

KIC 005213404

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})
005213404-01	OBS	3468.01	20.707529	139.942120	116.3	8.858	11.6	11.8	2.44	5668	3.18	207.18

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005213404-01	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.

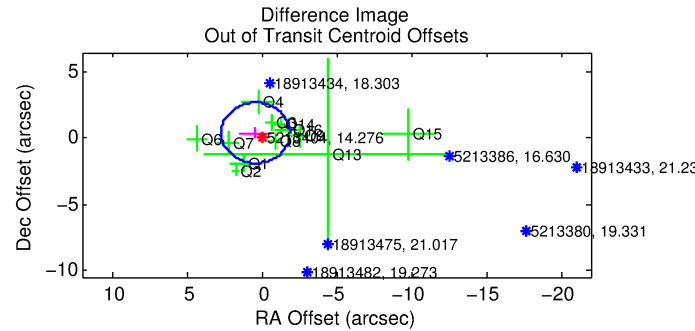
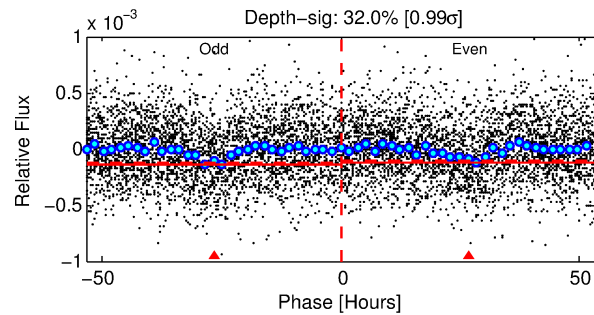
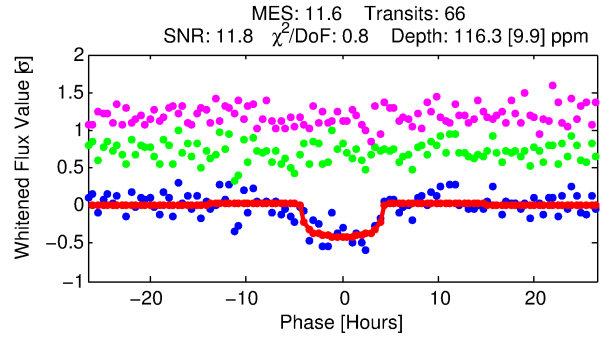
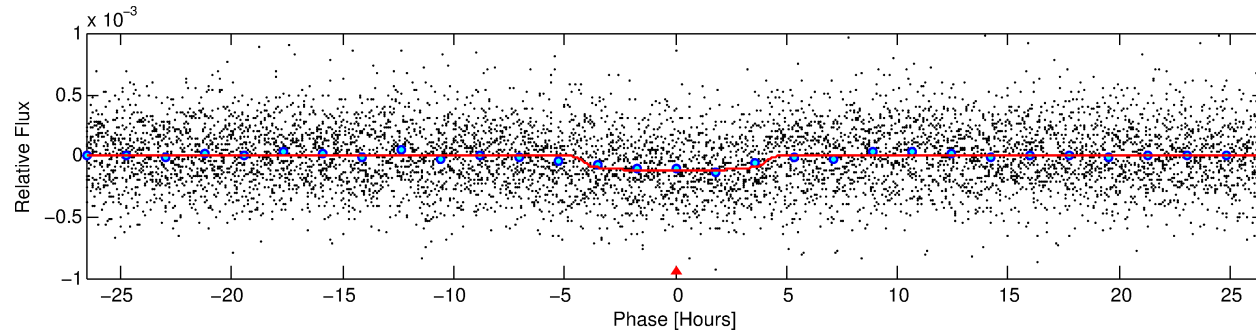
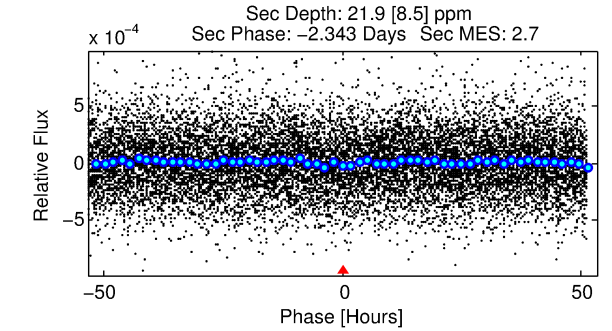
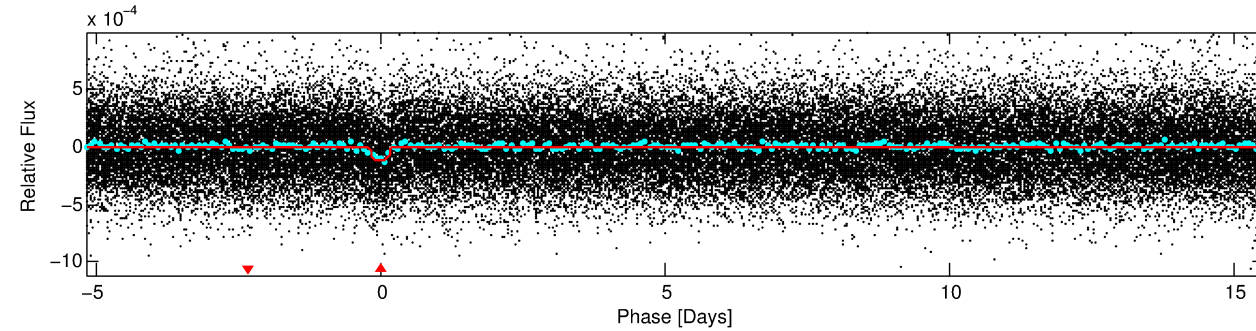
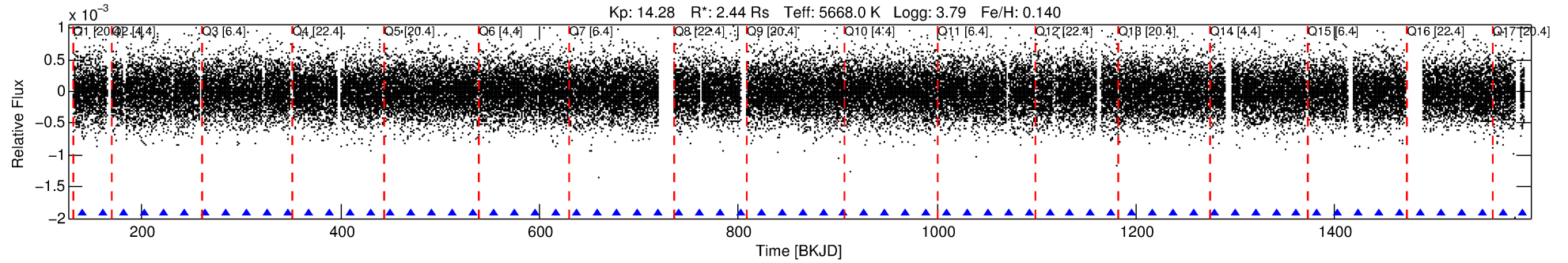
Ephemeris Match Information For 005213404-01

No Significant Match Found

DV One-Page Summary

KIC: 5213404 Candidate: 1 of 1 Period: 20.708 d

KOI: K03468.01 Corr: 0.898



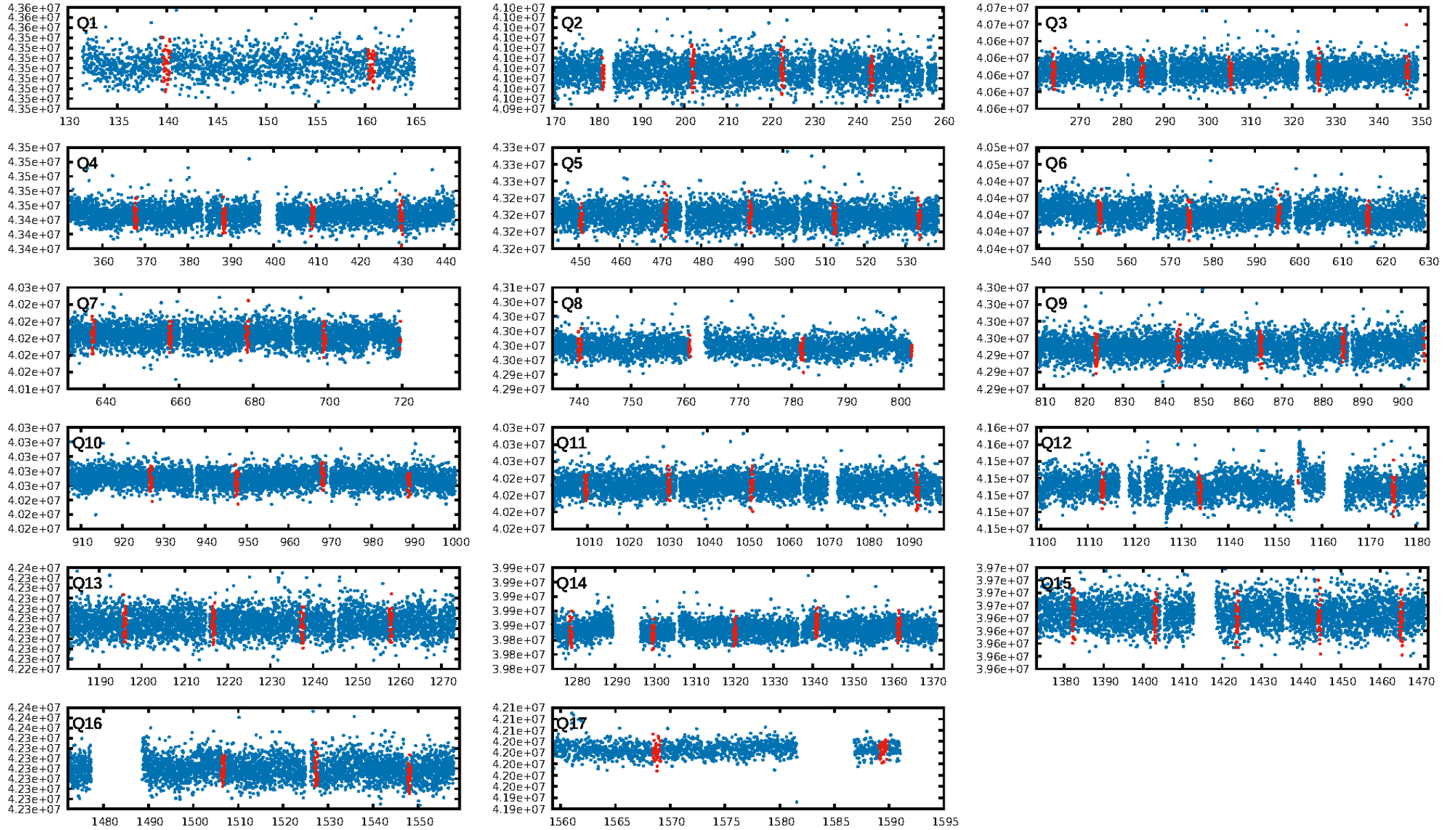
DV Fit Results:

Period = 20.70753 [0.00032] d
Epoch = 139.9421 [0.0130] BKJD
Rp/R* = 0.0120 [0.0022]
a/R* = 7.84 [6.60]
b = 0.91 [0.16]
Seff = 207.18 [93.33]
Teff = 967 [109] K
Rp = 3.18 [1.18] Re
a = 0.1628 [0.0473] AU
Ag = 31.62 [22.07] [1.39σ]
Teffp = 3547 [478] K [5.26σ]

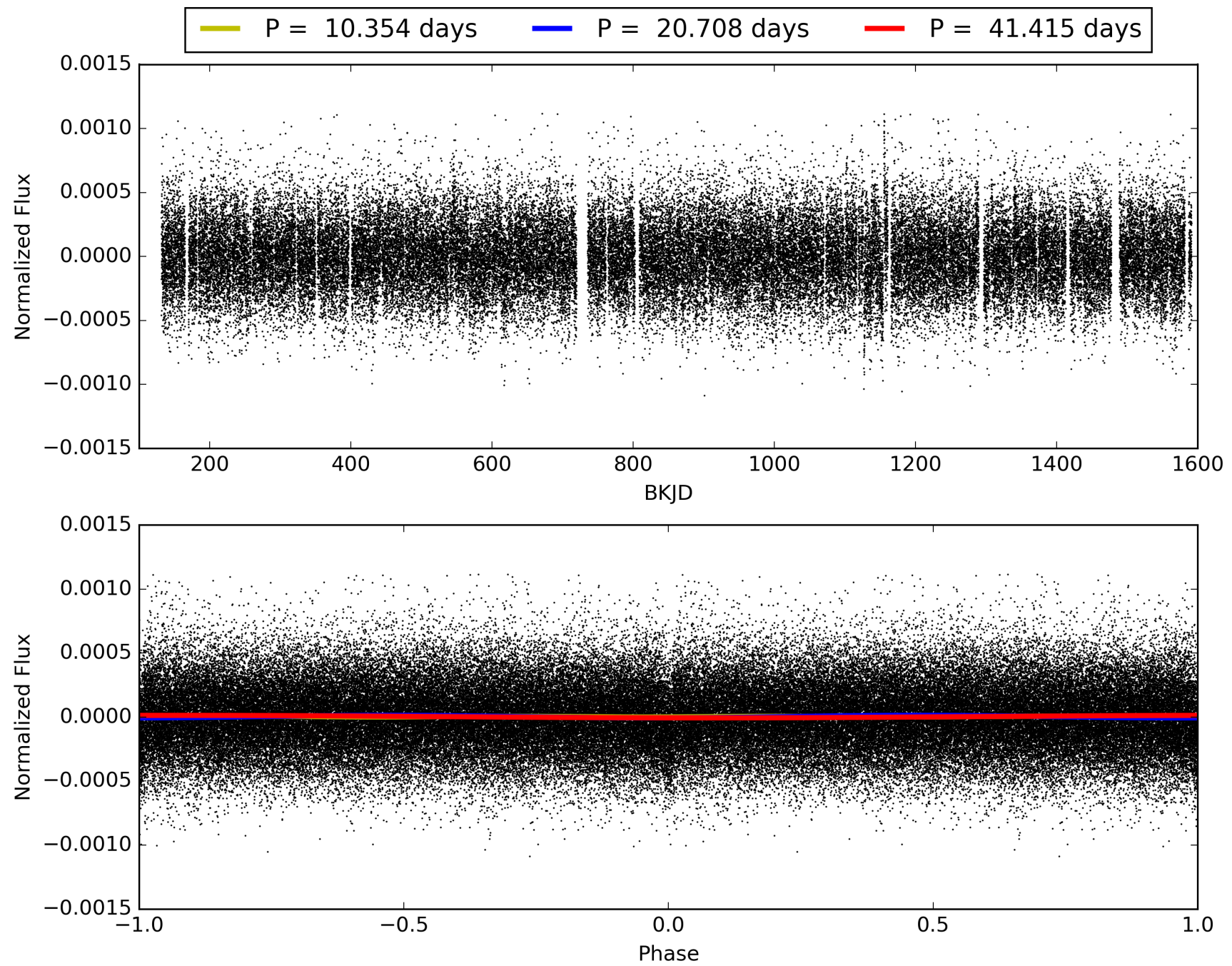
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 99.9%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 1.17e-30
RollingBand-fgt: 1.00 [62/62]
GhostDiagnostic-chr: 1.405
Centroid-sig: 0.1%
Centroid-so: 2.712 arcsec [2.67σ]
OotOffset-rm: 0.578 arcsec [0.76σ]
KicOffset-rm: 0.615 arcsec [0.76σ]
OotOffset-st: 3/3/3/3 [12]
KicOffset-st: 3/3/3/3 [12]
DiffImageQuality-fgm: 0.42 [5/12]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 005213404-01, PDC Light Curves

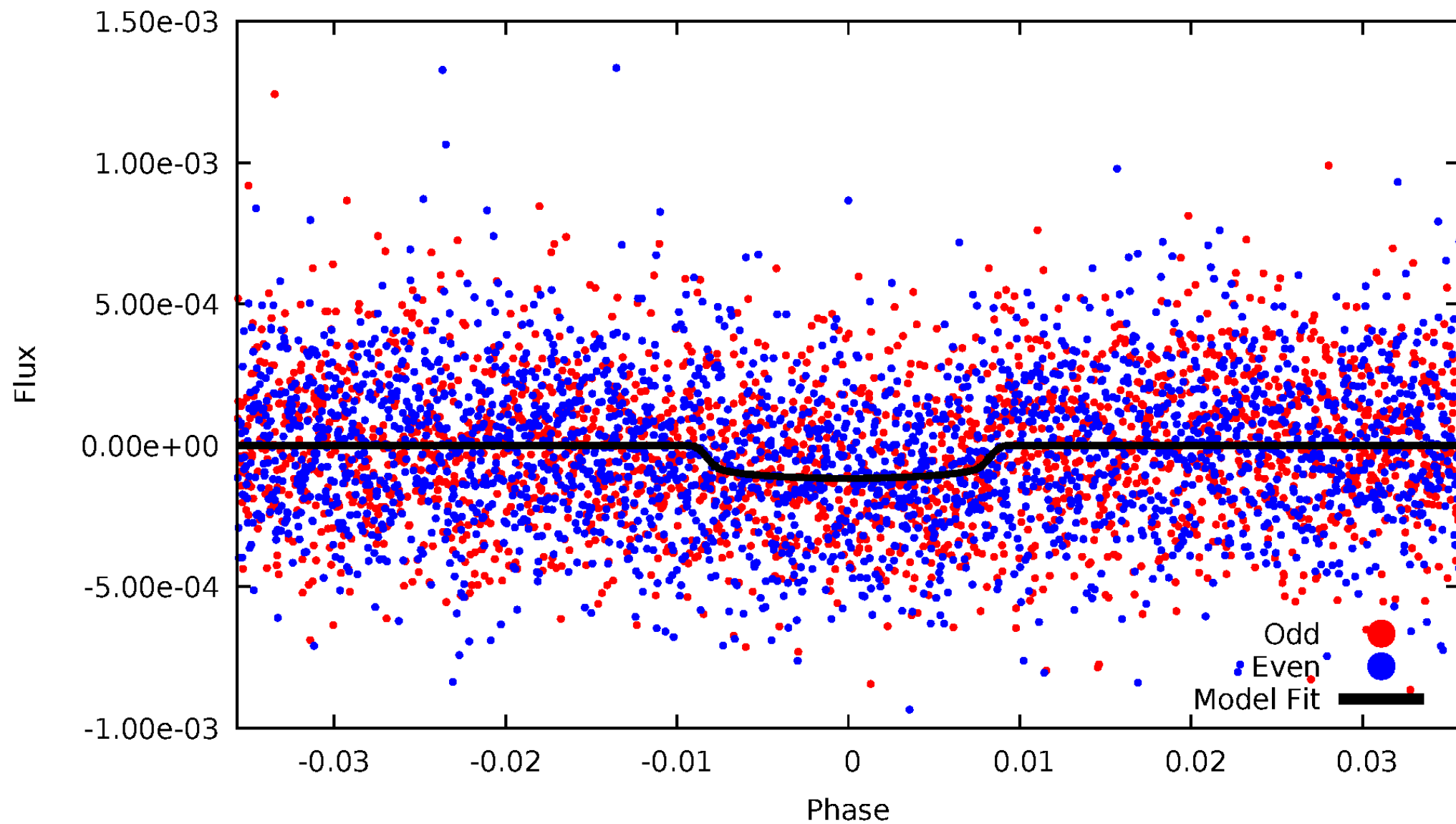


TCE 005213404-01



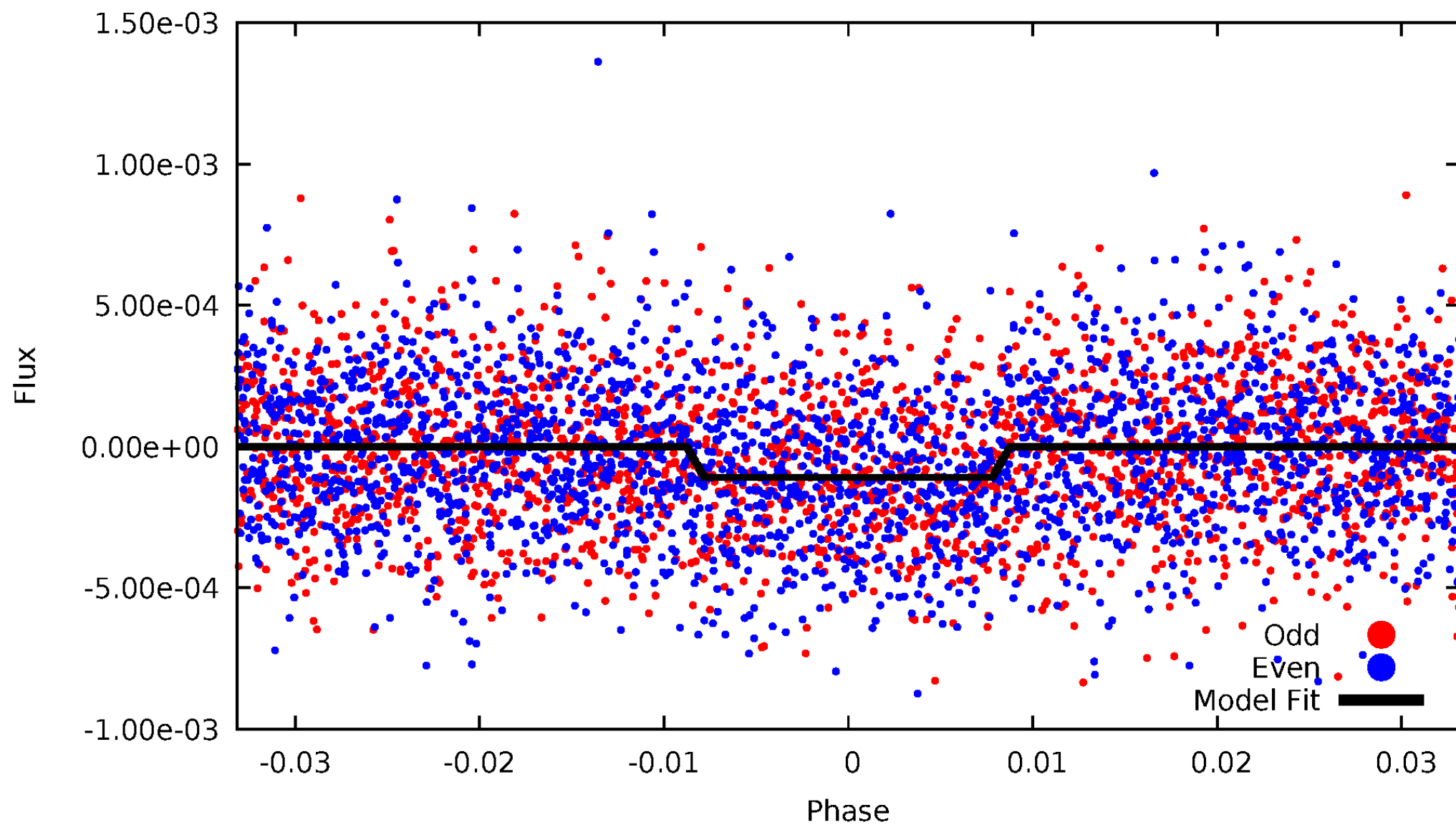
DV Odd/Even

TCE 005213404-01

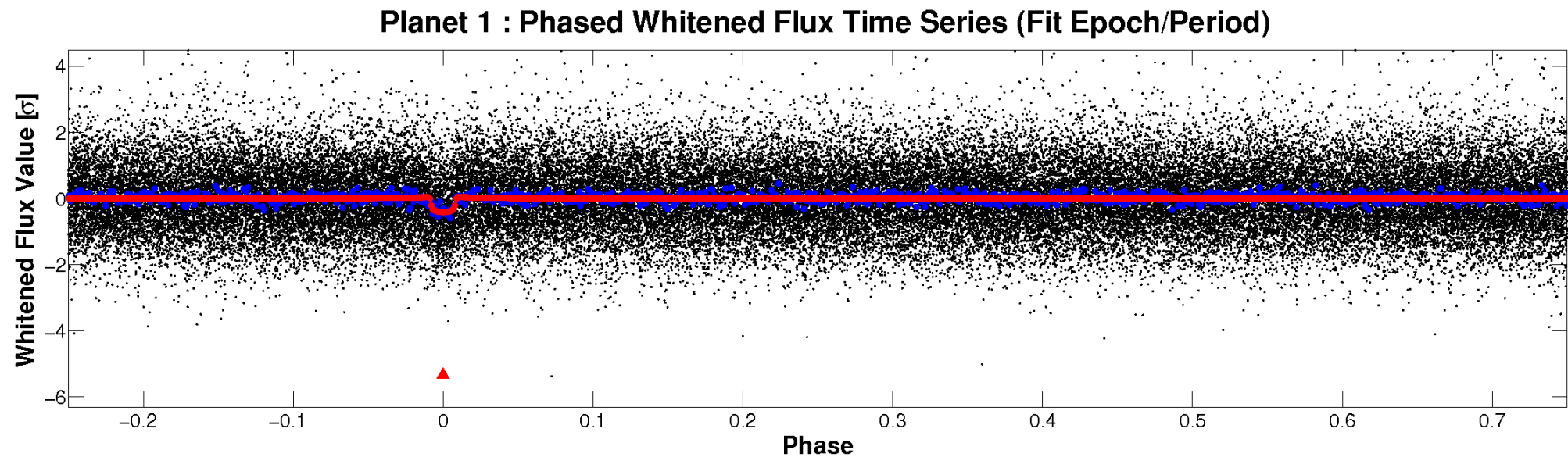
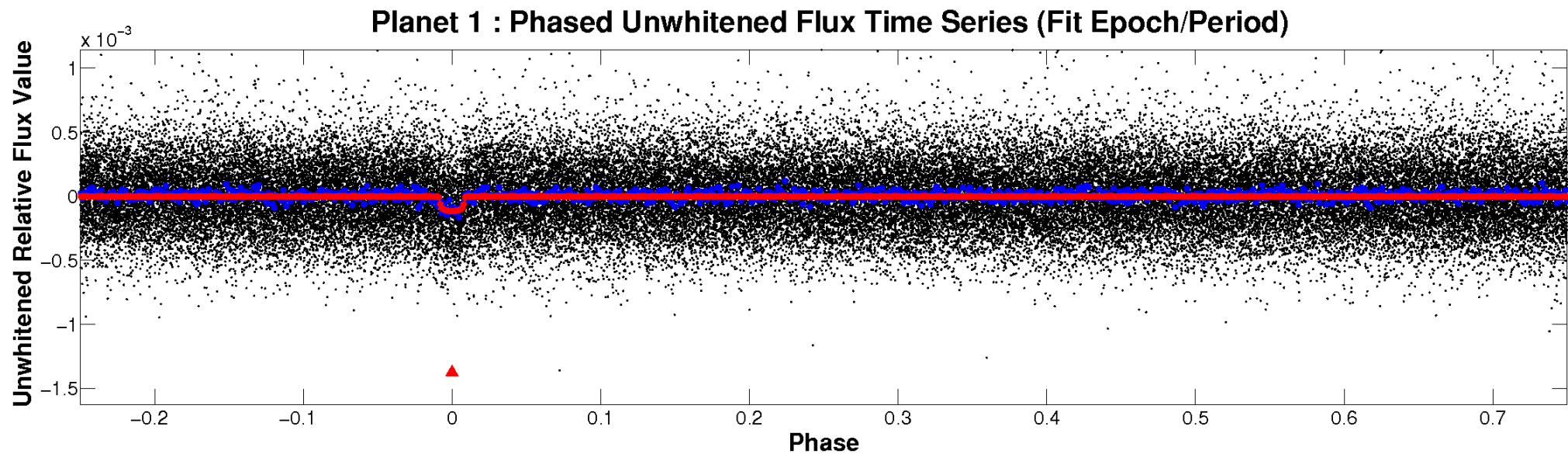


ALT Odd/Even

TCE 005213404-01

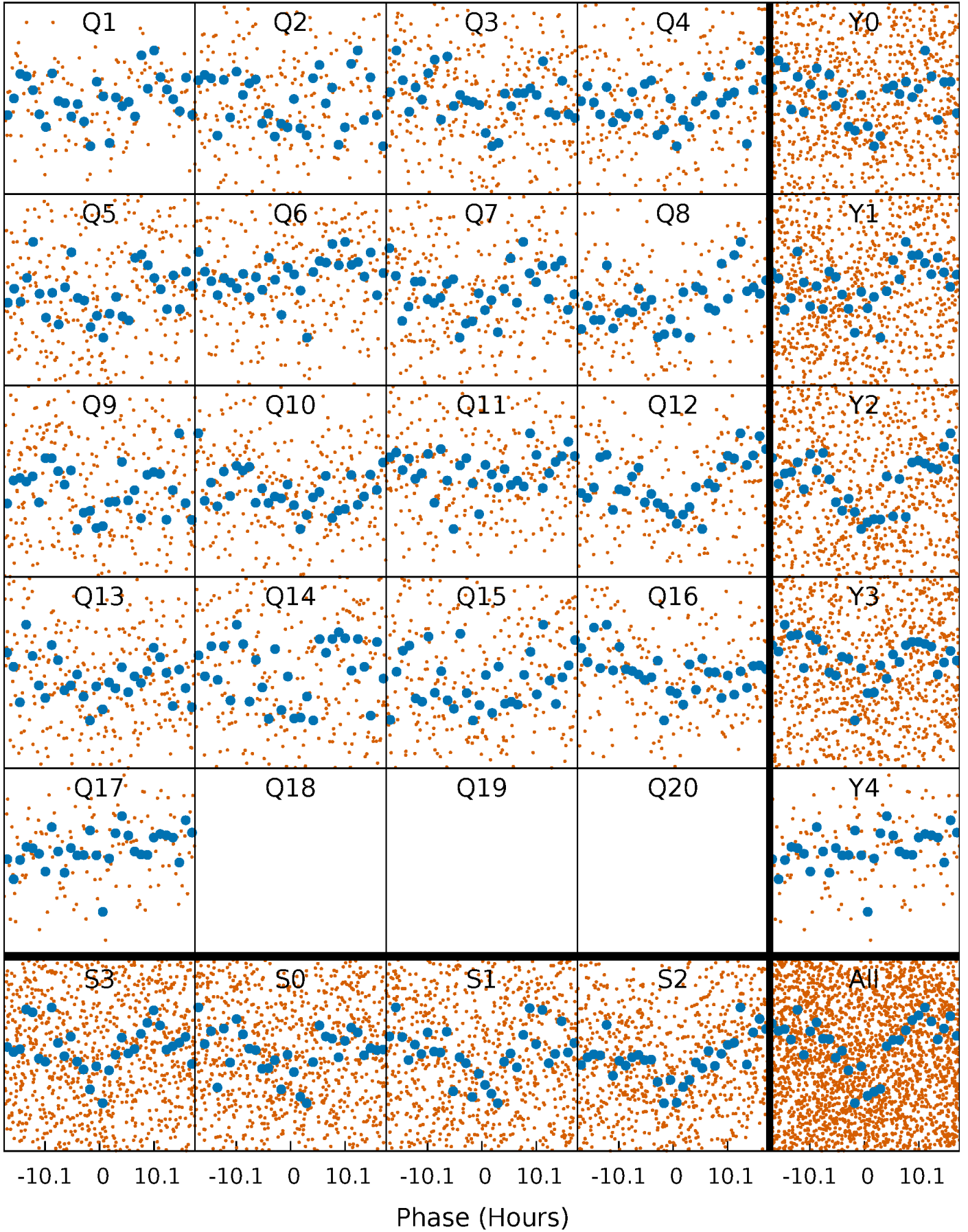


Non-Whitened Vs. Whitened Light Curve



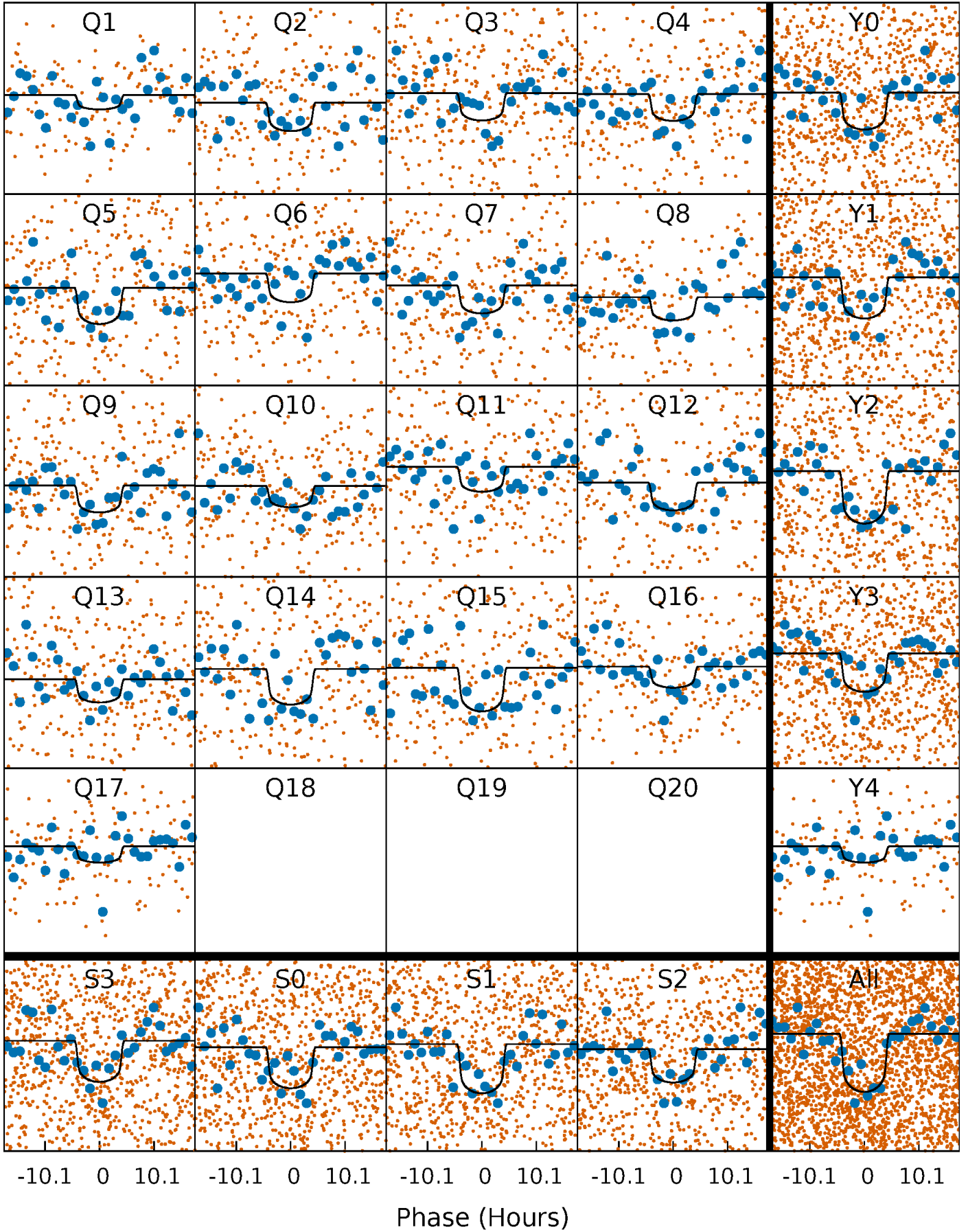
PDC Quarter-Phased Transit Curves

TCE 005213404-01 $P = 20.707529$ Days $T_0 = 139.942120$ (BKJD)



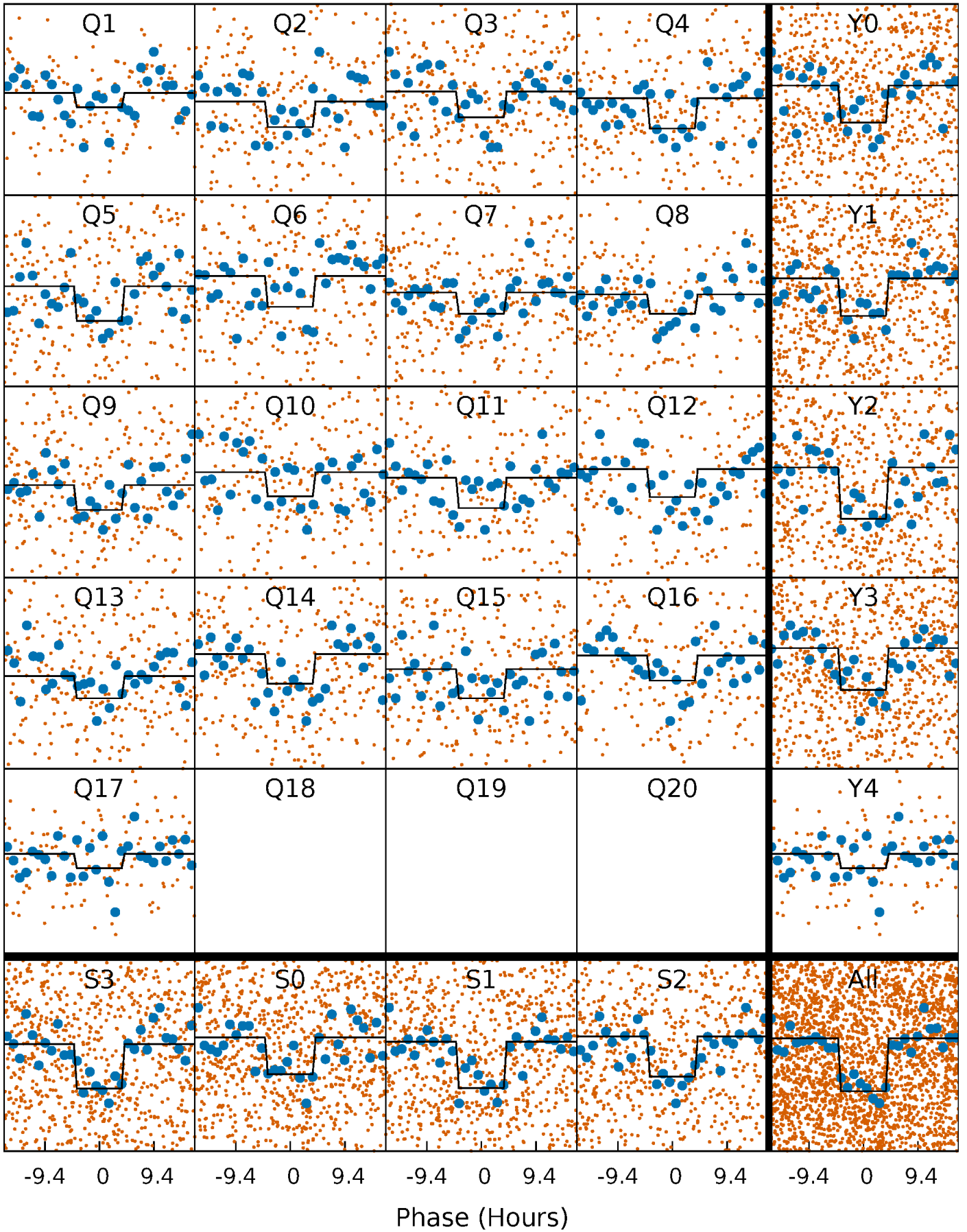
DV Quarter-Phased Transit Curves

TCE 005213404-01 P= 20.707529 Days $T_0=139.942120$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

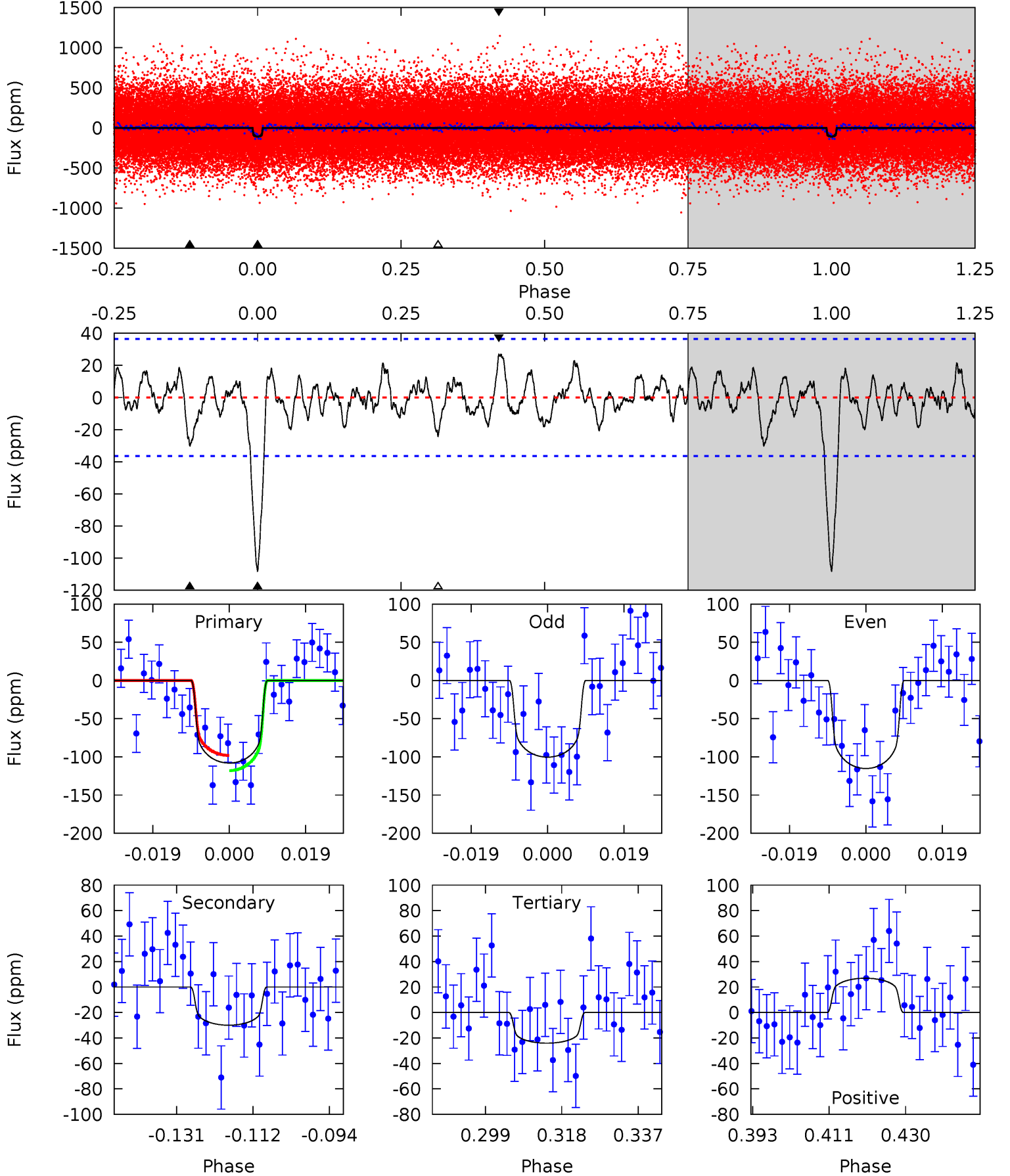
TCE 005213404-01 P= 20.706328 Days $T_0=139.954827$ (BKJD)



DV Model-Shift Uniqueness Test

005213404-01, P = 20.707529 Days, E = 119.234591 Days

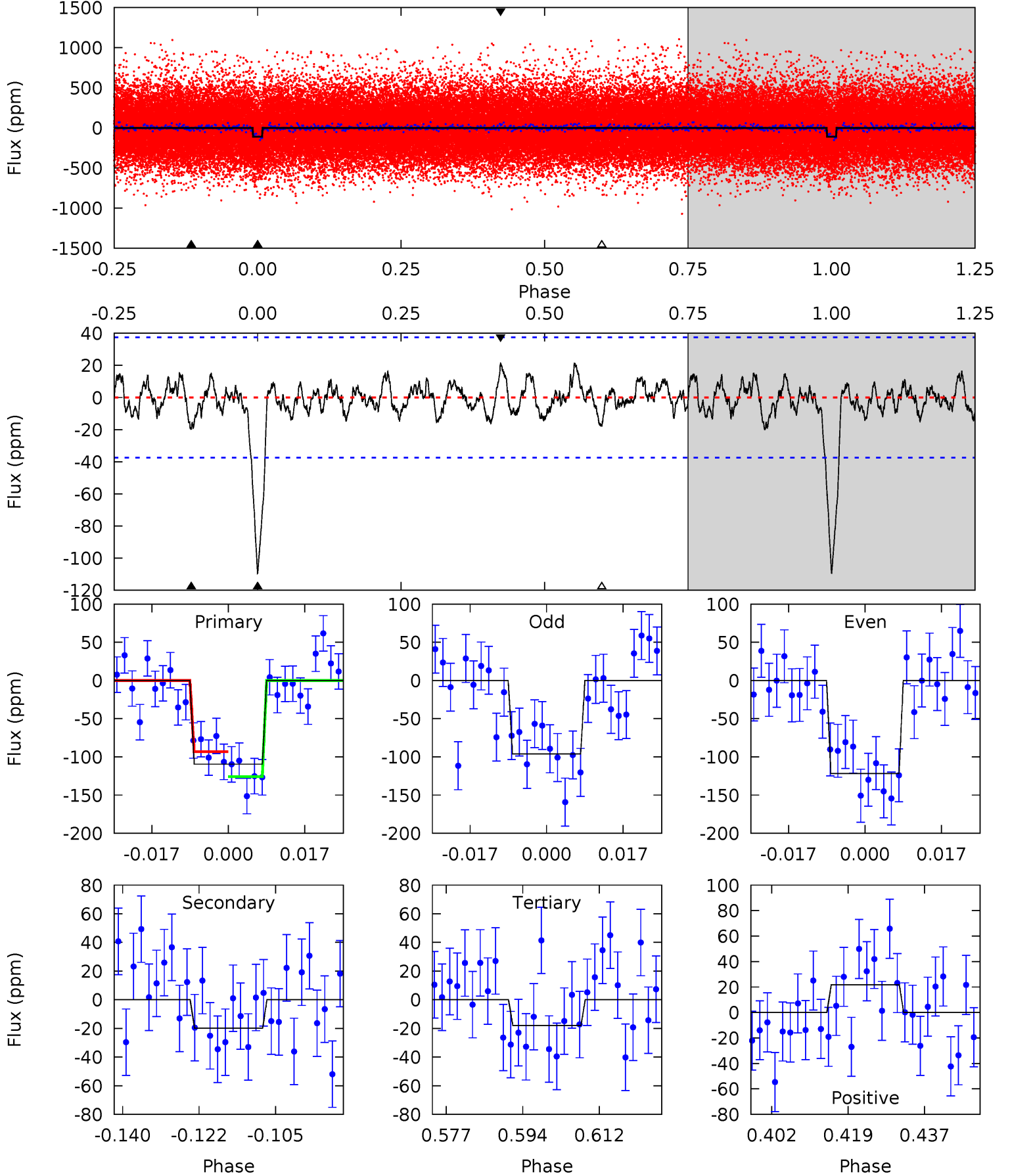
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.5	4.04	3.24	3.62	4.90	2.35	1.23	11.3	10.9	0.79	0.41	1.00	1.00	0.20	1.34



Alt Model-Shift Uniqueness Test

005213404-01, P = 20.706328 Days, E = 119.248499 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.4	2.60	2.35	2.84	4.92	2.38	0.98	12.1	11.6	0.25	-0.24	1.69	0.98	0.16	2.14



Stellar Parameters For KIC 005213404

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5668^{+85}_{-76}	$3.792^{+0.255}_{-0.102}$	$0.140^{+0.150}_{-0.150}$	$2.437^{+0.423}_{-0.785}$	$1.338^{+0.102}_{-0.256}$	$0.130^{+0.199}_{-0.043}$
	+1%/-1%	+7%/-3%	+107%/-107%	+17%/-32%	+8%/-19%	+153%/-33%
Source	SPE90	SPE90	SPE90	DSEP		

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

Secondary Eclipse Parameters for KIC 005213404-01 / KOI 3468.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-30 ± 7	$3.00^{+0.70}_{-0.69}$	1341^{+68}_{-109}	4111^{+424}_{-318}	48^{+34}_{-19}
Alt.	-20 ± 8	$2.60^{+0.71}_{-0.67}$	1333^{+69}_{-98}	4014^{+477}_{-419}	41^{+40}_{-20}

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

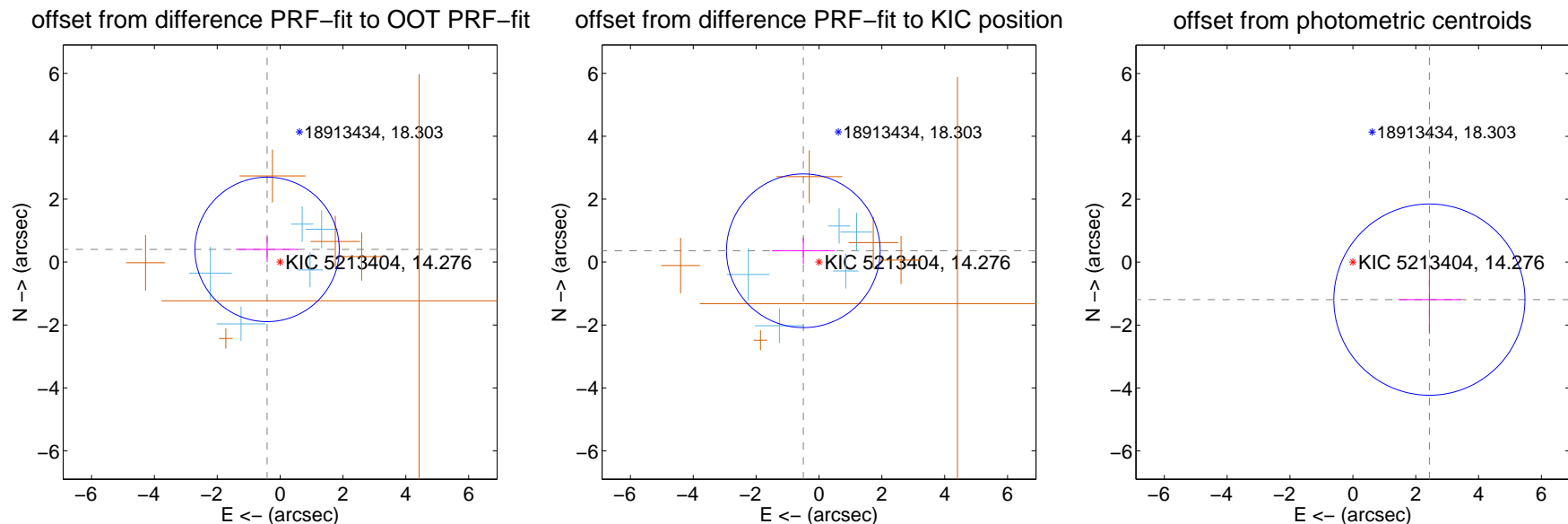
DV Centroid Data

Supplemental centroid analysis for 005213404-01. Kepler magnitude: 14.28. Transit SNR 11.80

There are 5 quarters with good PRF difference image offsets

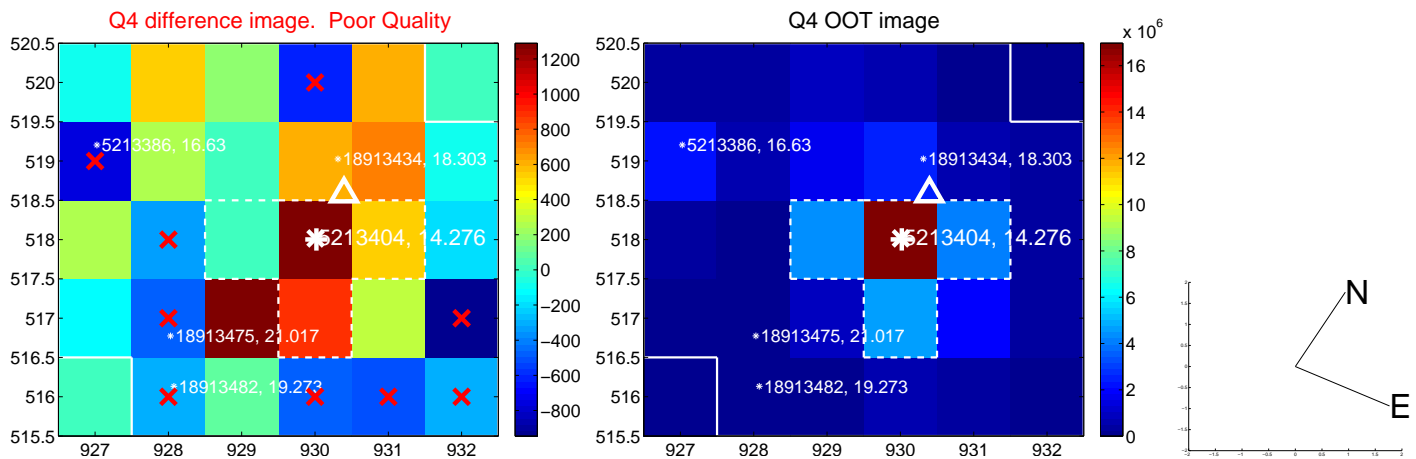
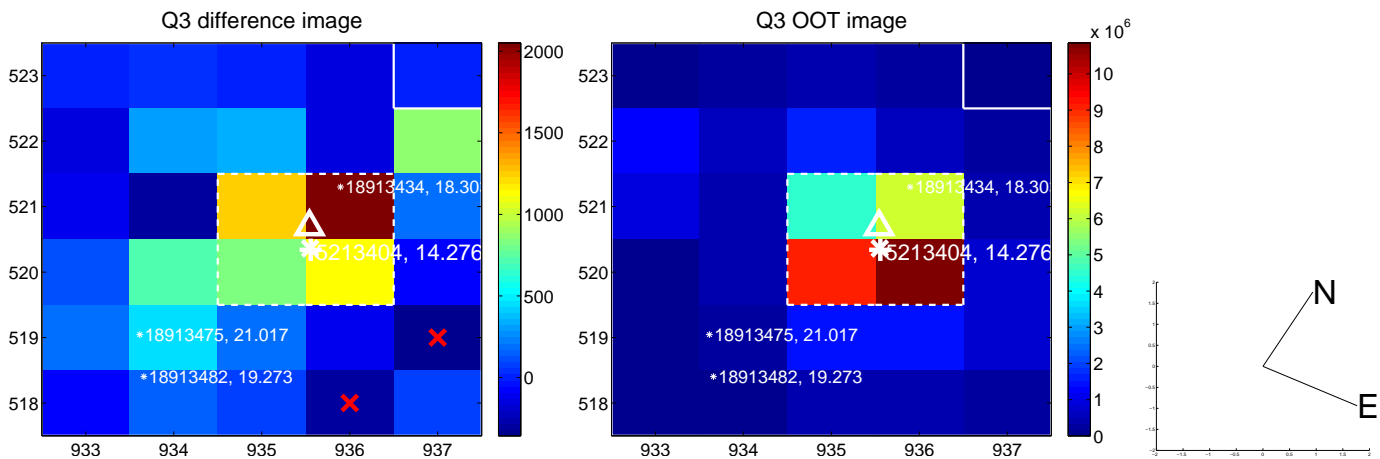
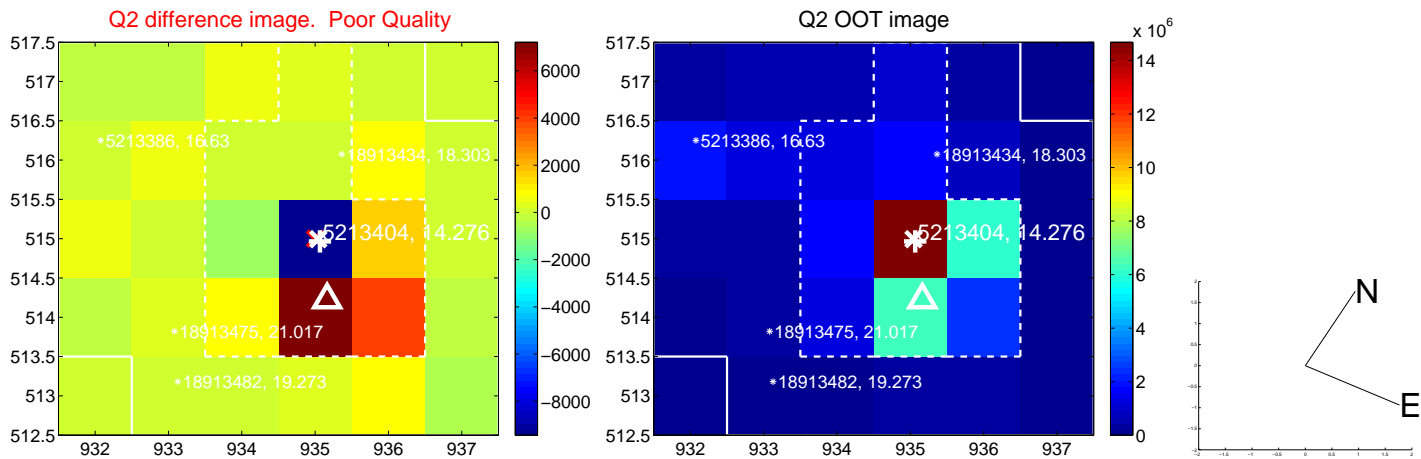
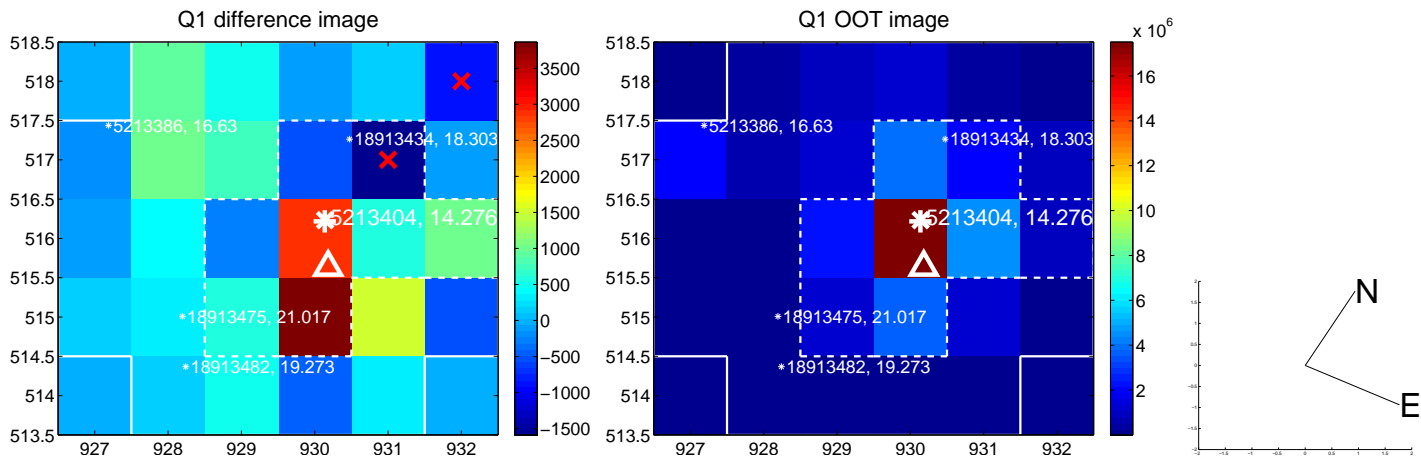
The direct PRF centroid is offset from the target star catalog position by about 0.05 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.578 ± 0.766	0.76	0.415 ± 0.994	0.403 ± 0.405
PRF-fit source offset from KIC position	0.615 ± 0.815	0.76	0.499 ± 1.003	0.360 ± 0.420
photometric centroid source offset	2.71 ± 1.01	2.67	-2.44 ± 1.00	-1.19 ± 1.08

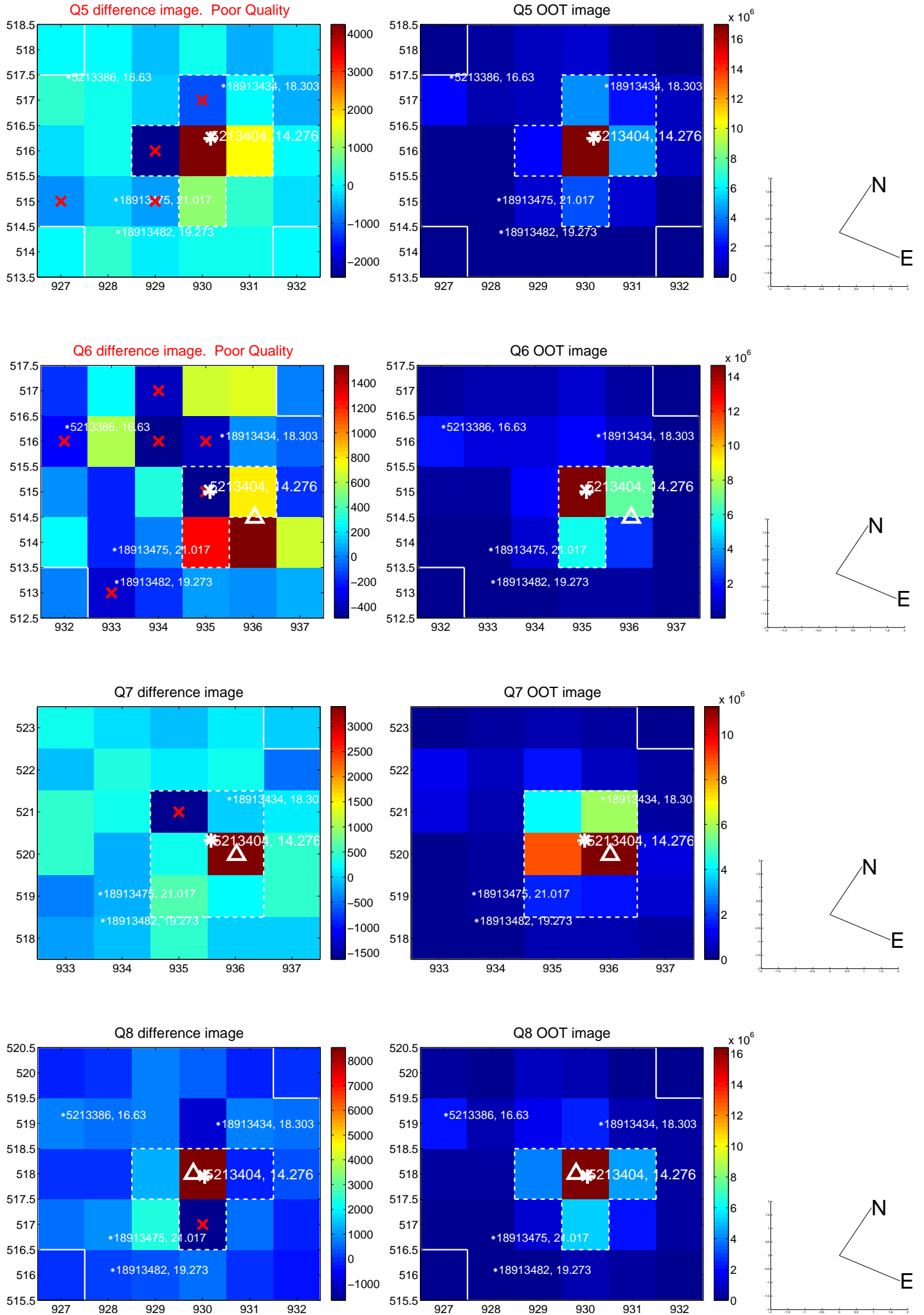


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

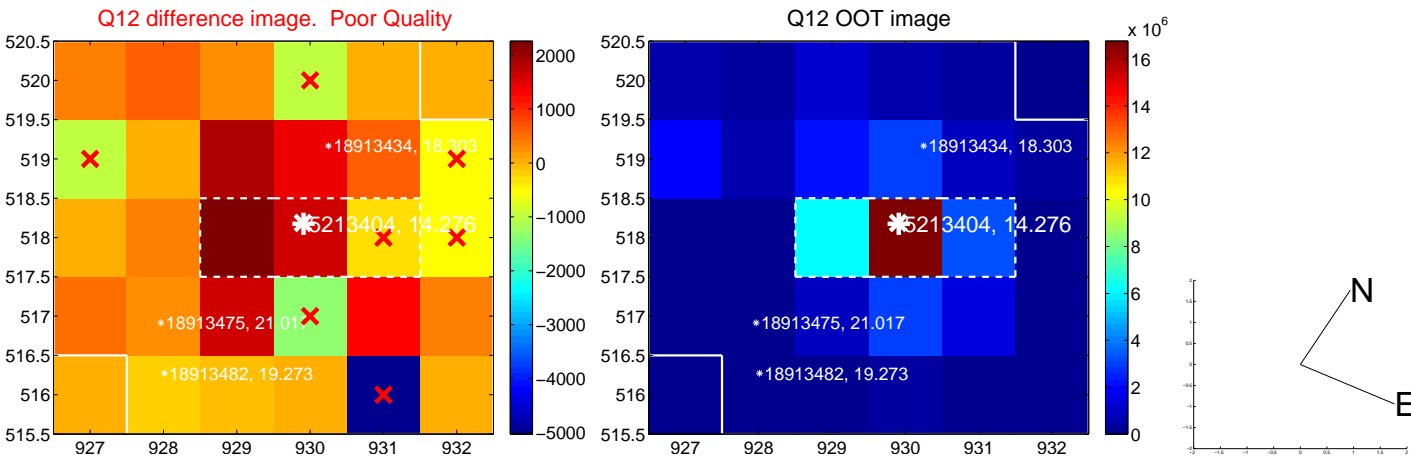
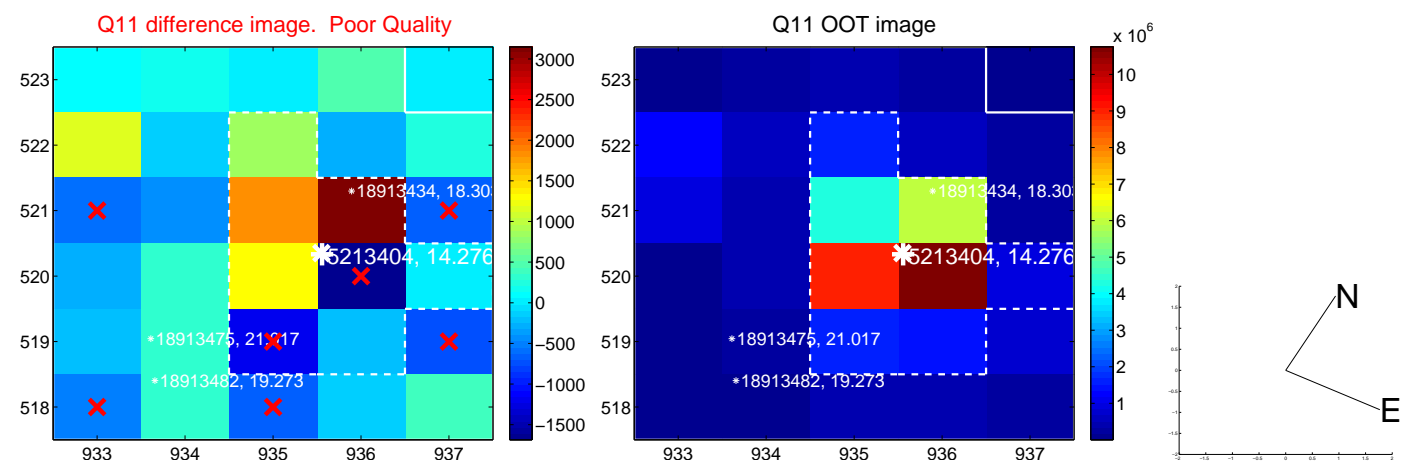
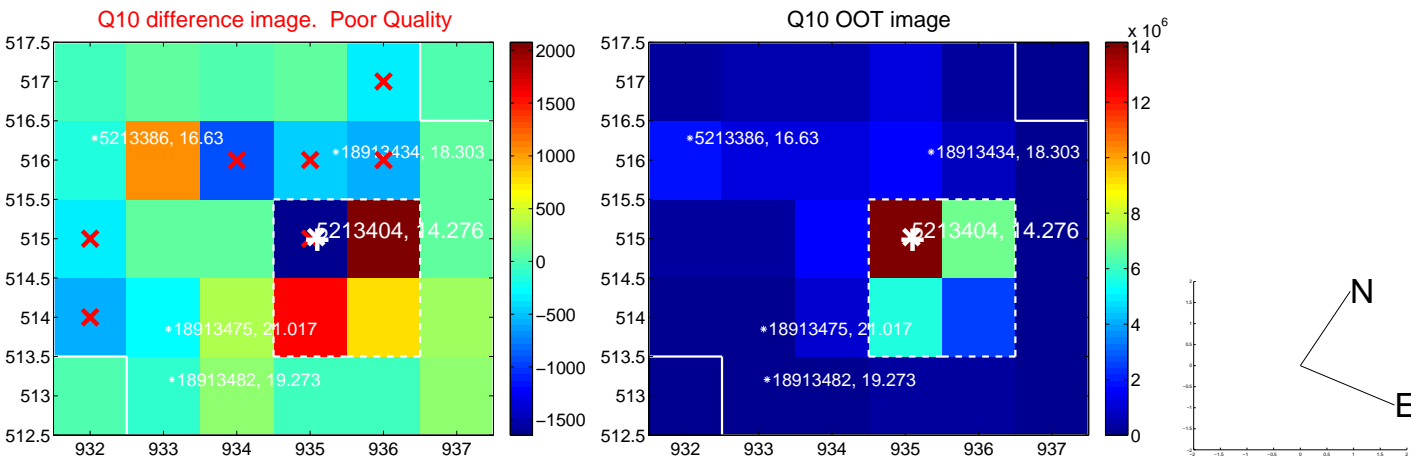
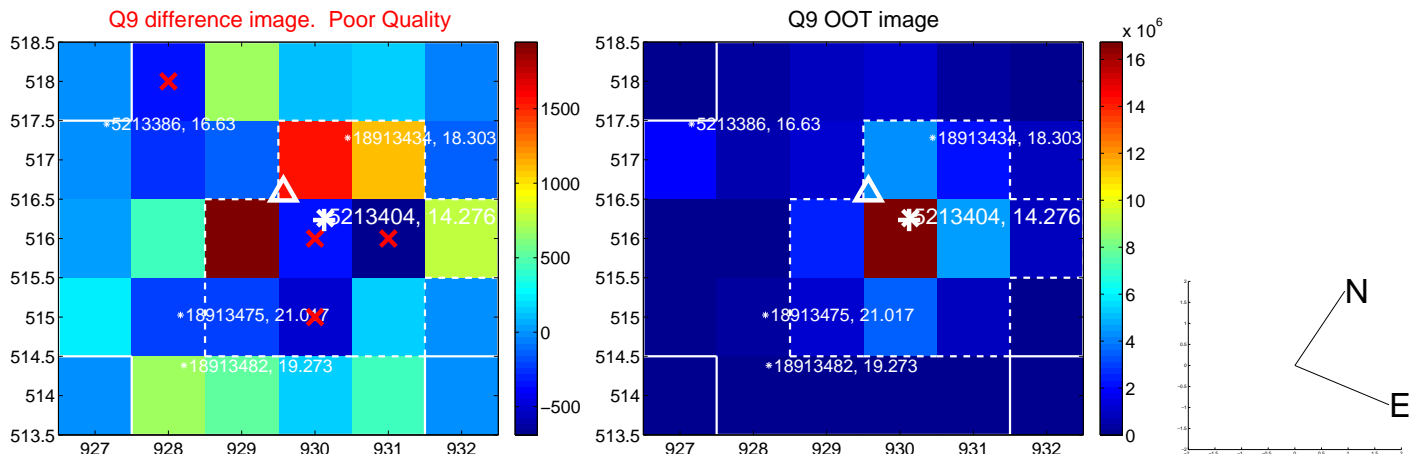
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



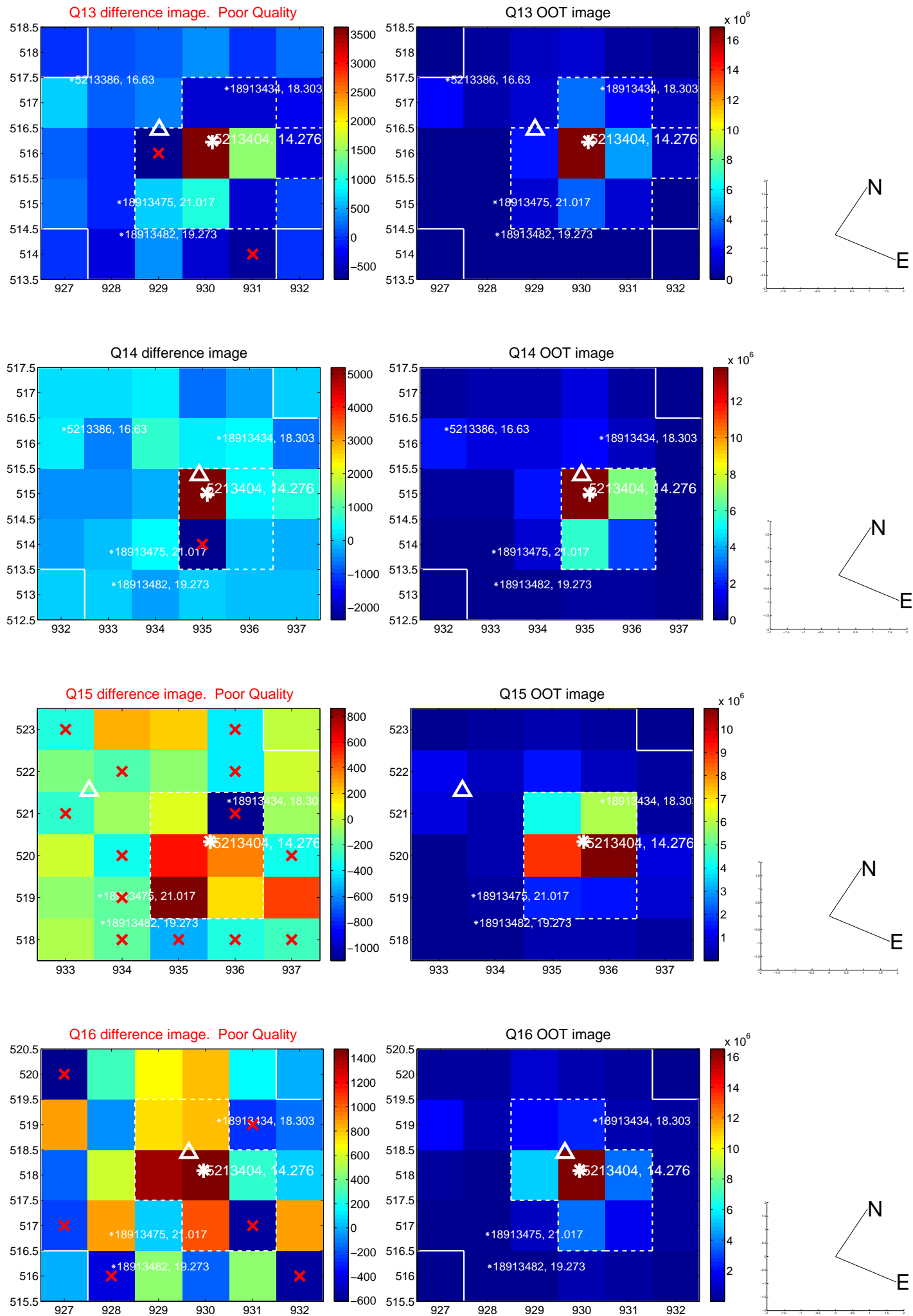
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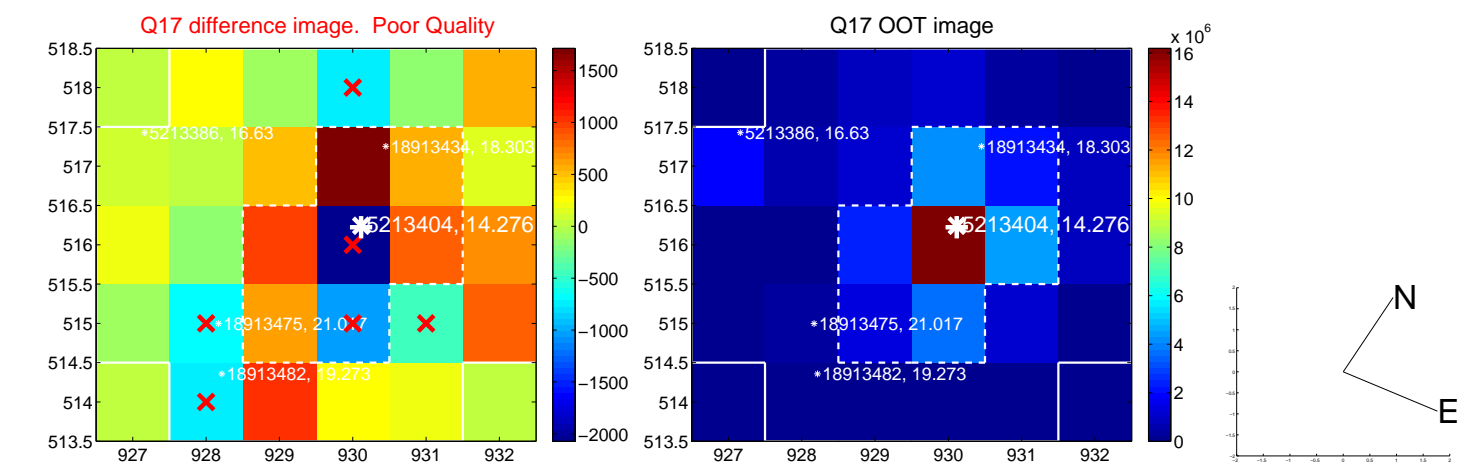
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



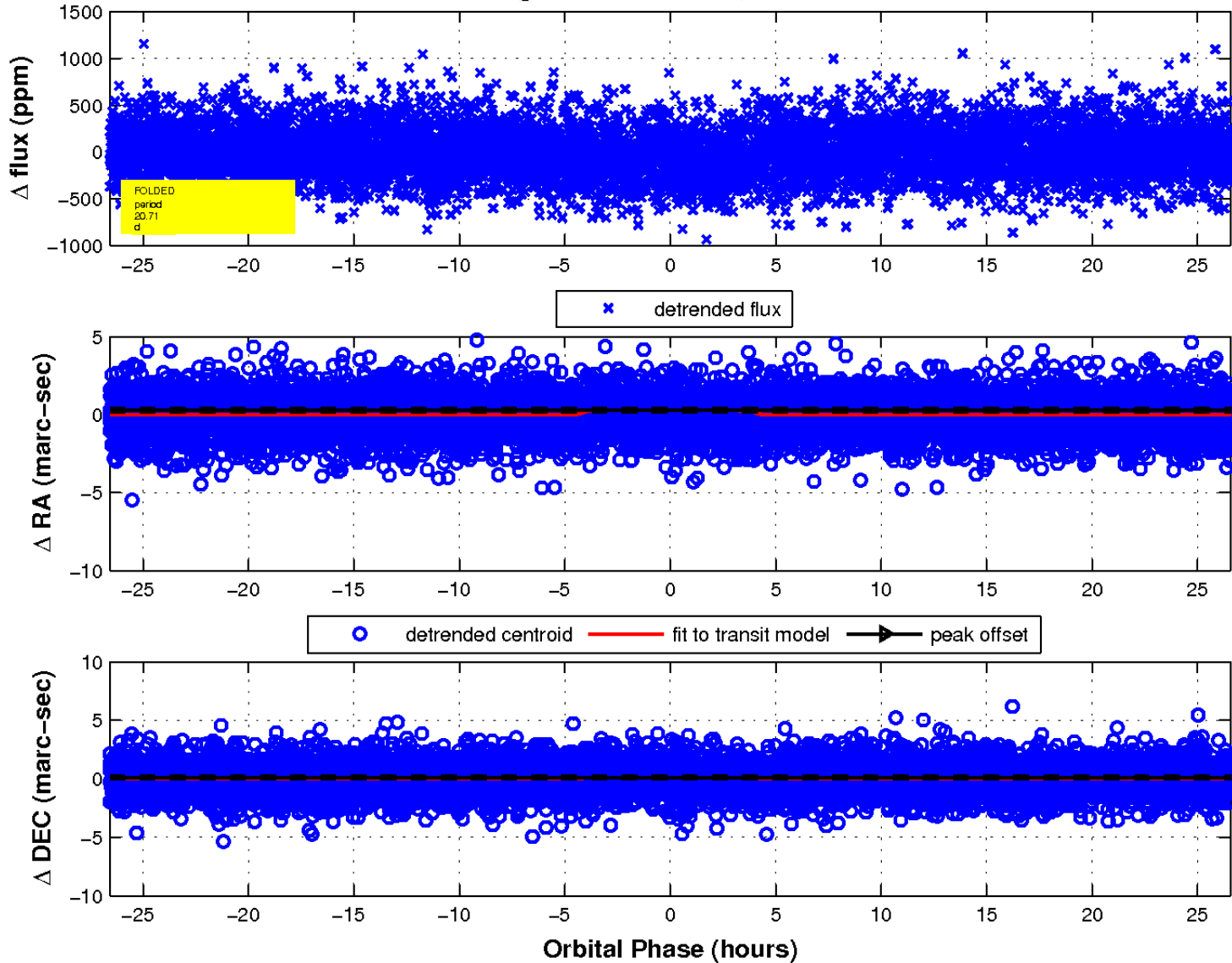
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fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

