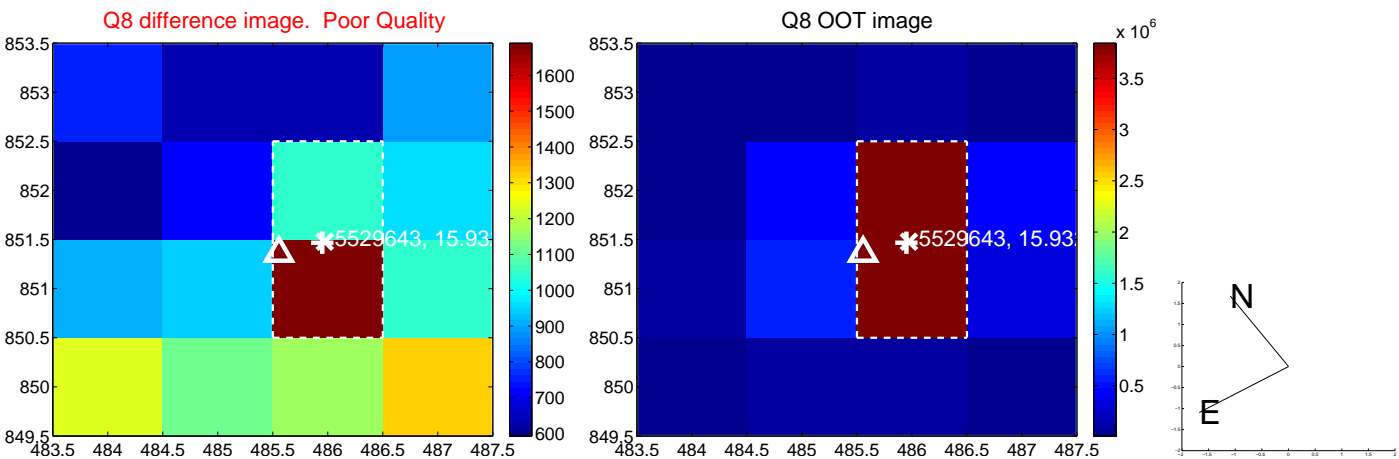
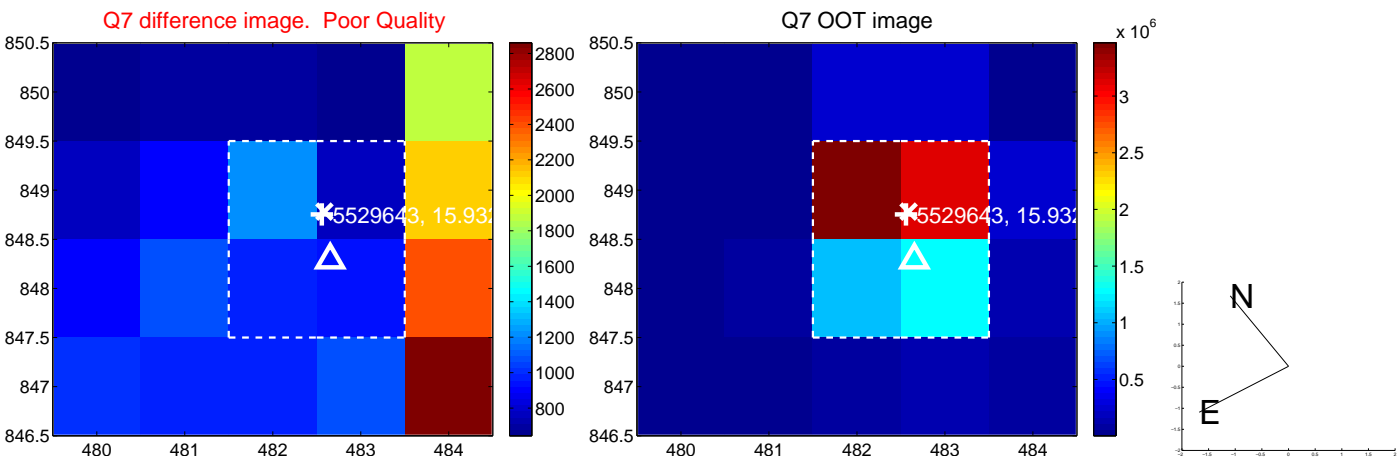
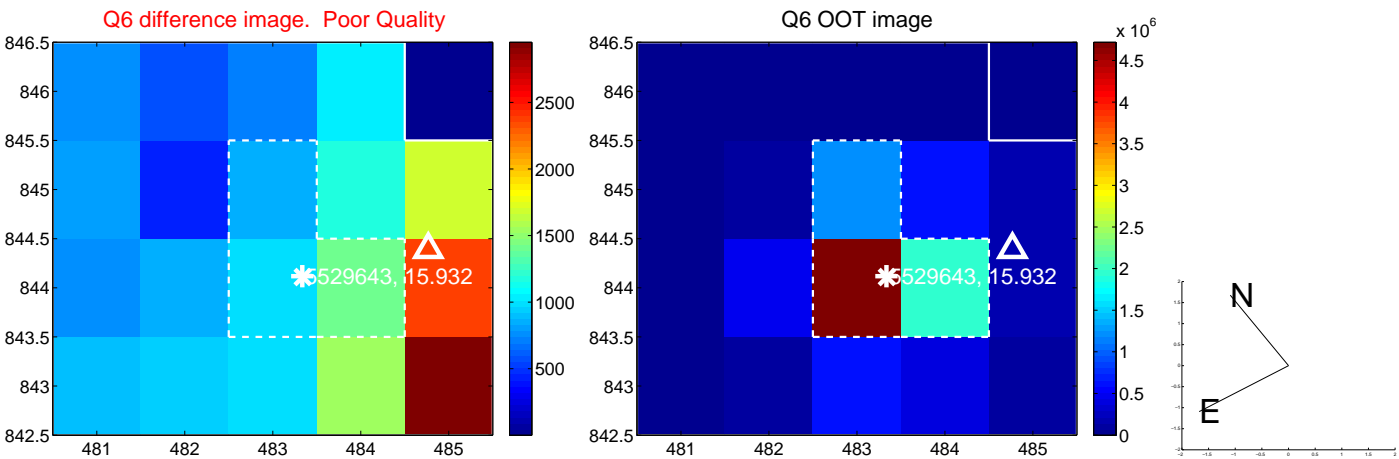
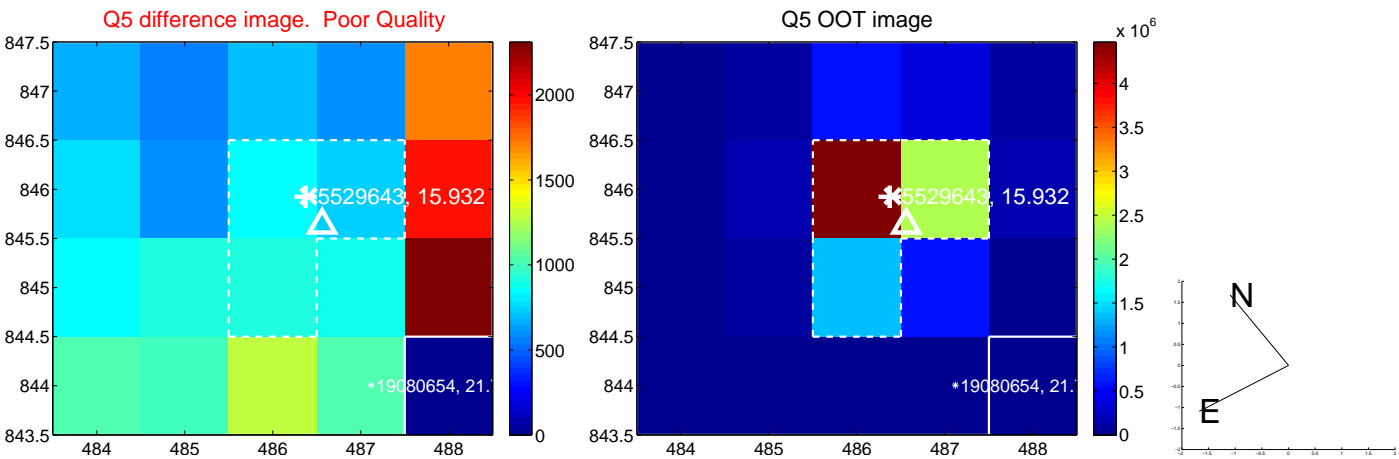


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

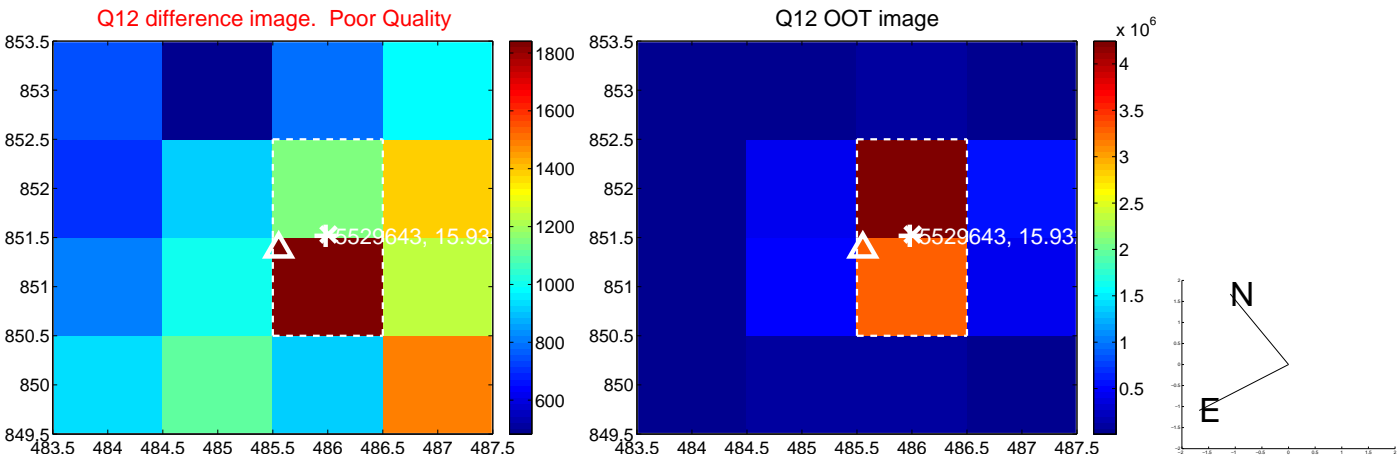
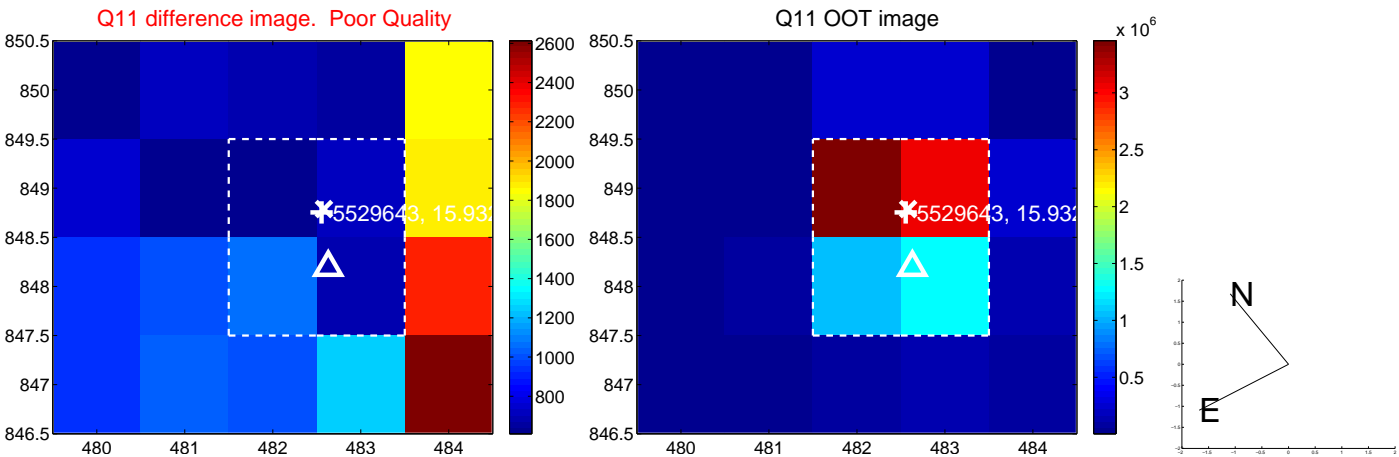
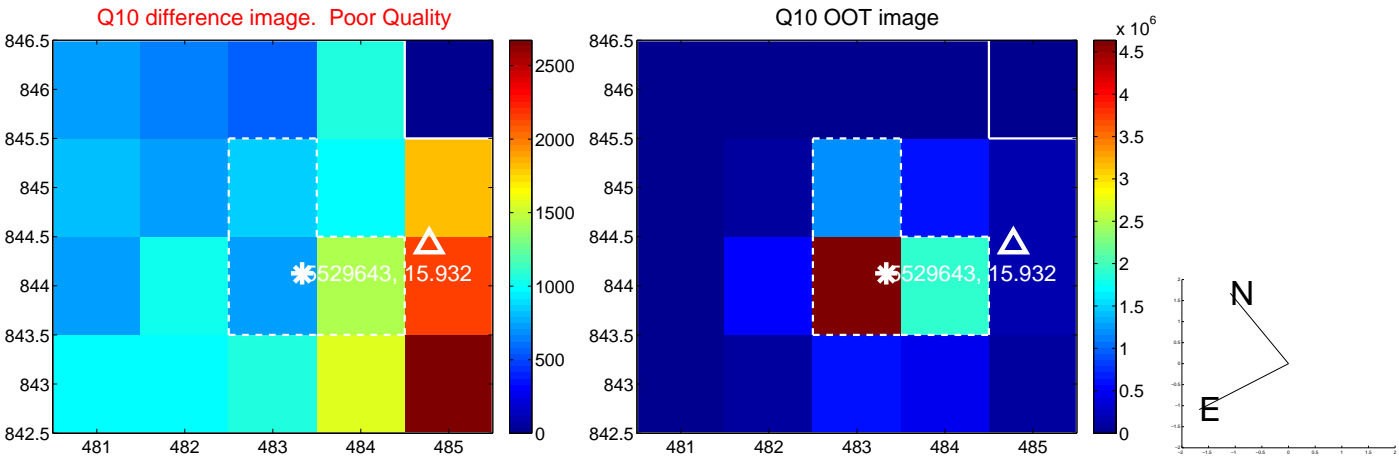
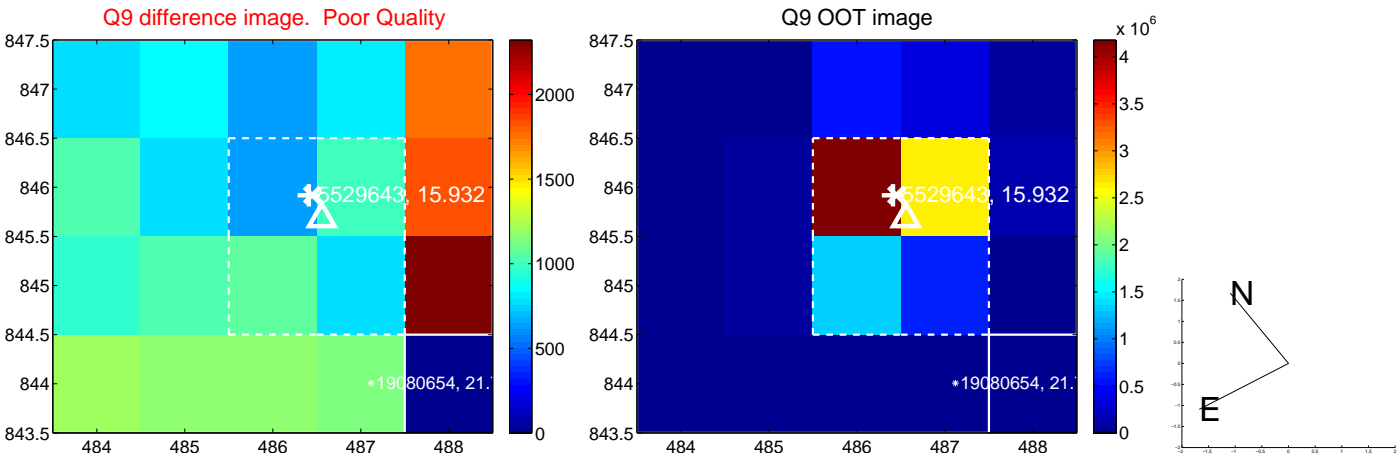
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



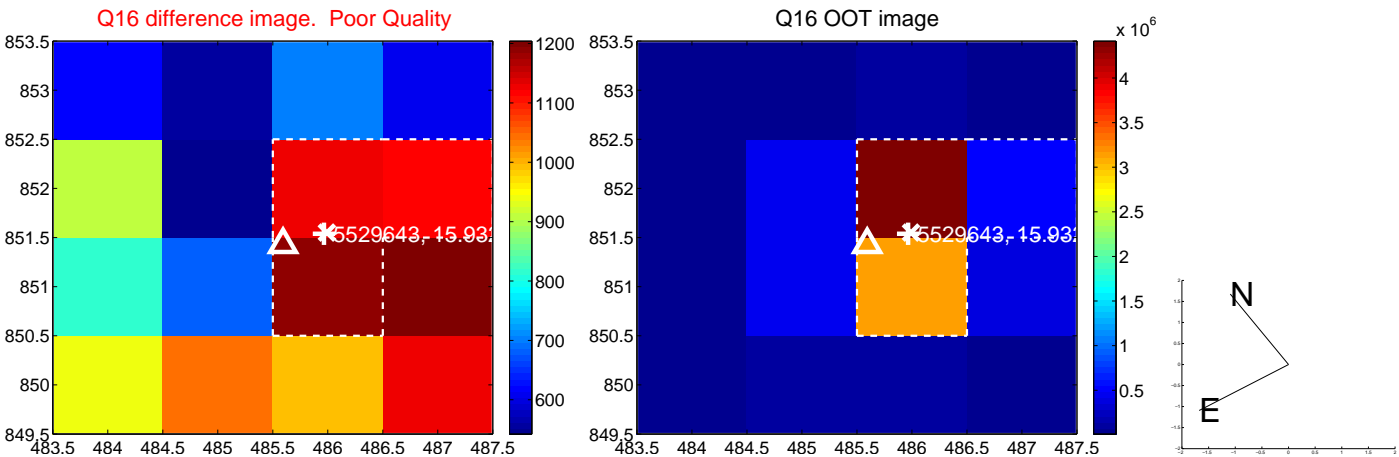
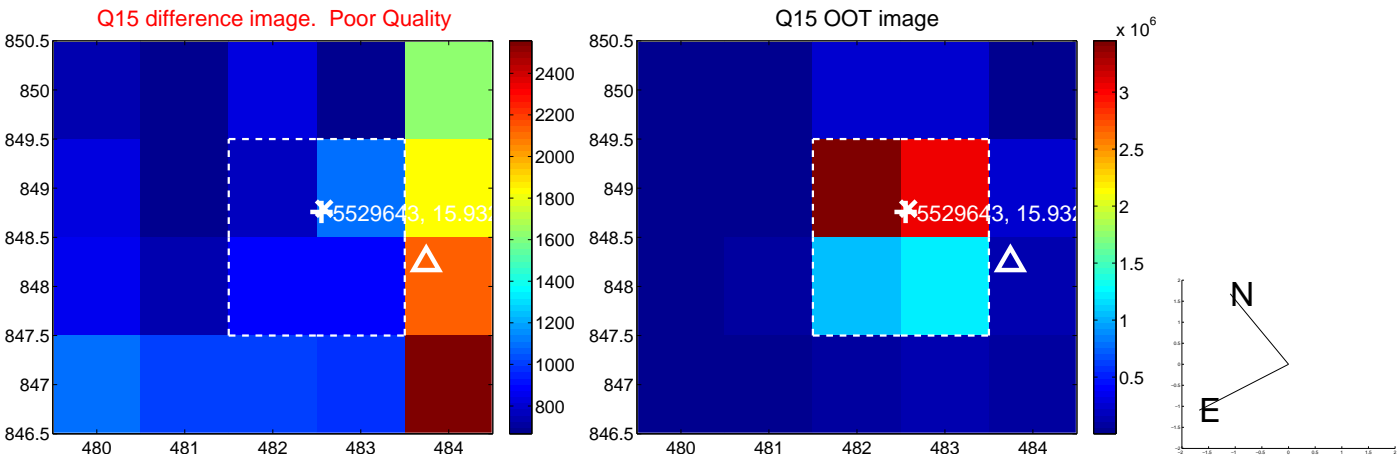
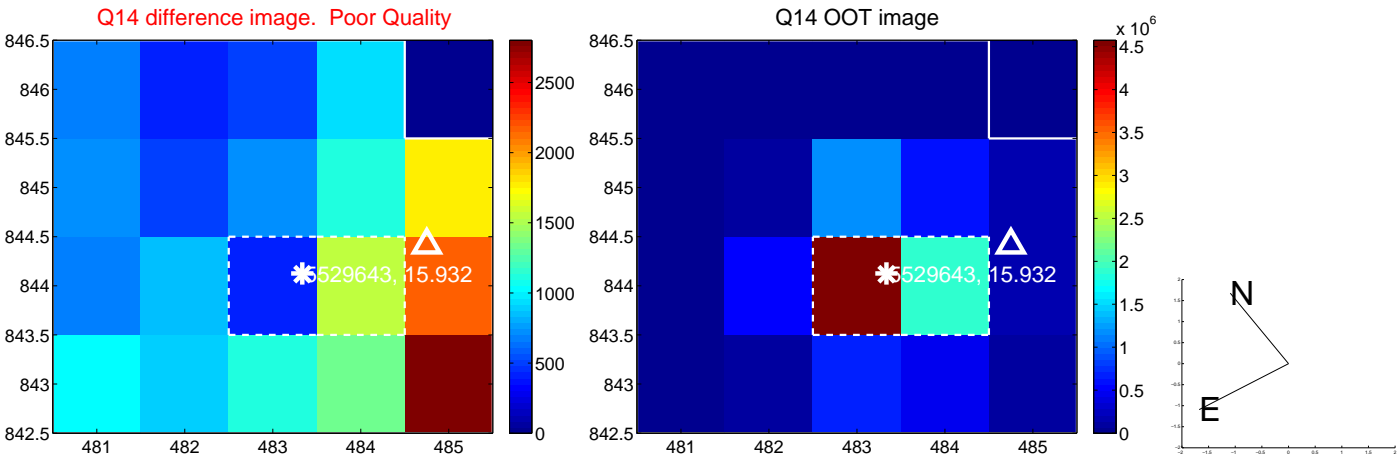
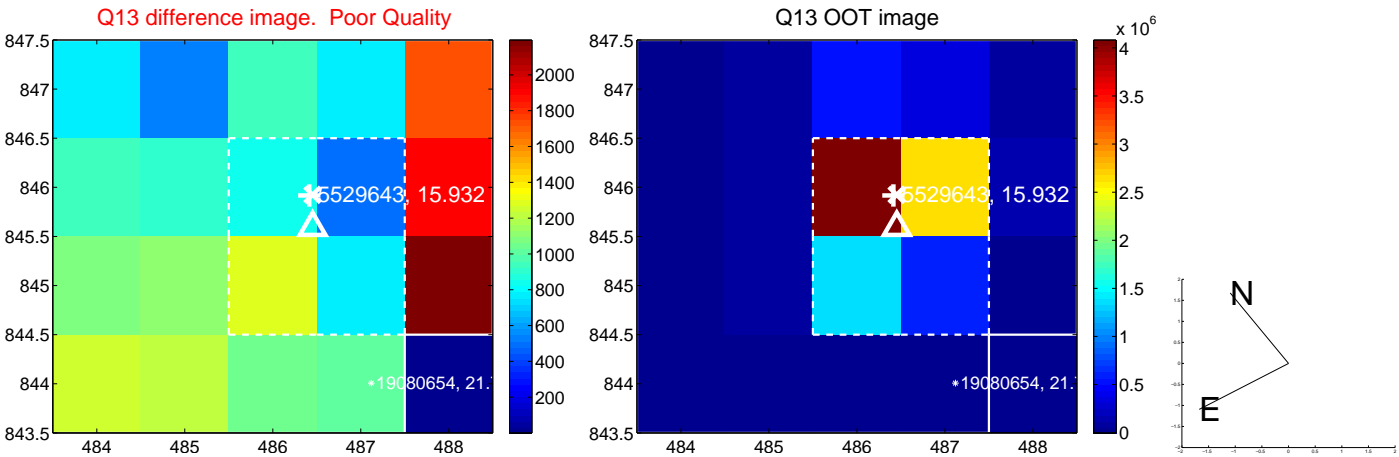
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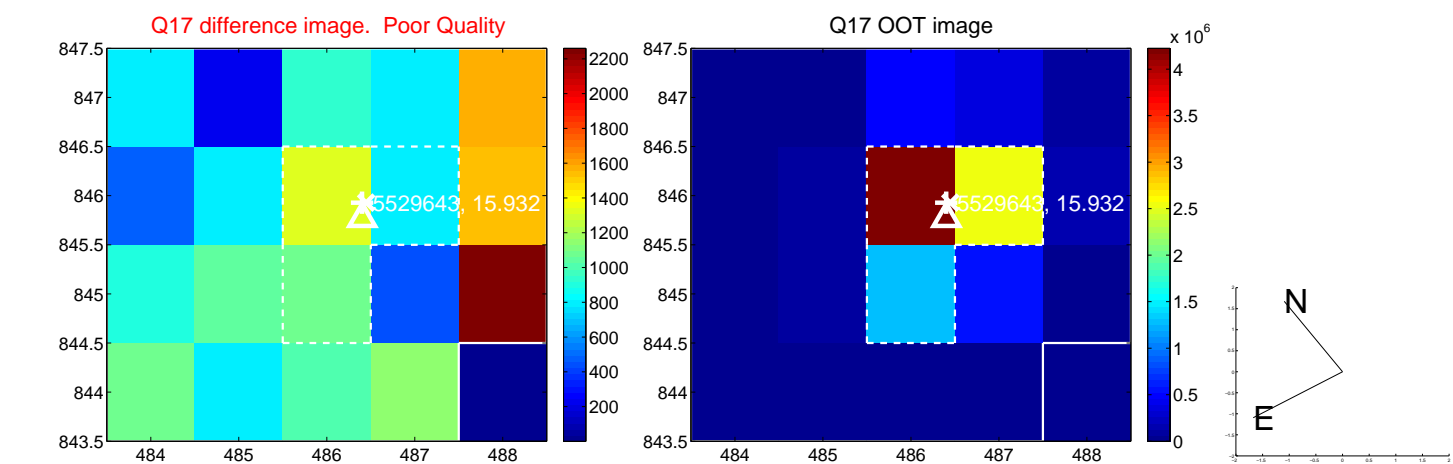
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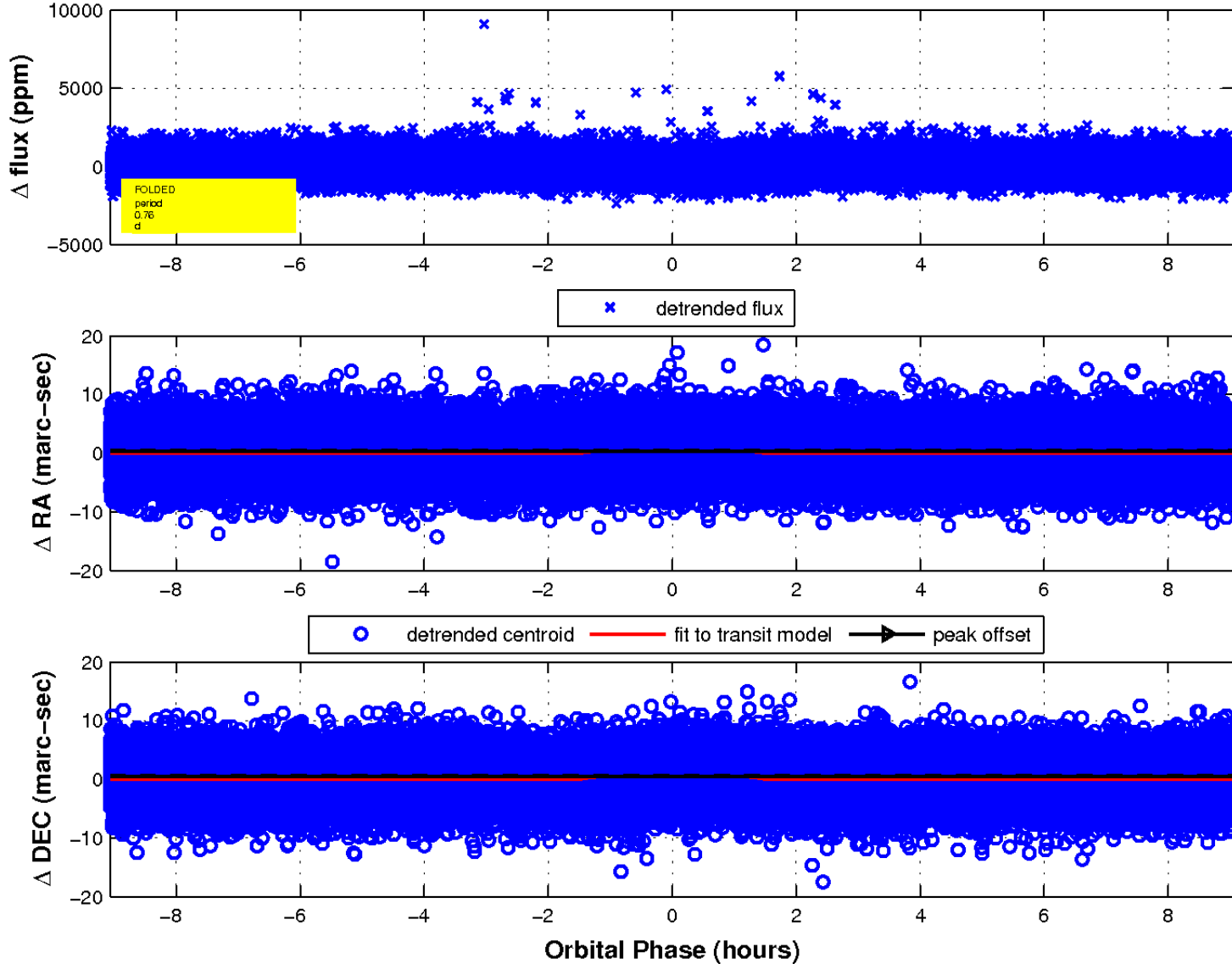
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fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

