

KIC 005650314

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})
005650314-01	OBS	3731.01	1.070284	131.828054	9879.4	3.885	577.5	367.6	0.65	4628	8.57	531.79

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005650314-01	OBS	FP	0.09	0	0	1	0	CENT_RESOLVED_OFFSET

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

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

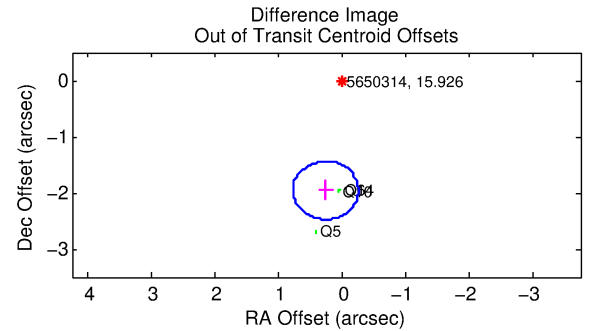
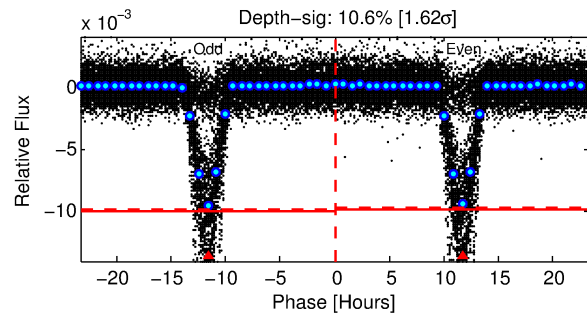
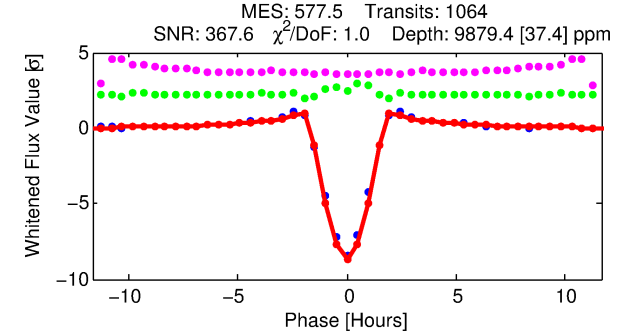
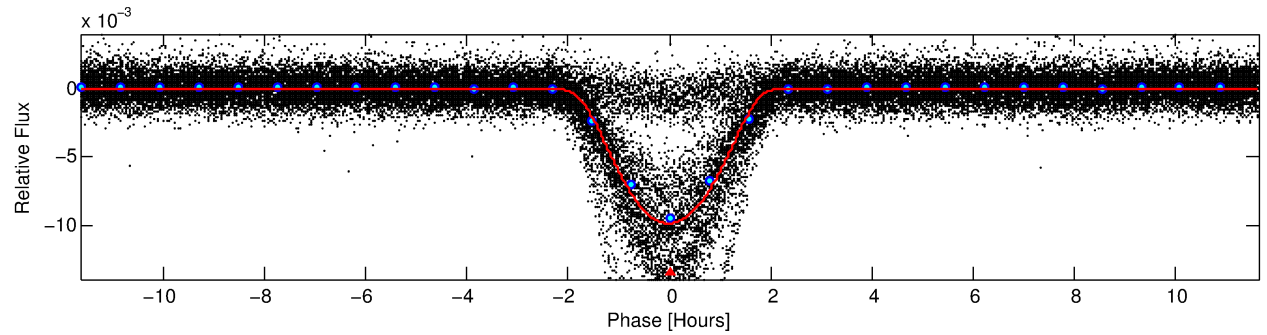
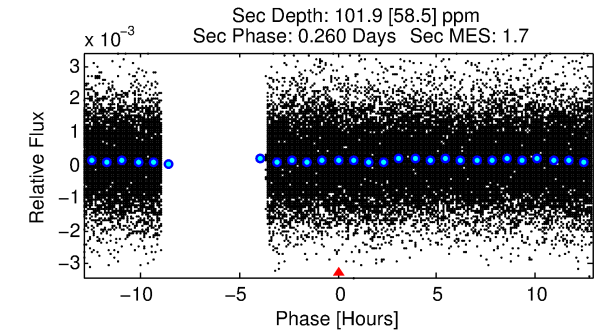
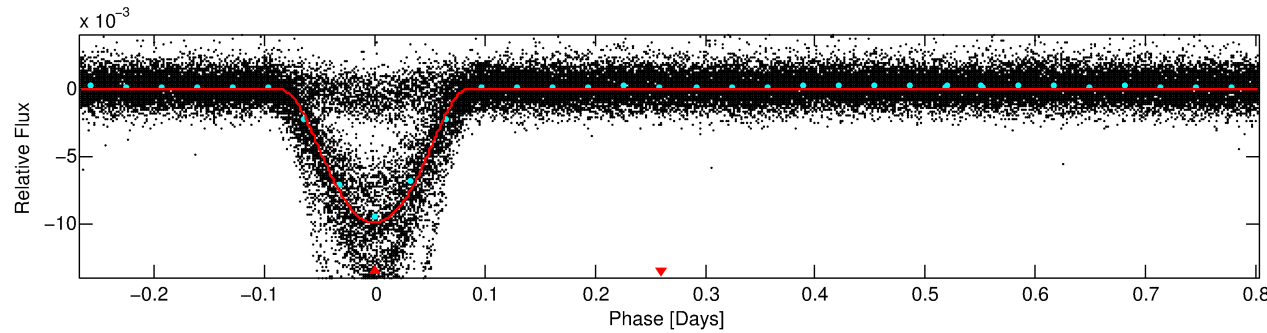
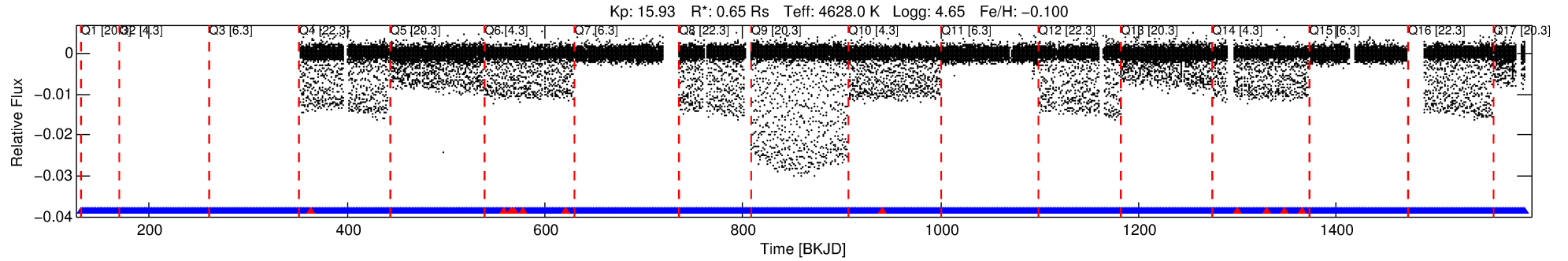
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005650314-01

No Significant Match Found

DV One-Page Summary

KIC: 5650314 Candidate: 1 of 1 Period: 1.070 d
KOI: K03731.01 Corr: 0.952



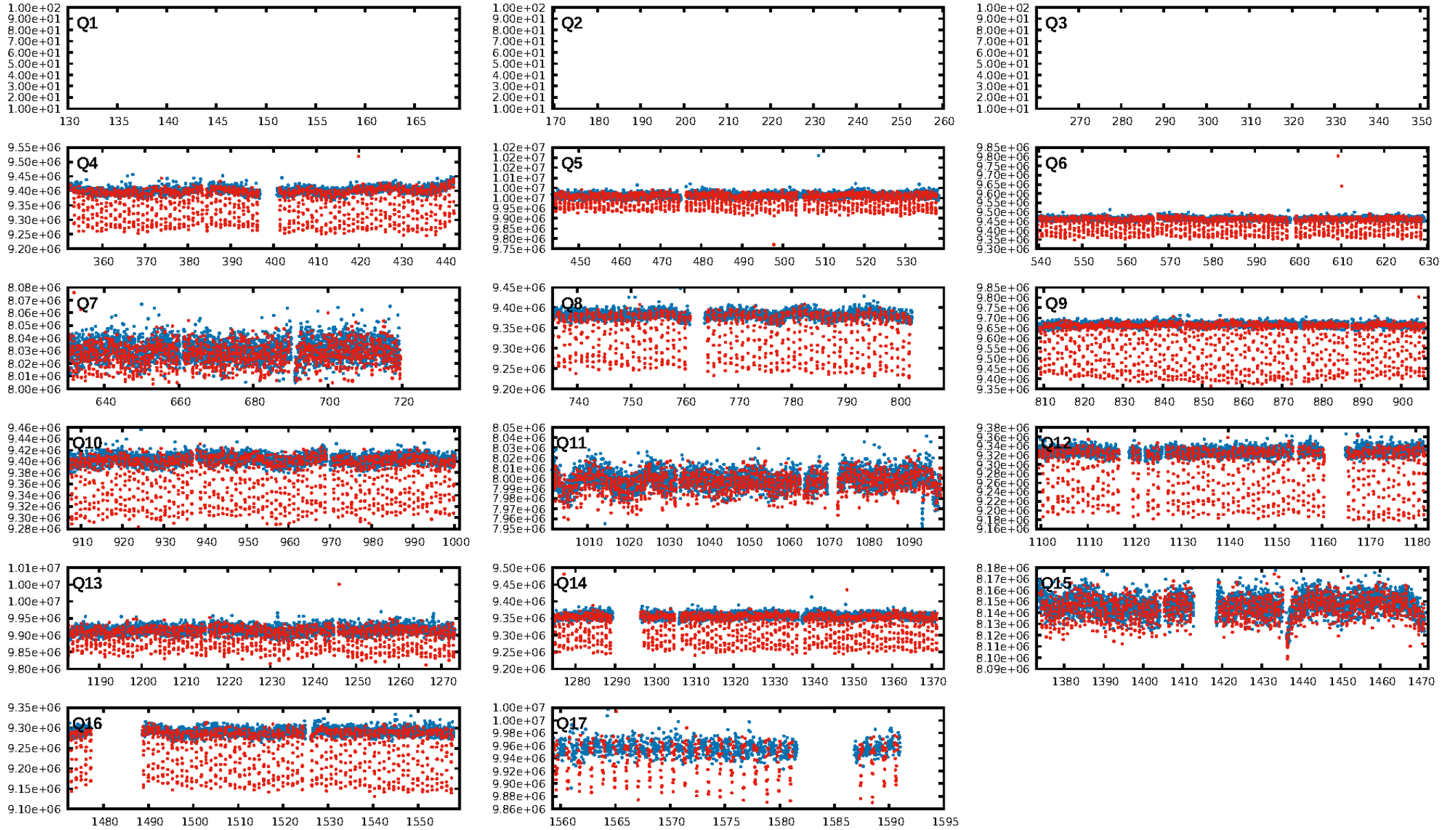
DV Fit Results:

Period = 1.07028 [0.00000] d
Epoch = 131.8281 [0.0001] BKJD
Rp/R* = 0.1203 [0.0020]
a/R* = 1.69 [0.01]
b = 0.91 [0.00]
Seff = 531.80 [95.72]
Teff = 1225 [55] K
Rp = 8.57 [0.96] Re
a = 0.0182 [0.0015] AU
Ag = 0.25 [0.15] [-5.08σ]
Teffp = 1340 [198] K [0.56σ]

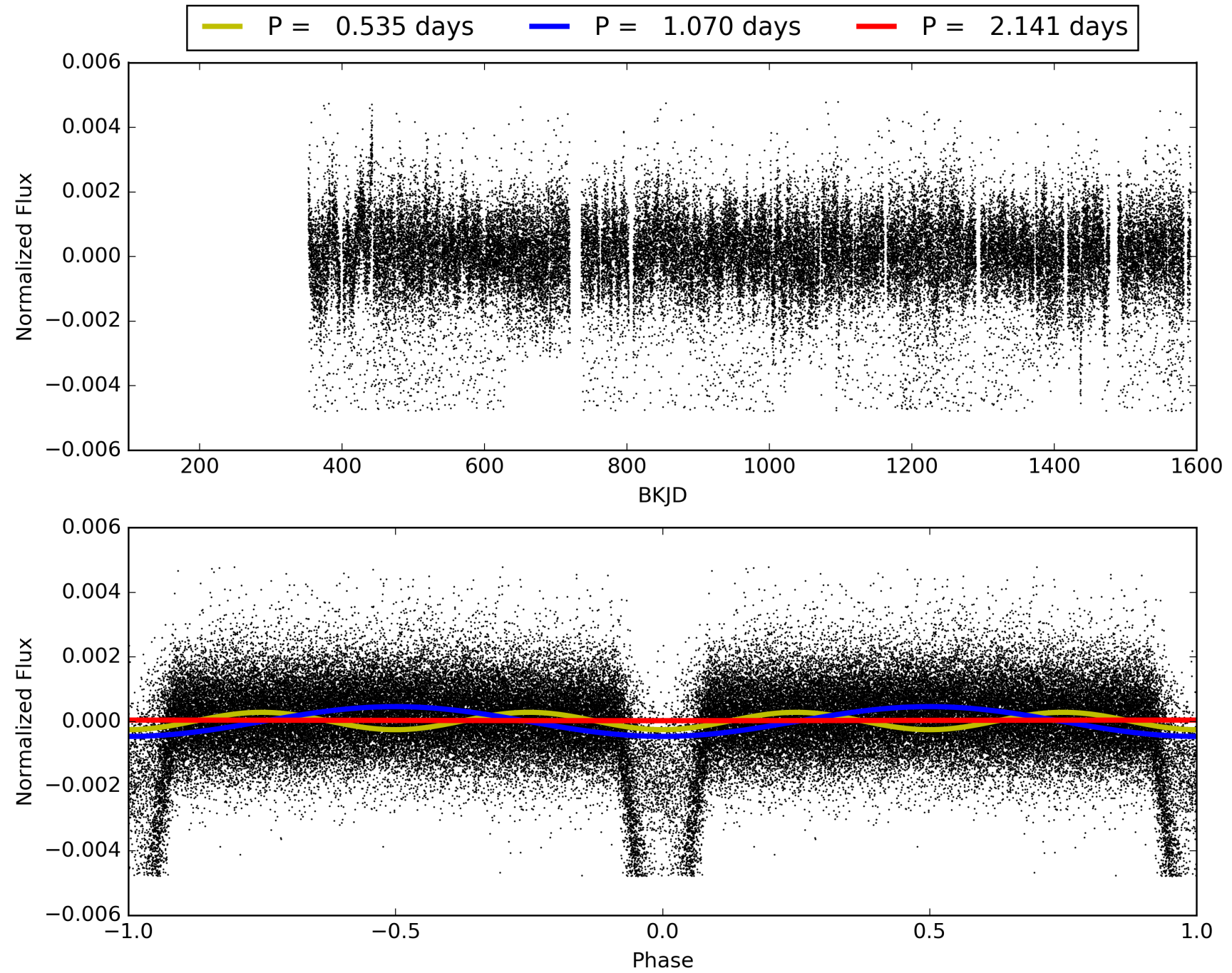
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 0.99 [1028/1039]
GhostDiagnostic-chr: -0.3001
Centroid-sig: 0.0%
Centroid-so: 6.428 arcsec [429.93σ]
OotOffset-rm: 1.975 arcsec [11.48σ]
KicOffset-rm: 2.982 arcsec [2.65σ]
OotOffset-st: 3/0/0/1 [4]
KicOffset-st: 3/0/0/1 [4]
DiffImageQuality-fgm: 1.00 [4/4]
DiffImageOverlap-fno: 1.00 [14/14]

TCE 005650314-01, PDC Light Curves

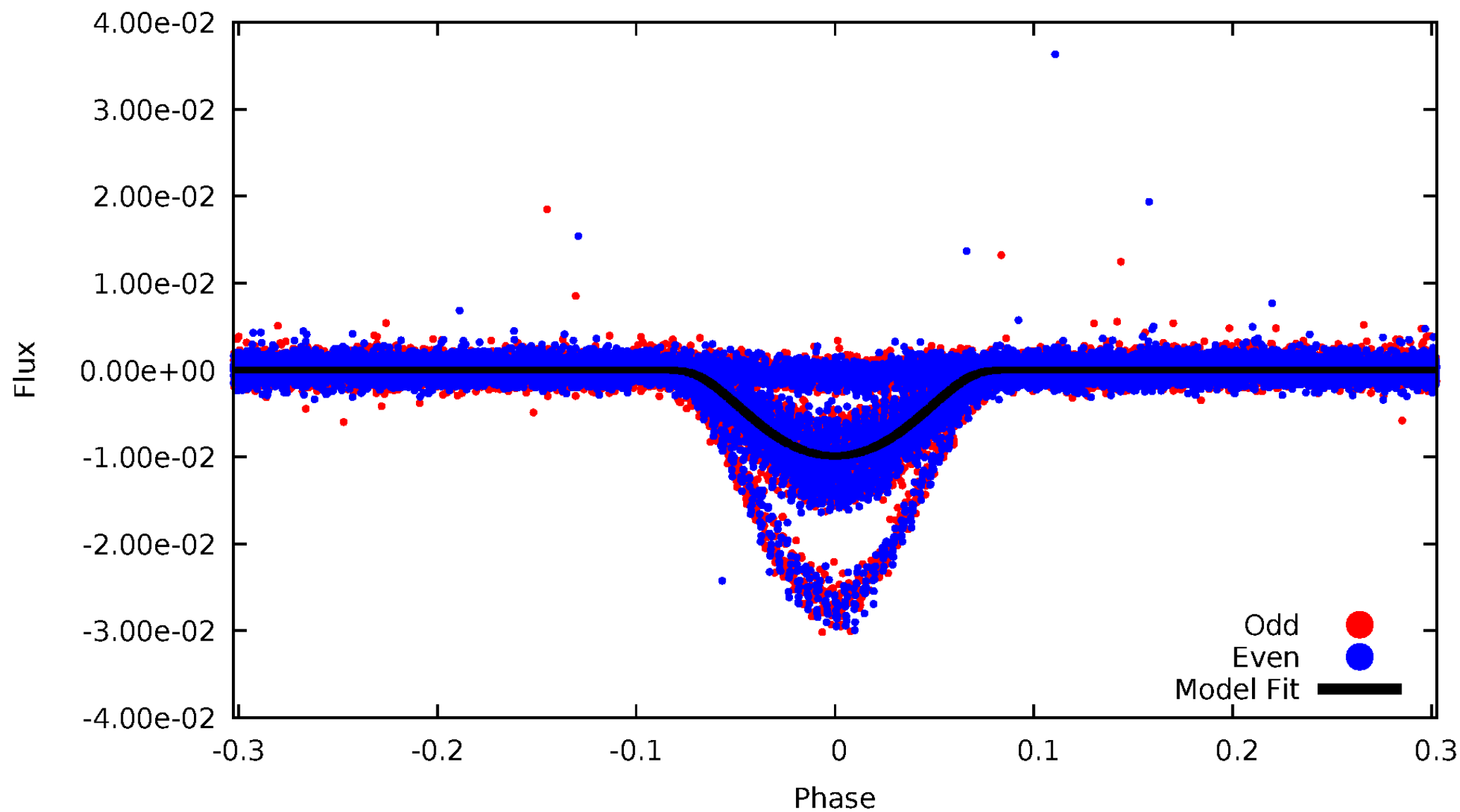


TCE 005650314-01



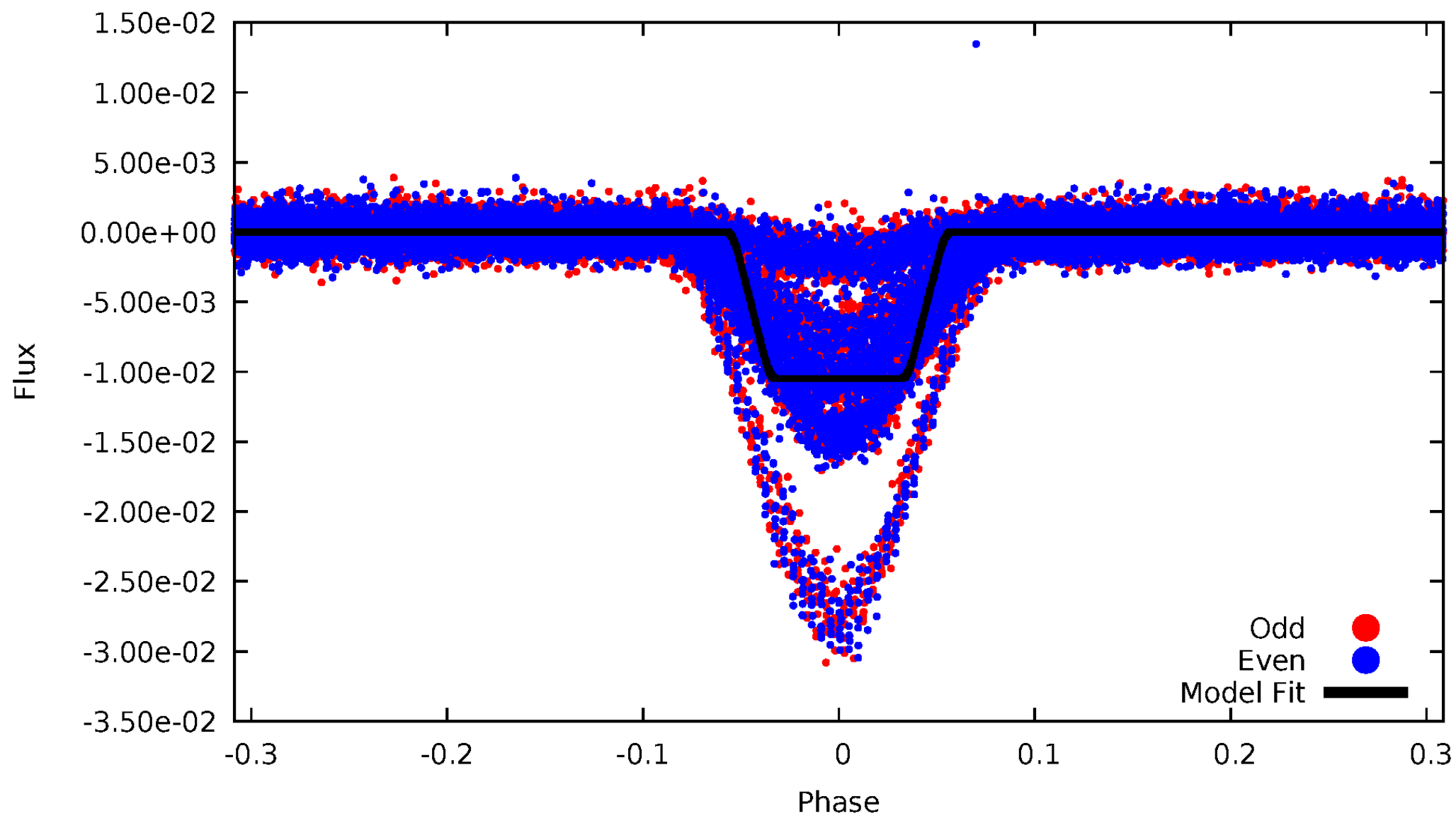
DV Odd/Even

TCE 005650314-01



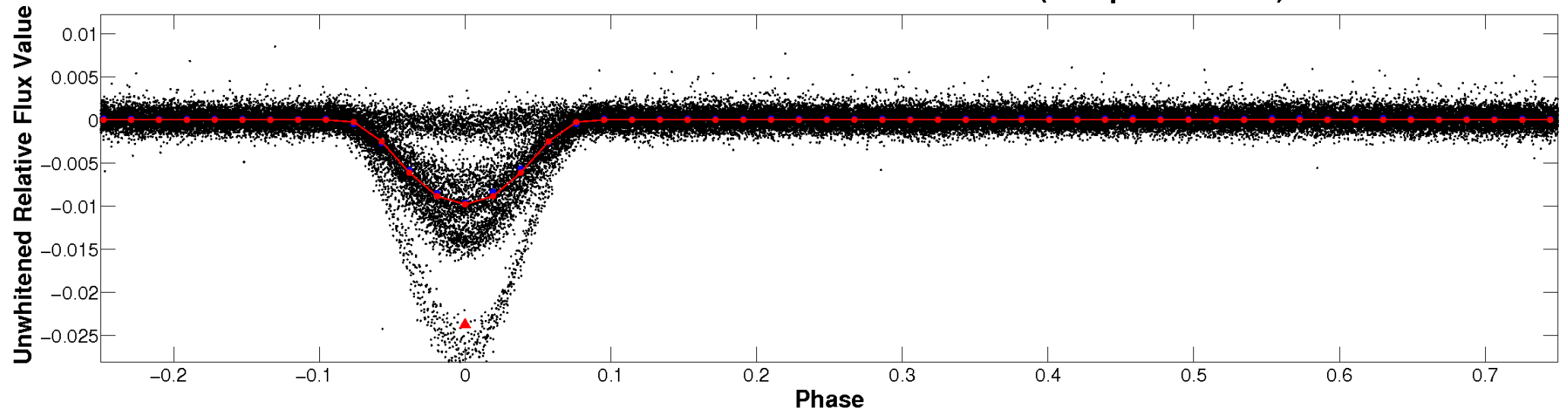
ALT Odd/Even

TCE 005650314-01

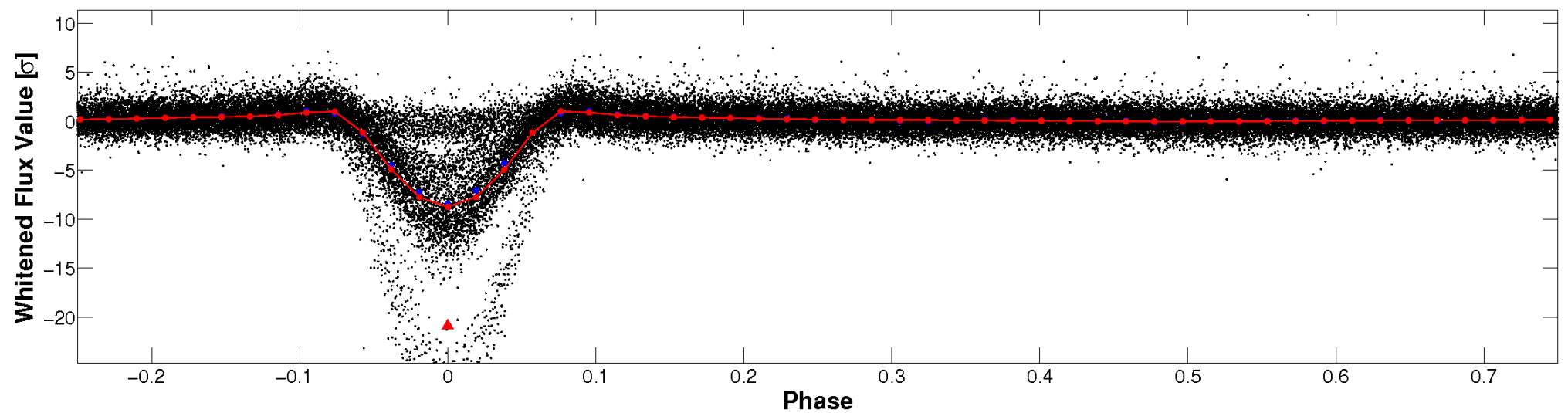


Non-Whitened Vs. Whitened Light Curve

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

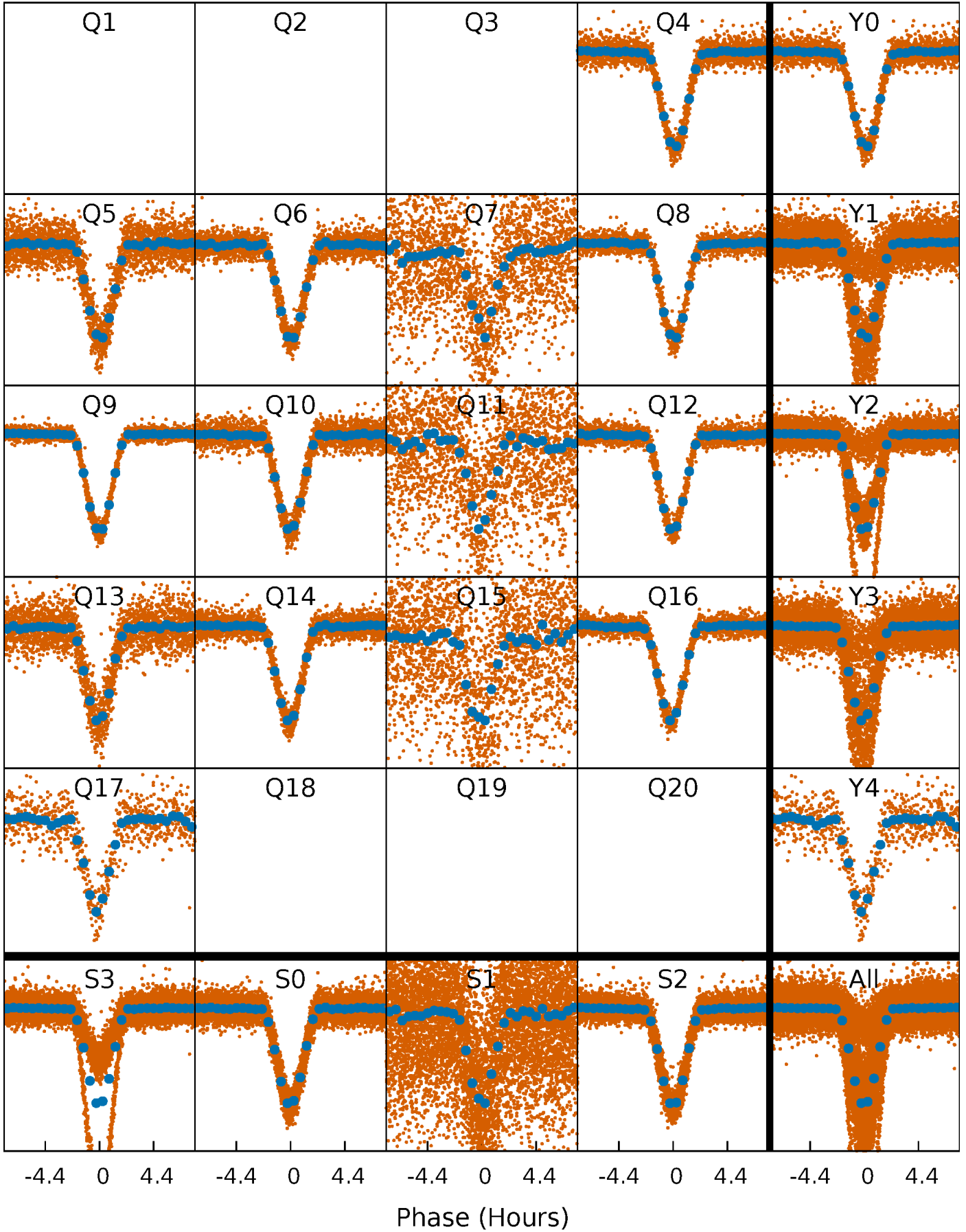


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



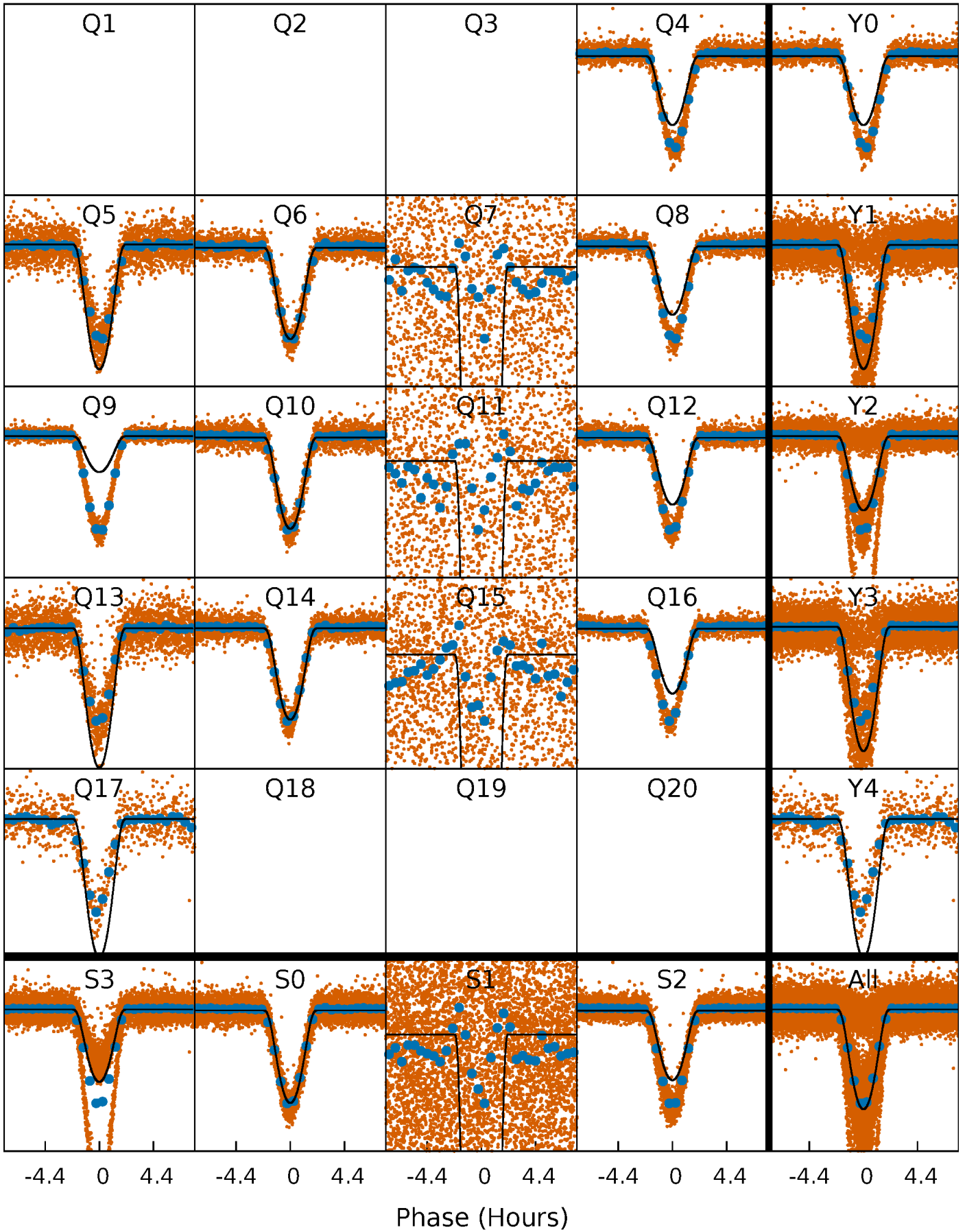
PDC Quarter-Phased Transit Curves

TCE 005650314-01 P= 1.070284 Days $T_0=131.828054$ (BKJD)



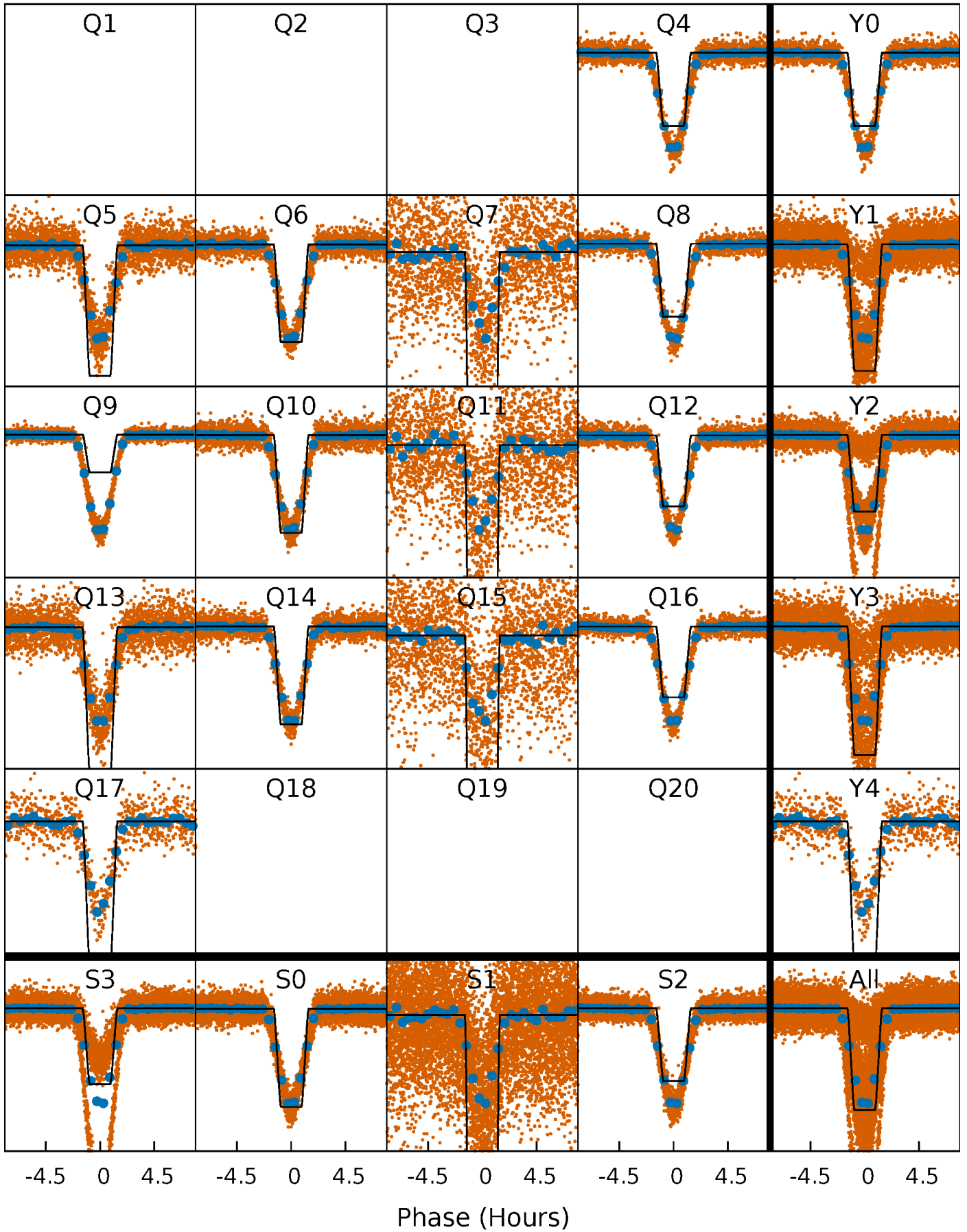
DV Quarter-Phased Transit Curves

TCE 005650314-01 P= 1.070284 Days $T_0=131.828054$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

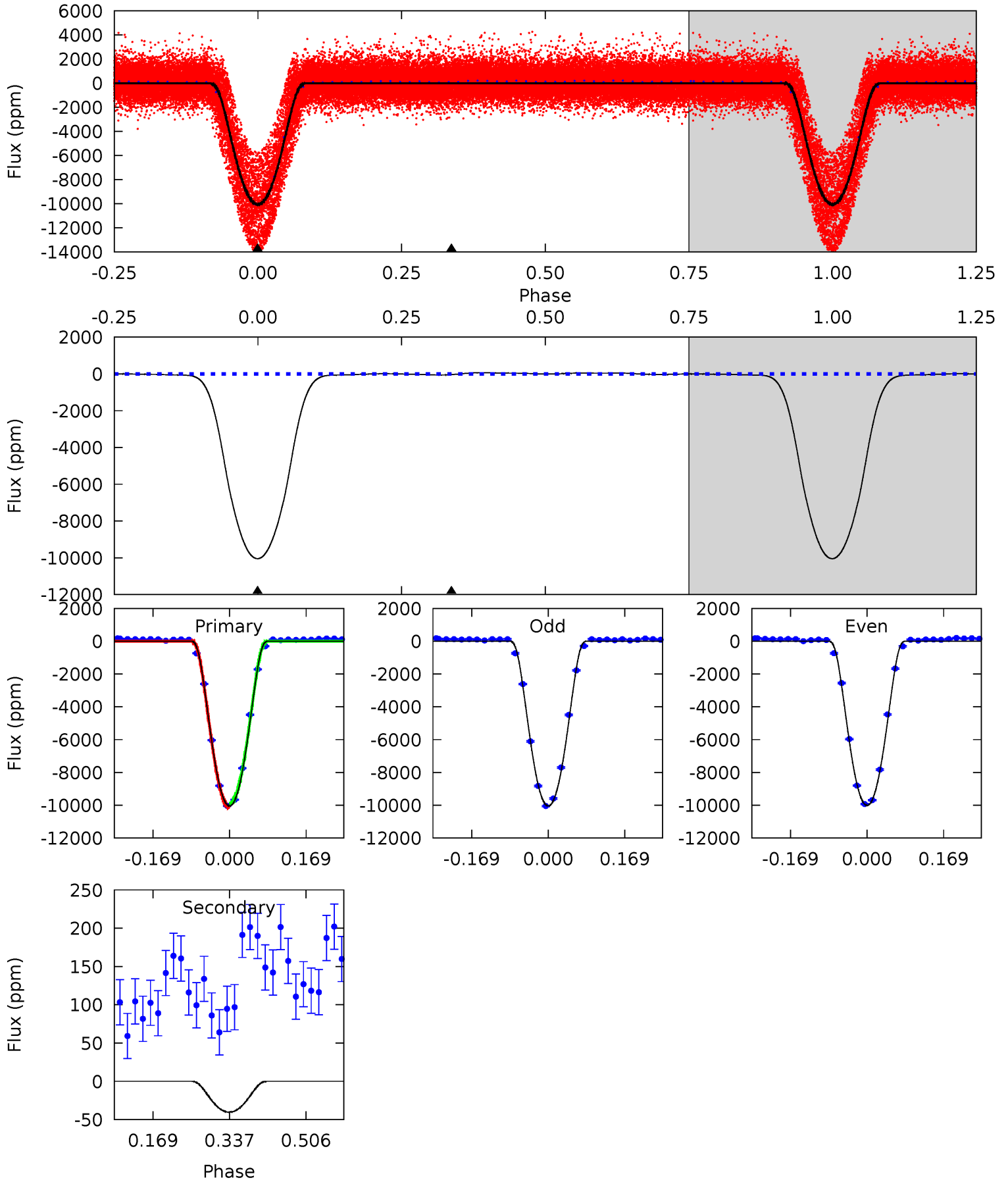
TCE 005650314-01 P= 1.070273 Days $T_0=131.835507$ (BKJD)



DV Model-Shift Uniqueness Test

005650314-01, P = 1.070284 Days, E = 131.828054 Days

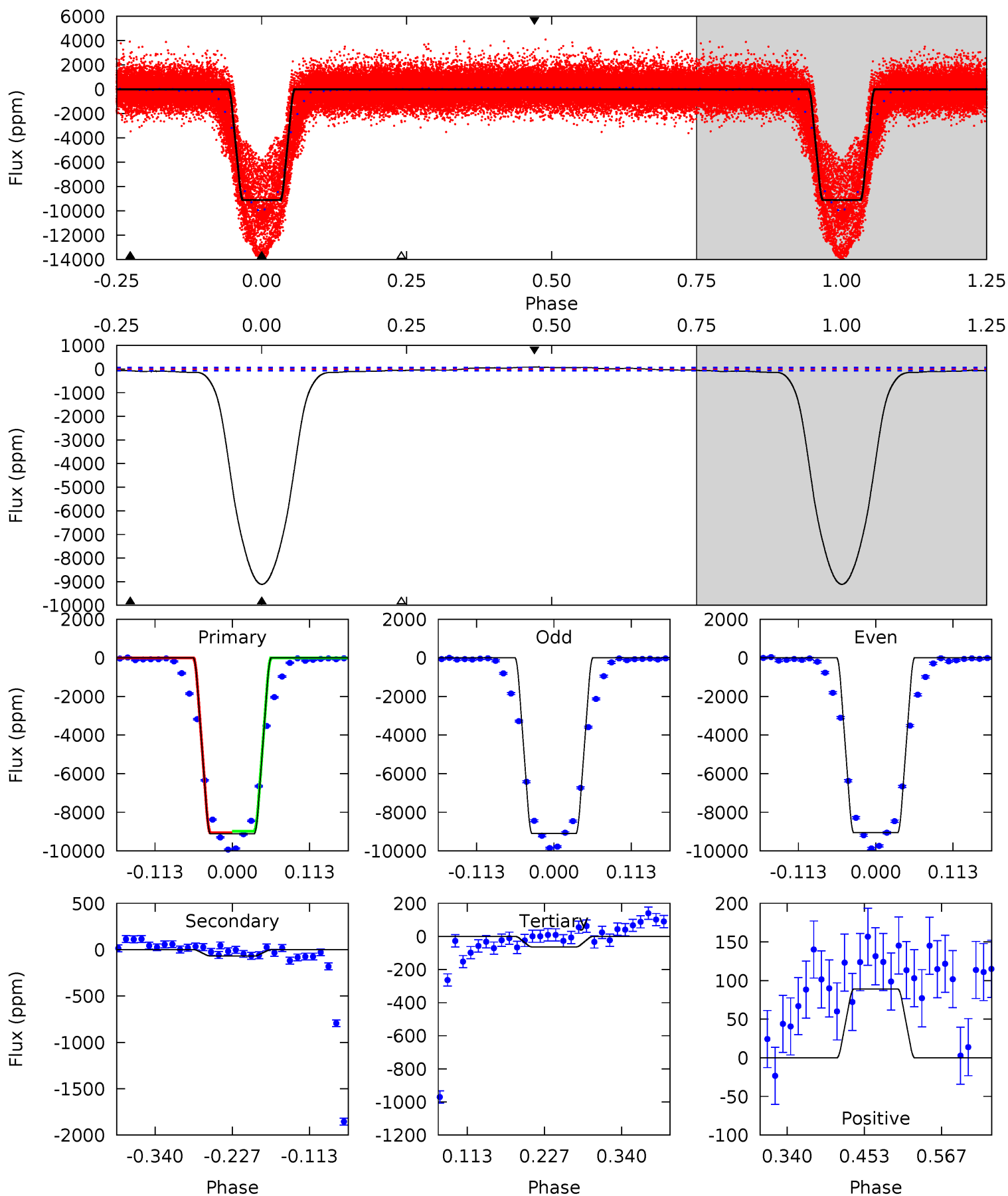
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
922.0	3.70	0	0	4.45	1.38	2.61	922.0	922.0	3.70	3.70	1.74	0.96	0.01	11.0



Alt Model-Shift Uniqueness Test

005650314-01, P = 1.070273 Days, E = 131.835507 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
654.0	4.94	4.58	6.39	4.54	1.58	4.50	649.4	647.6	0.36	-1.45	1.45	1.00	0.01	0



Stellar Parameters For KIC 005650314

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	4628^{+162}_{-162}	$4.651^{+0.024}_{-0.056}$	$-0.100^{+0.300}_{-0.300}$	$0.653^{+0.072}_{-0.044}$	$0.723^{+0.051}_{-0.076}$	$3.659^{+0.431}_{-0.838}$
	+4%/-4%	+1%/-1%	+300%/-300%	+11%/-7%	+7%/-11%	+12%/-23%
Source	KIC0	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 005650314-01 / KOI 3731.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-40 ± 11	$8.78^{+0.54}_{-0.43}$	1728^{+65}_{-65}	-2195^{+57}_{-56}	$0.094^{+0.028}_{-0.025}$
Alt.	-69 ± 14	$7.44^{+0.43}_{-0.41}$	1725^{+70}_{-68}	-1968^{+214}_{-118}	$0.224^{+0.053}_{-0.046}$

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

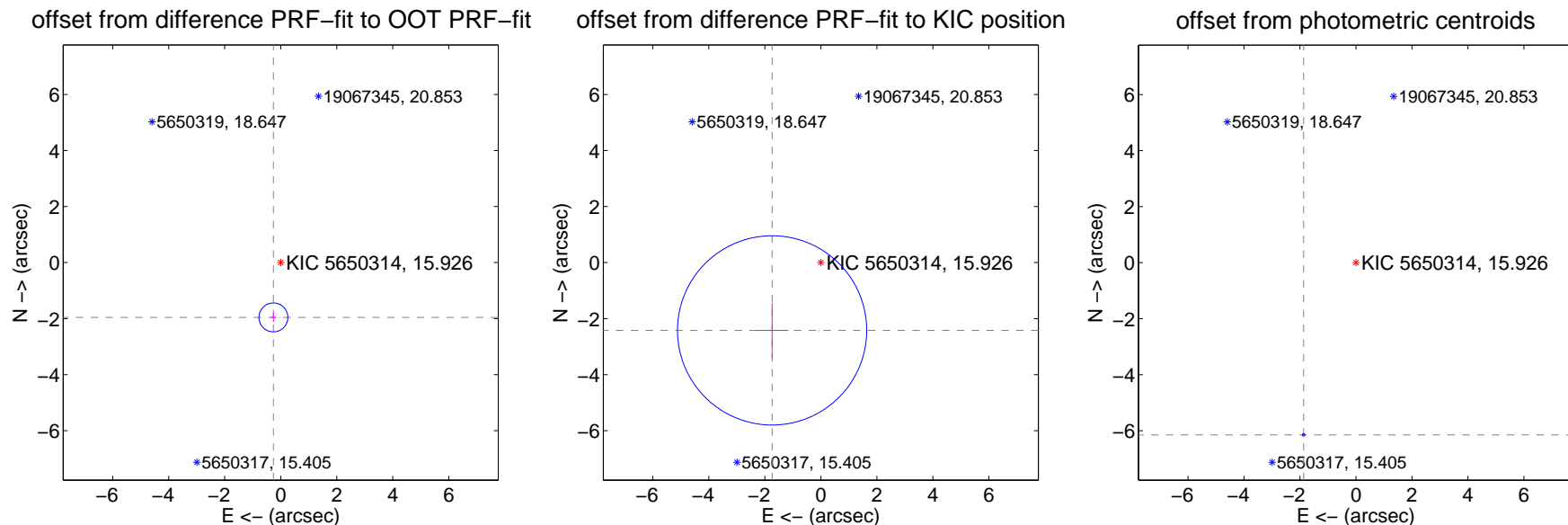
DV Centroid Data

Supplemental centroid analysis for 005650314-01. Kepler magnitude: 15.93. Transit SNR 367.63

There are 4 quarters with good PRF difference image offsets

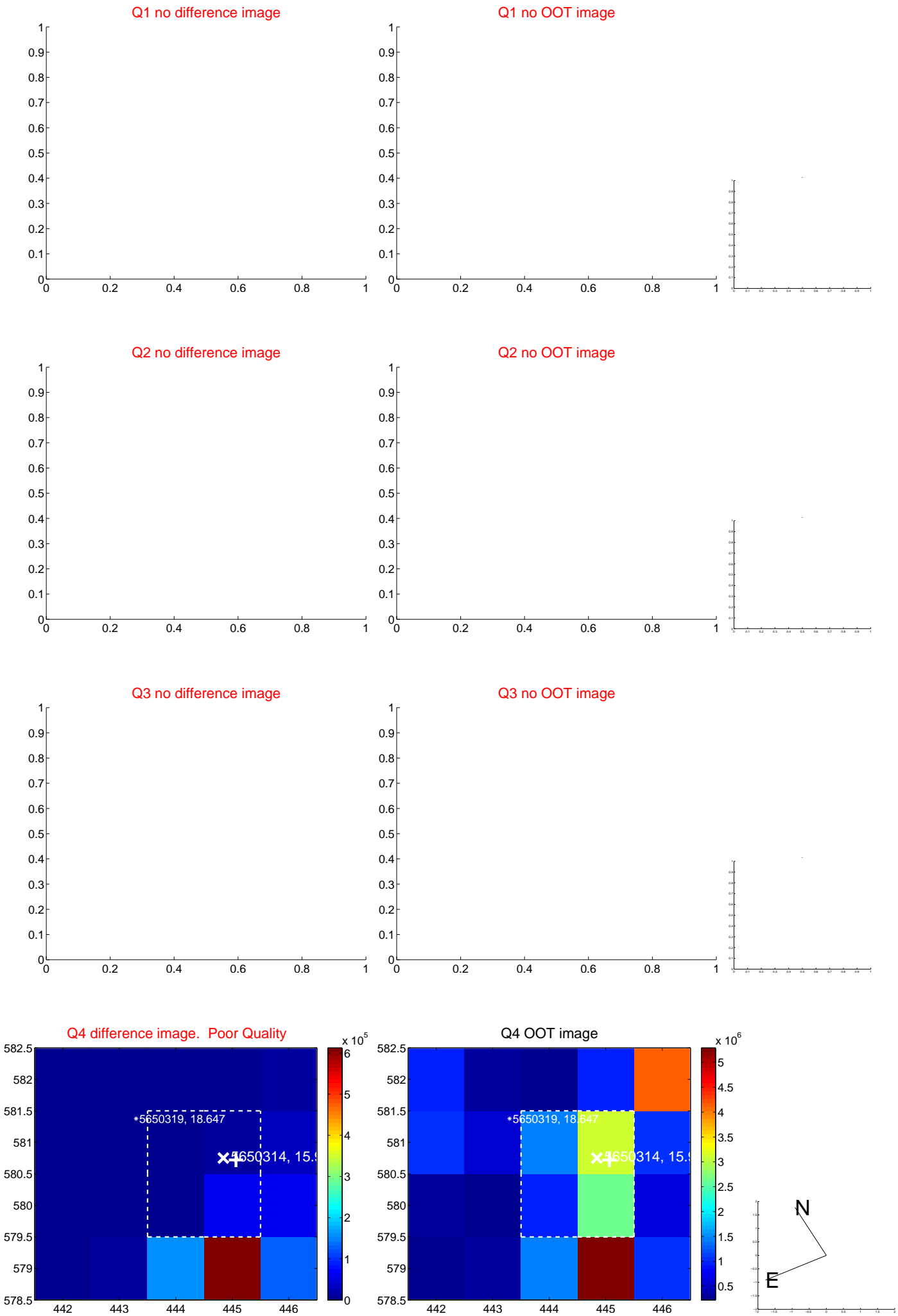
The direct PRF centroid is offset from the target star catalog position by about 0.44 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.975 \pm 0.172	11.48	0.262 \pm 0.101	-1.957 \pm 0.164
PRF-fit source offset from KIC position	2.982 \pm 1.126	2.65	1.741 \pm 0.577	-2.421 \pm 0.975
photometric centroid source offset	6.43 \pm 0.01	429.94	1.87 \pm 0.01	-6.15 \pm 0.02

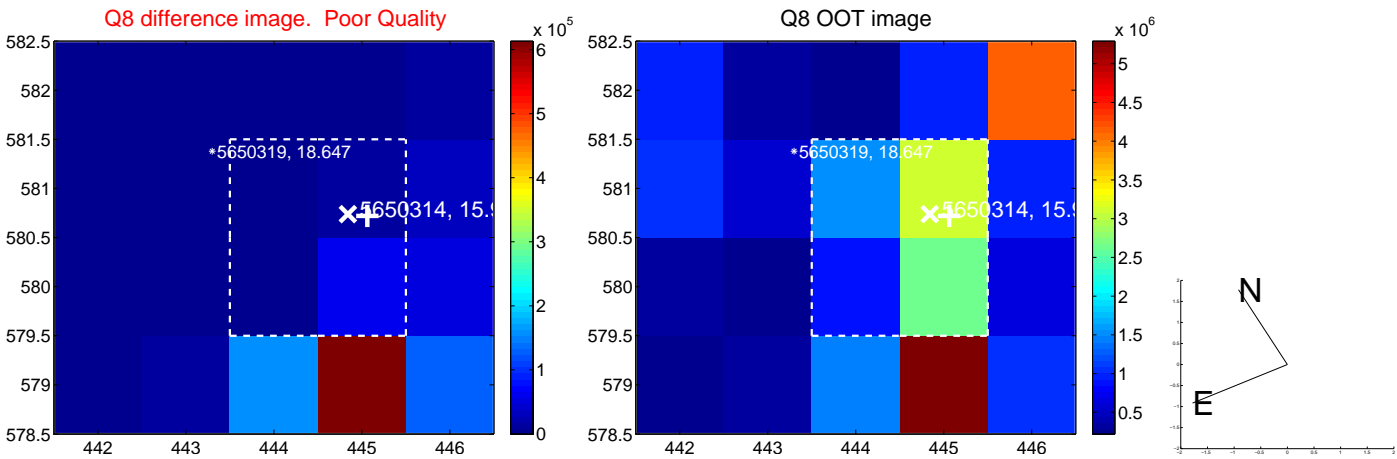
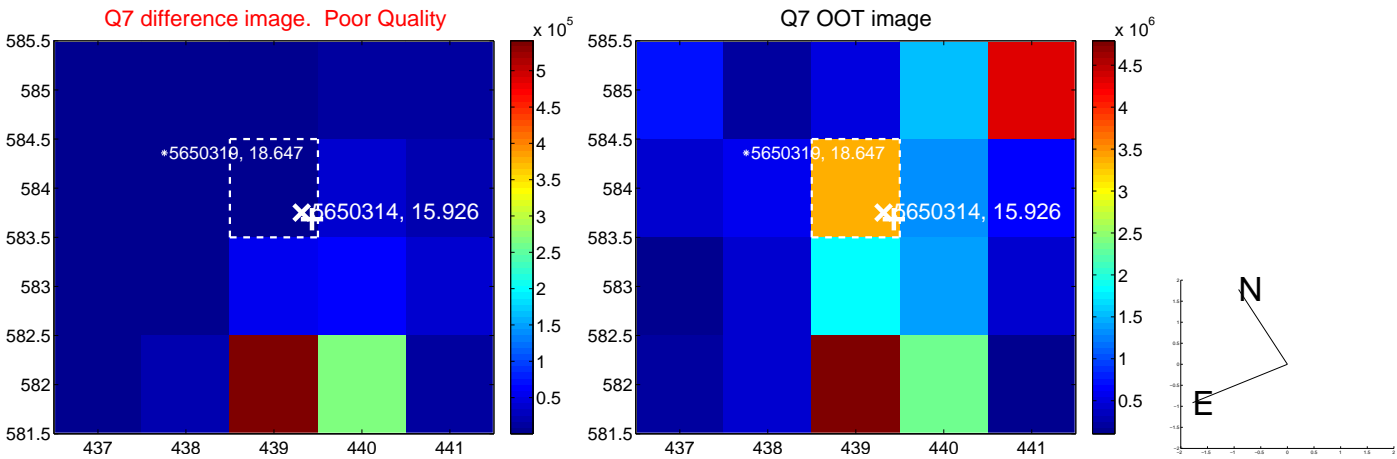
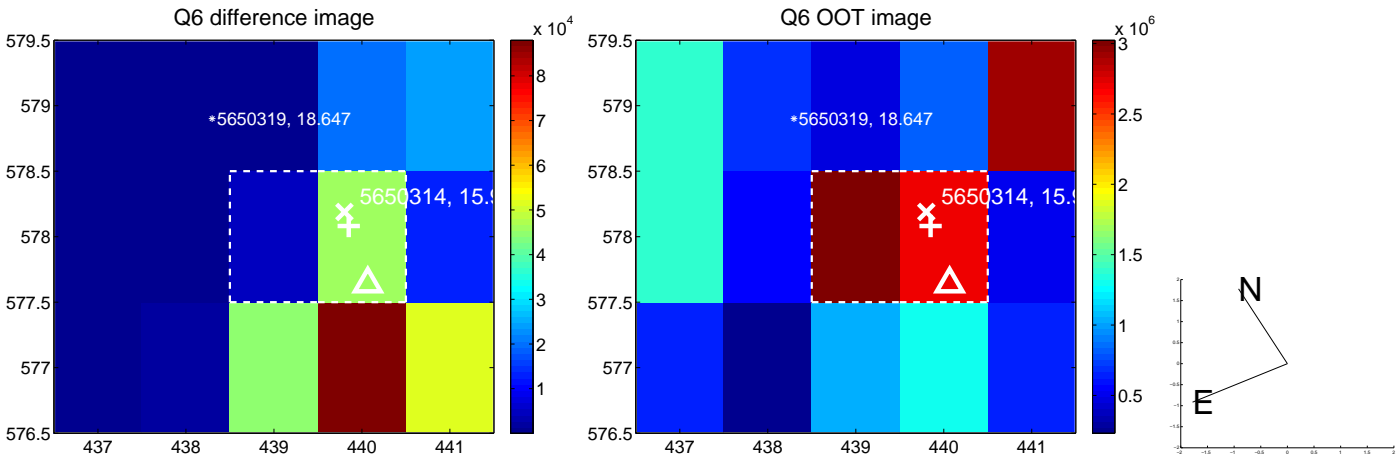
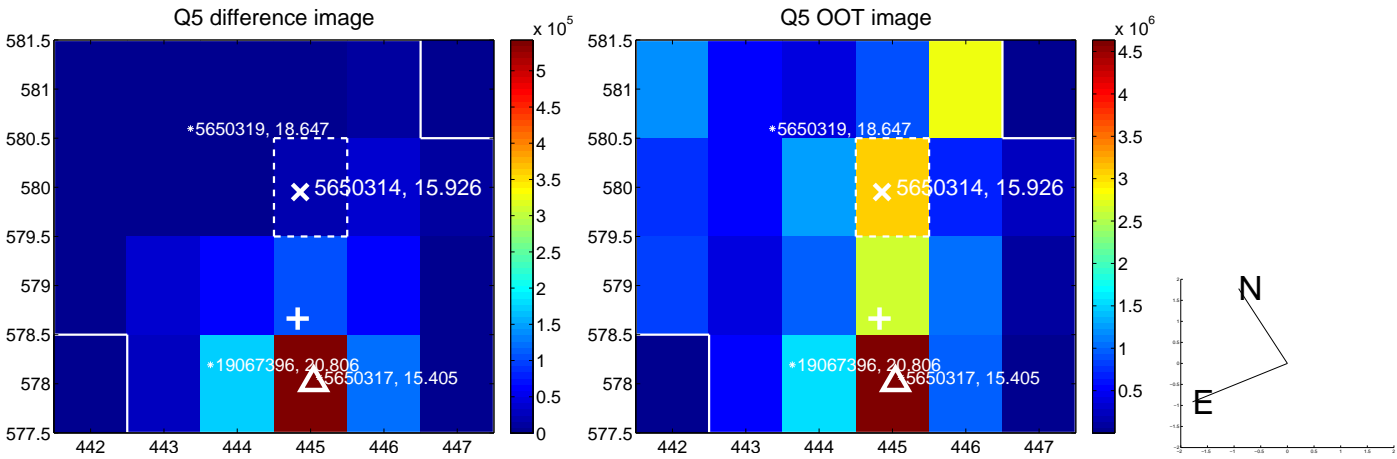


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

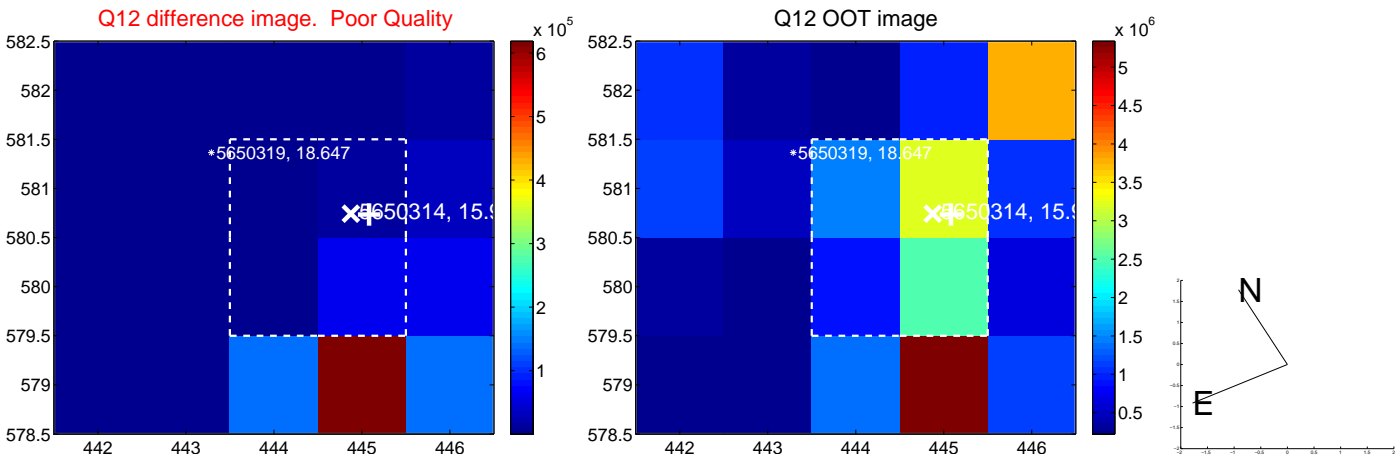
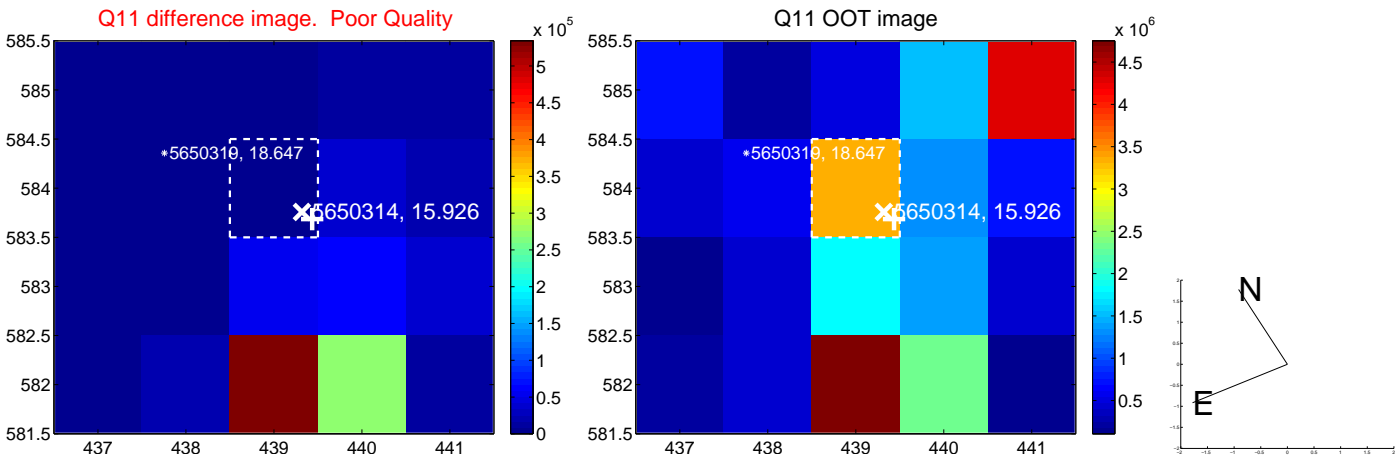
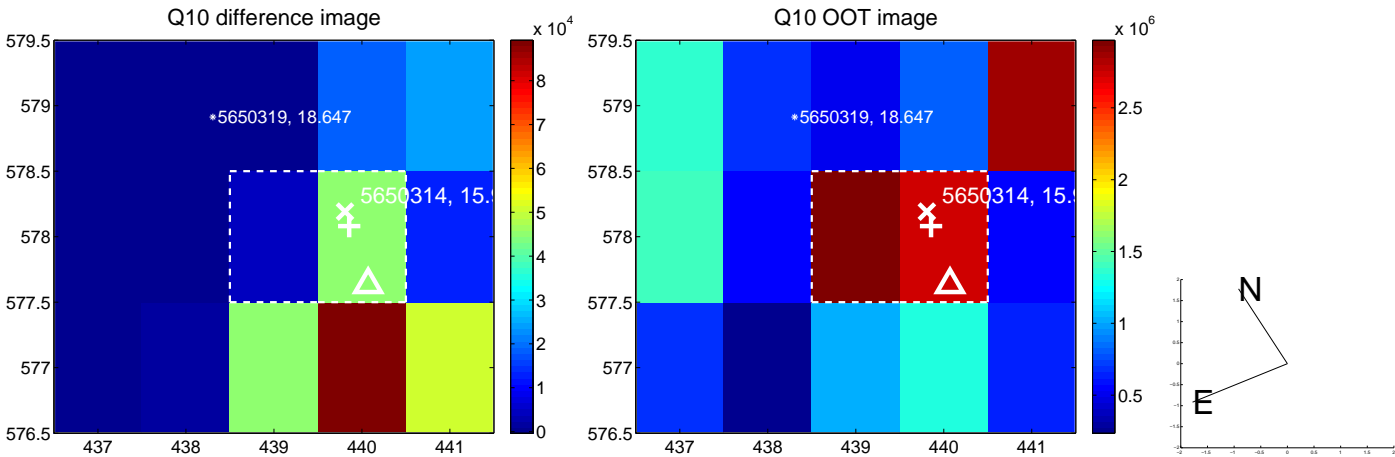
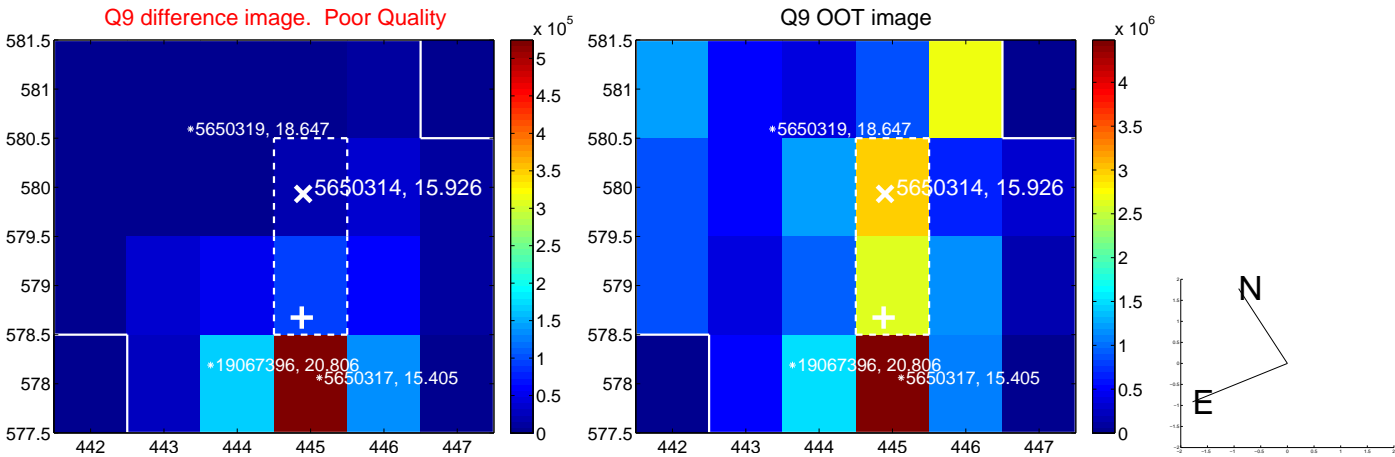
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



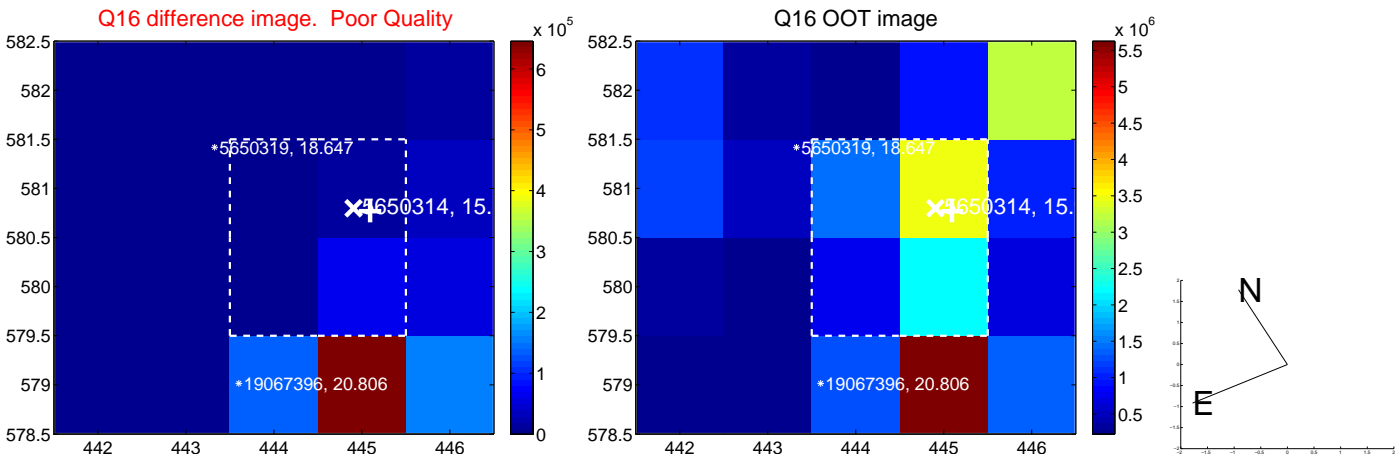
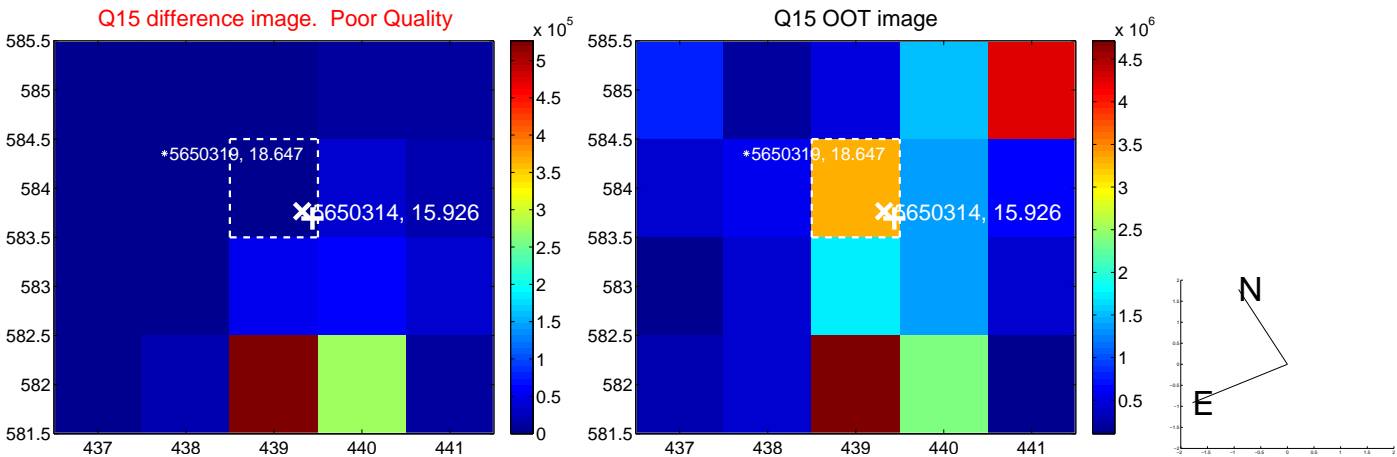
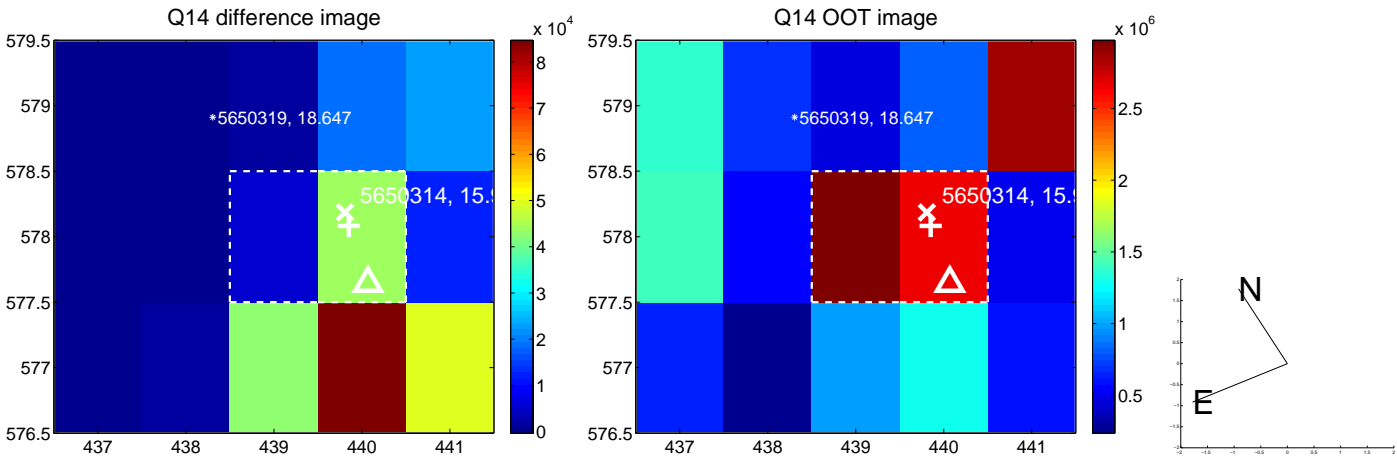
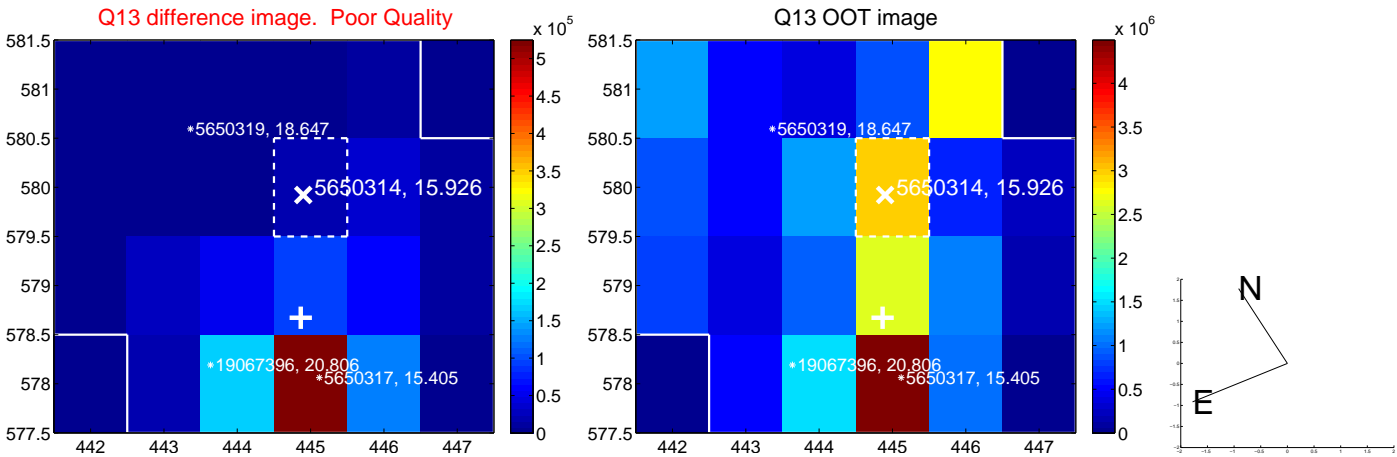
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



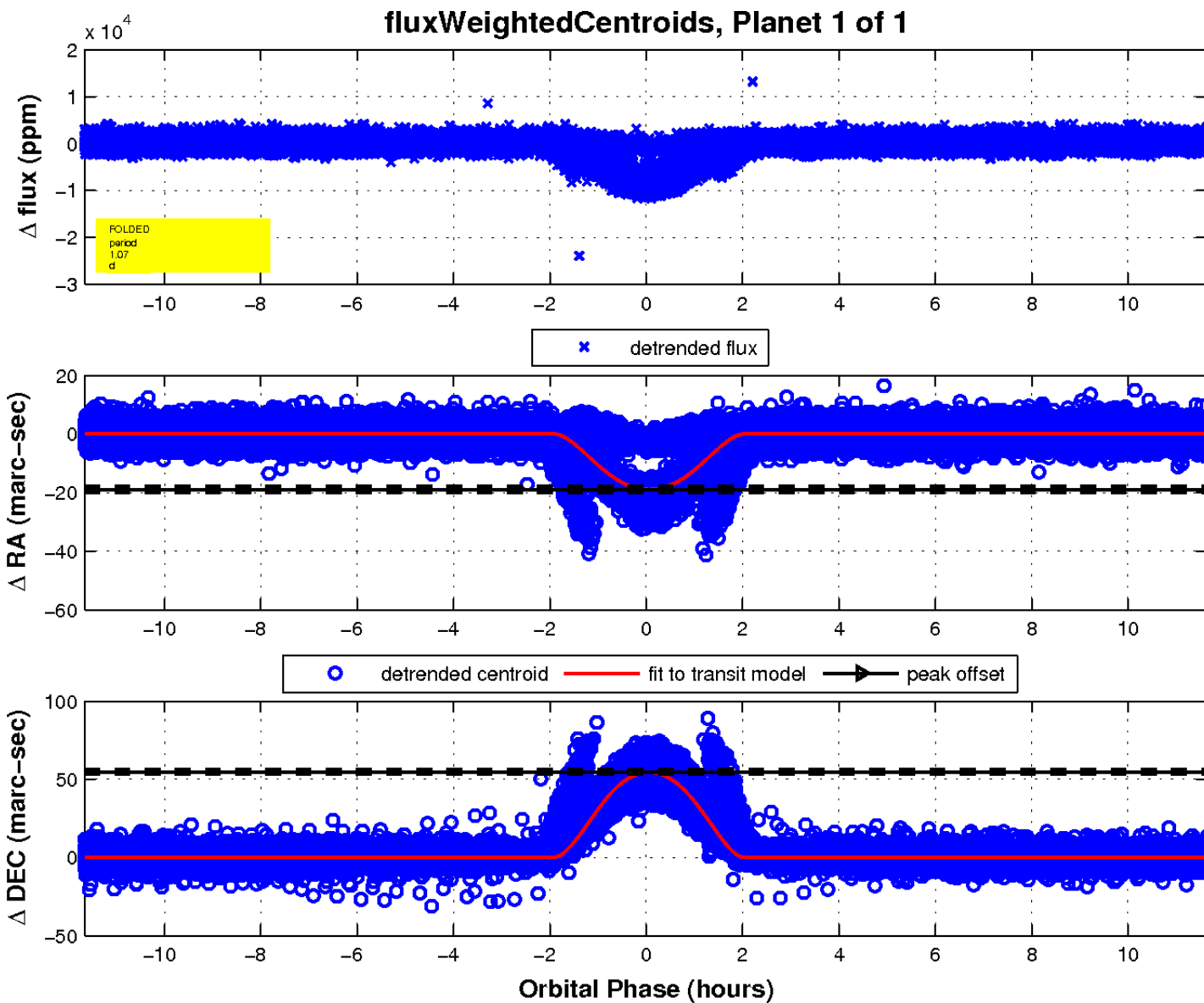
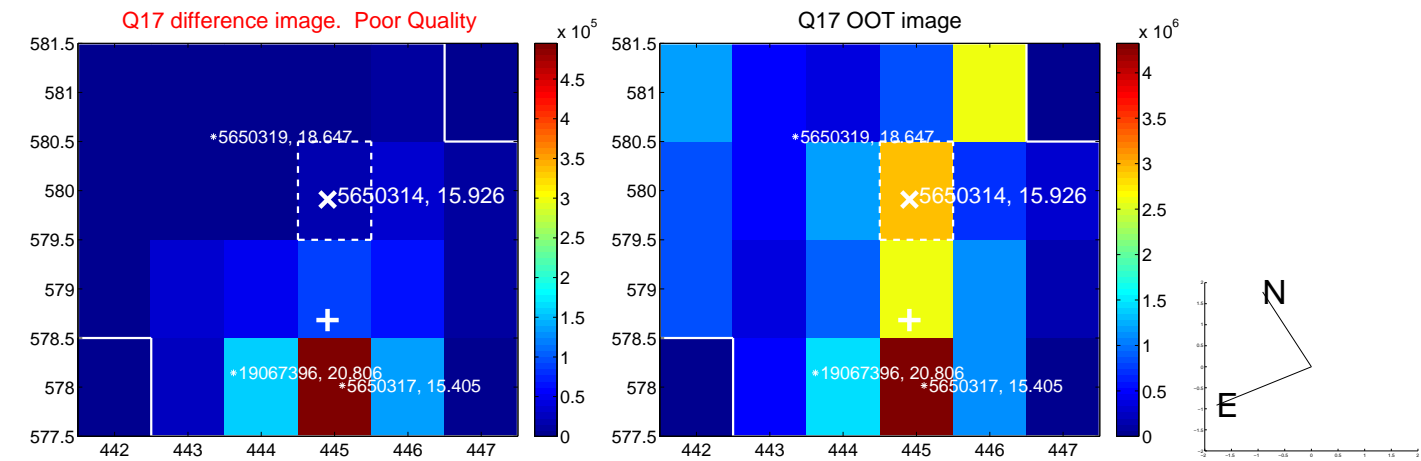
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UKIRT Image

