

KIC 005436013

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})
005436013-01	OBS	2471.01	25.885981	157.045542	214.6	4.377	14.0	14.9	0.90	5190	1.58	20.39

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005436013-01	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.

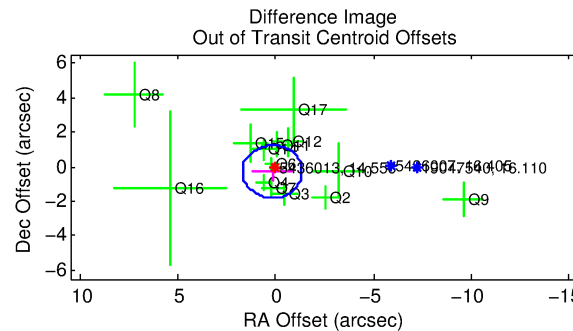
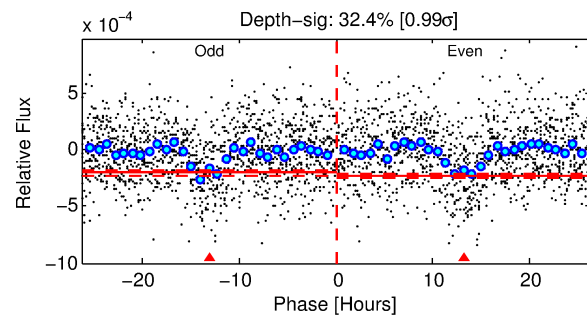
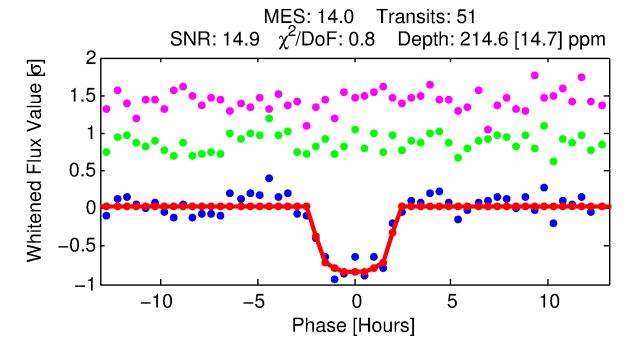
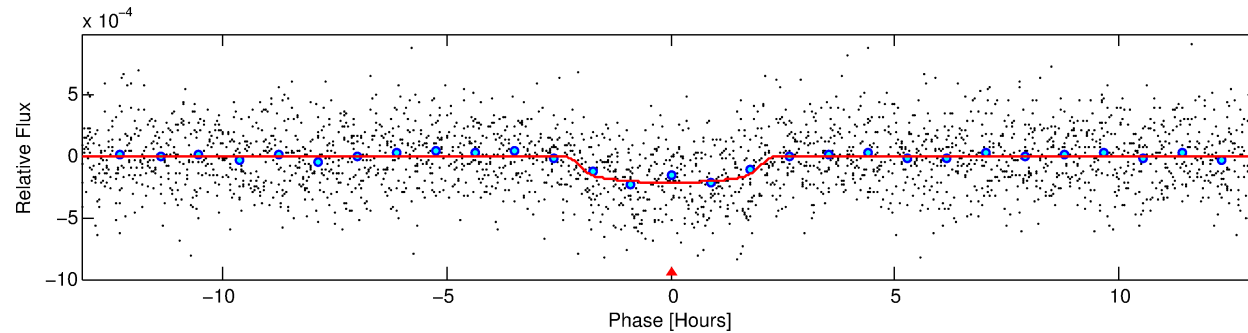
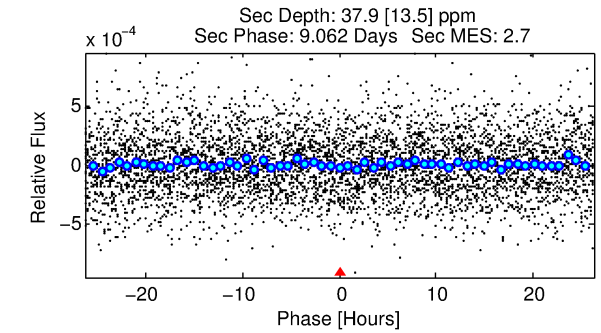
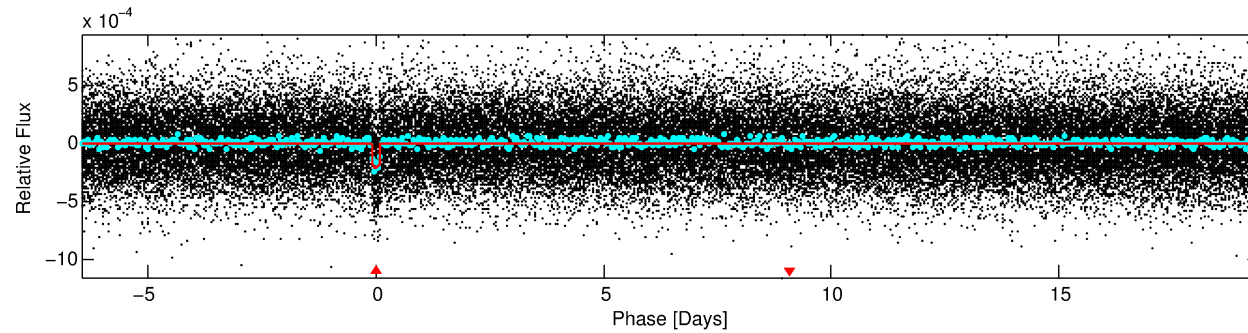
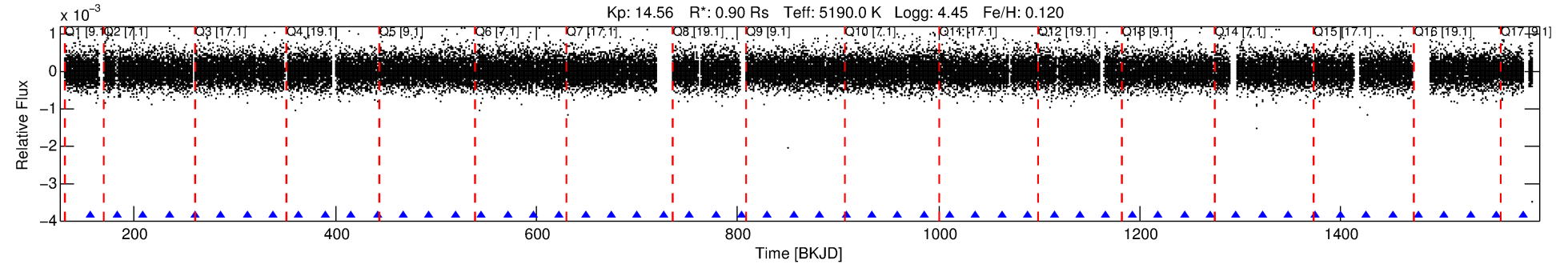
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005436013-01

No Significant Match Found

DV One-Page Summary

KIC: 5436013 Candidate: 1 of 1 Period: 25.886 d
KOI: K02471.01 Corr: 0.981



DV Fit Results:

Period = 25.88598 [0.00020] d
Epoch = 157.0455 [0.0066] BKJD
Rp/R* = 0.0161 [0.0058]
a/R* = 22.12 [32.14]
b = 0.89 [0.35]
Seff = 20.39 [3.76]
Teff = 542 [25] K
Rp = 1.58 [0.58] Re
a = 0.1605 [0.0163] AU
Ag = 215.29 [175.75] [1.22σ]
Teffp = 3209 [642] K [4.15σ]

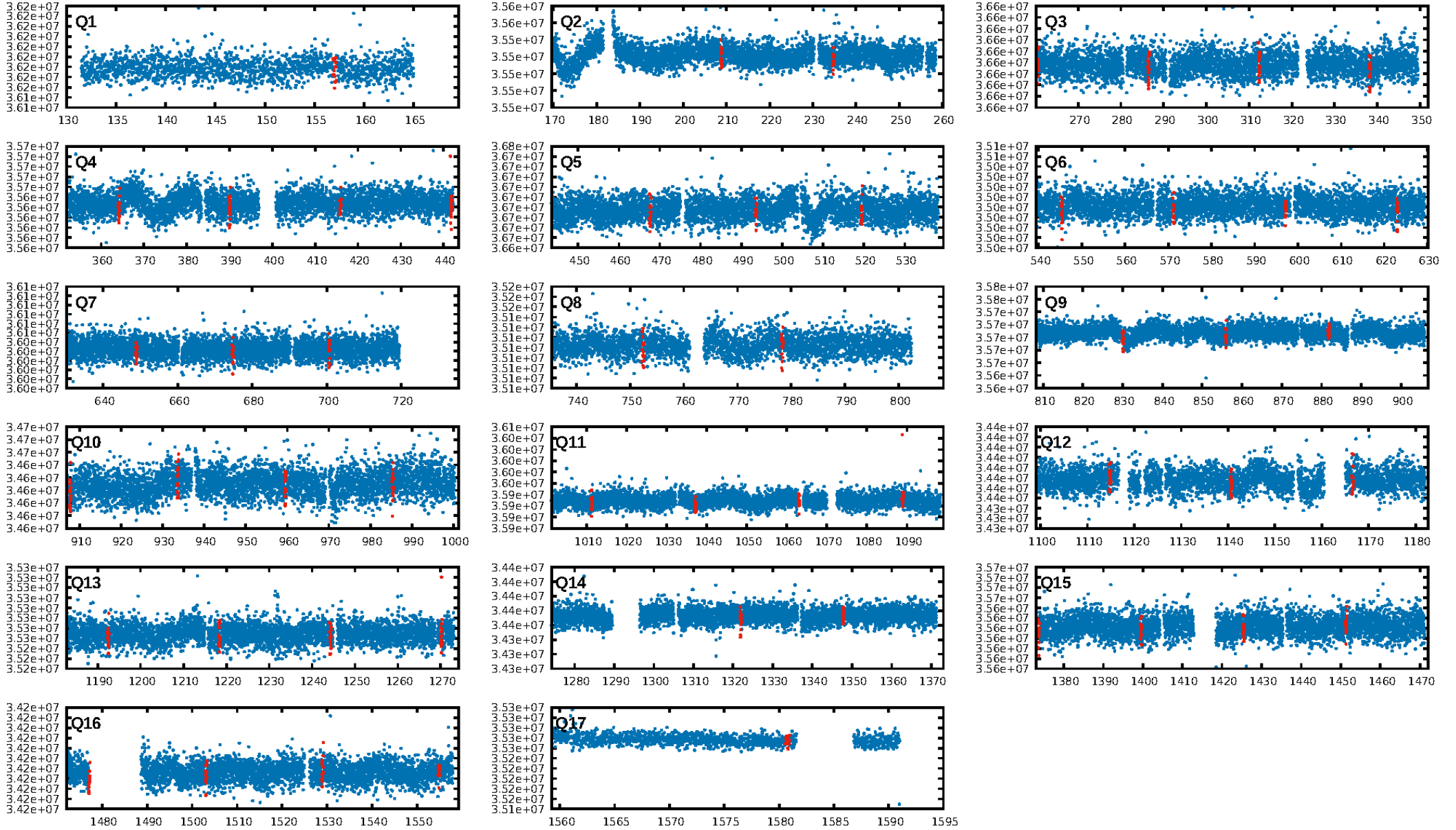
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 99.8%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 5.22e-41
RollingBand-fgt: 1.00 [49/49]
GhostDiagnostic-chr: 11.09
Centroid-sig: 26.8%
Centroid-so: 0.526 arcsec [0.54σ]
OotOffset-rm: 0.343 arcsec [0.67σ]
KicOffset-rm: 0.280 arcsec [0.61σ]
OotOffset-st: 4/4/4/2 [14]
KicOffset-st: 4/4/4/2 [14]
DiffImageQuality-fgm: 0.57 [8/14]
DiffImageOverlap-fno: 1.00 [17/17]

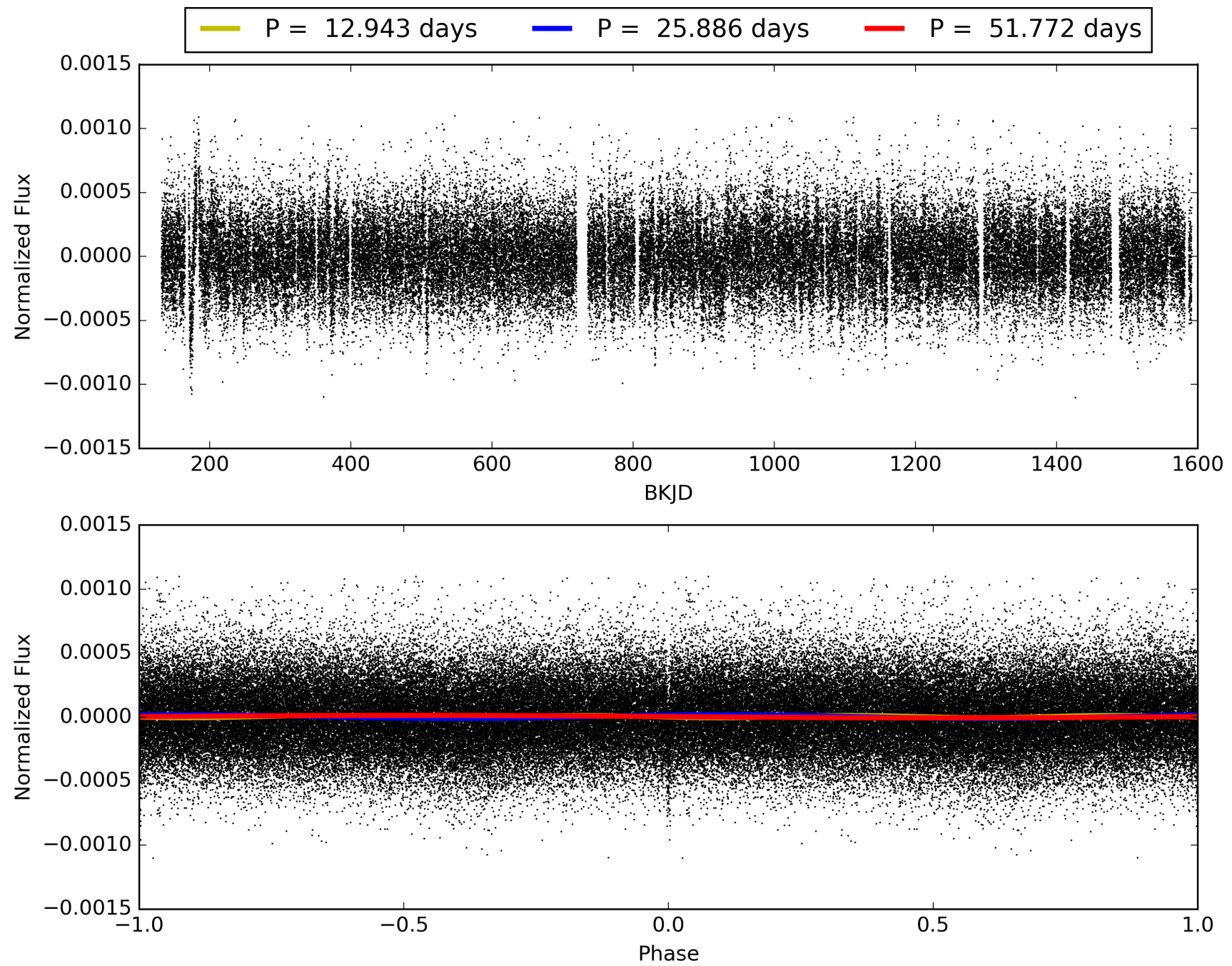
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 14:22:23 Z

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

TCE 005436013-01, PDC Light Curves

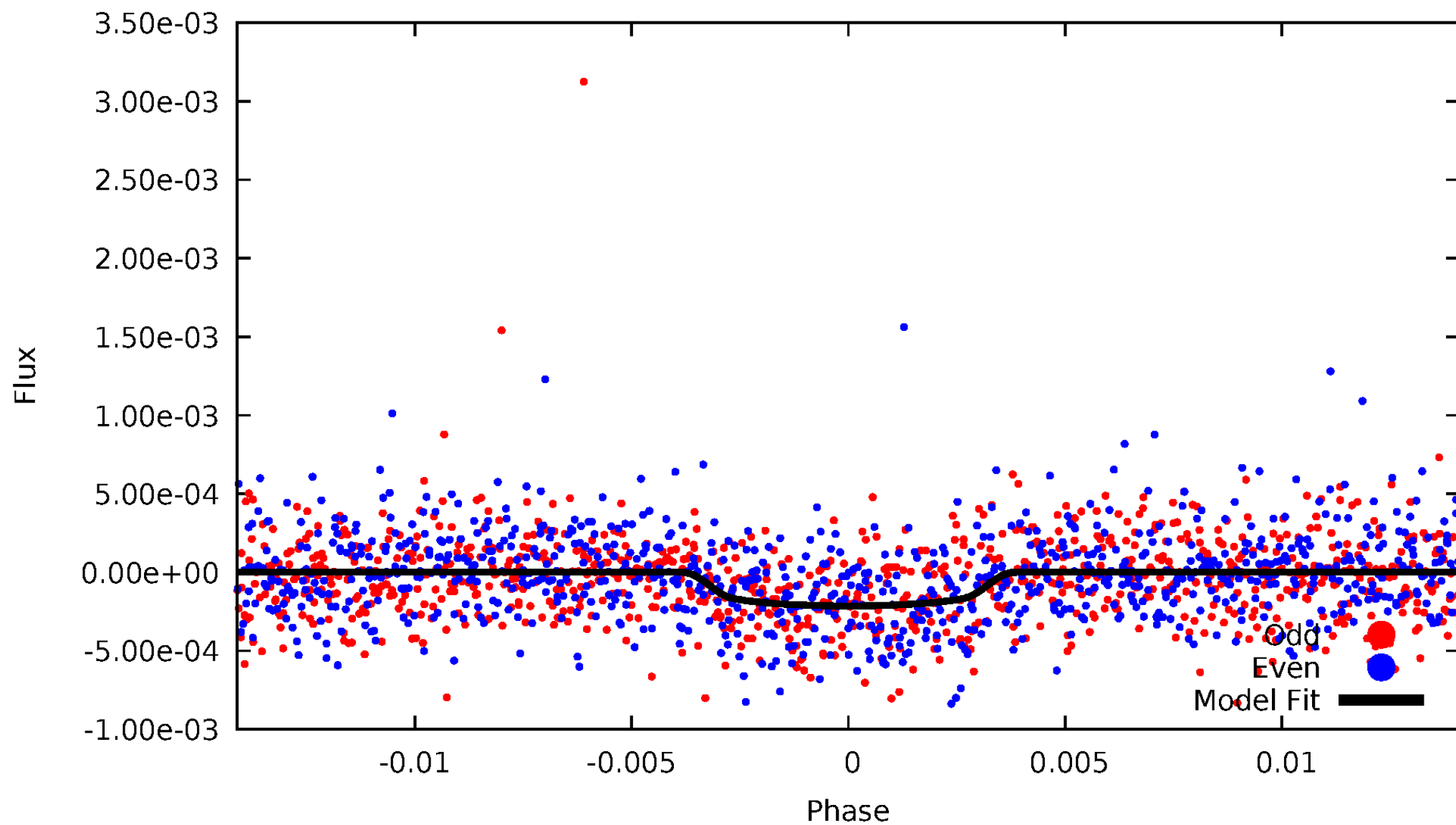


TCE 005436013-01



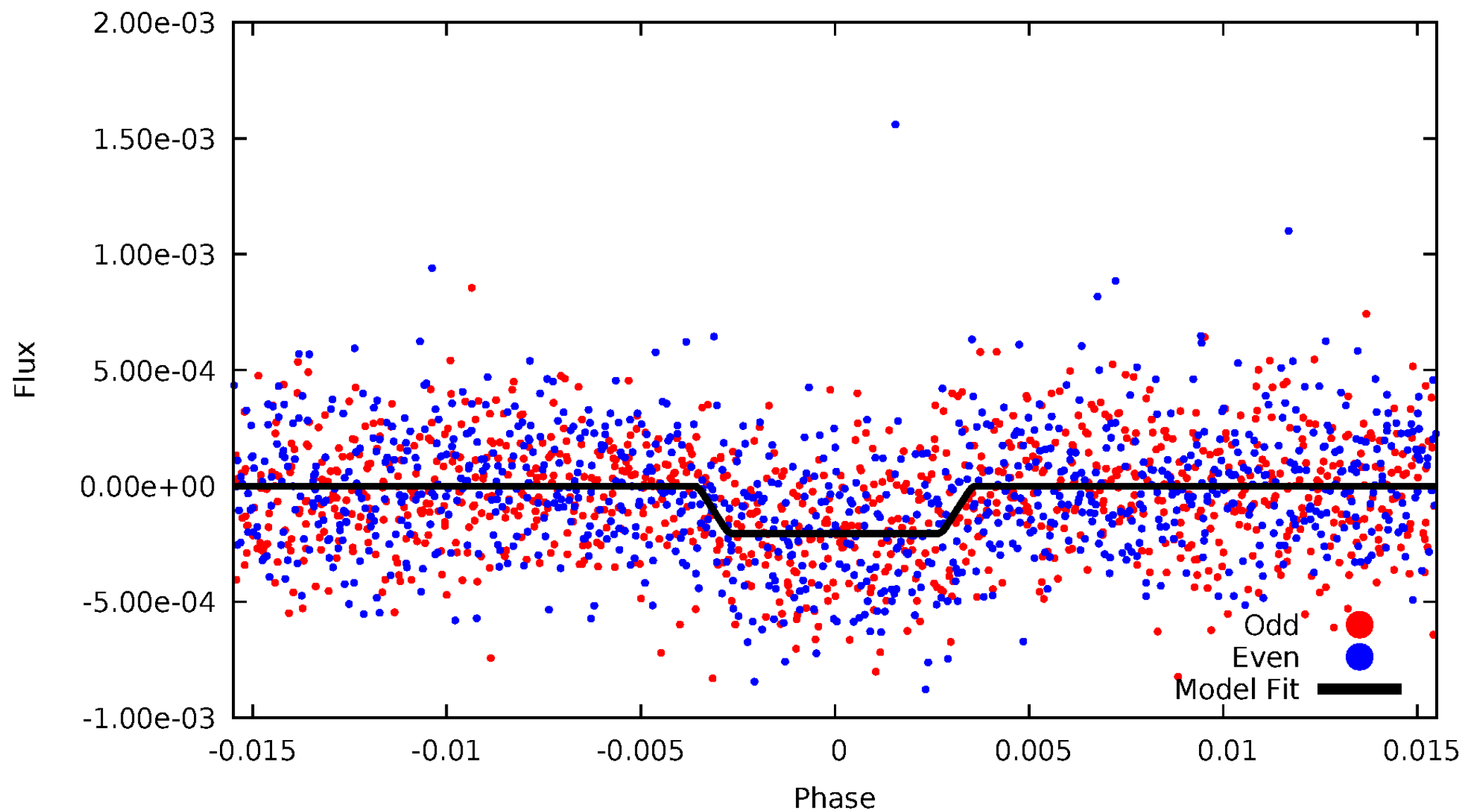
DV Odd/Even

TCE 005436013-01

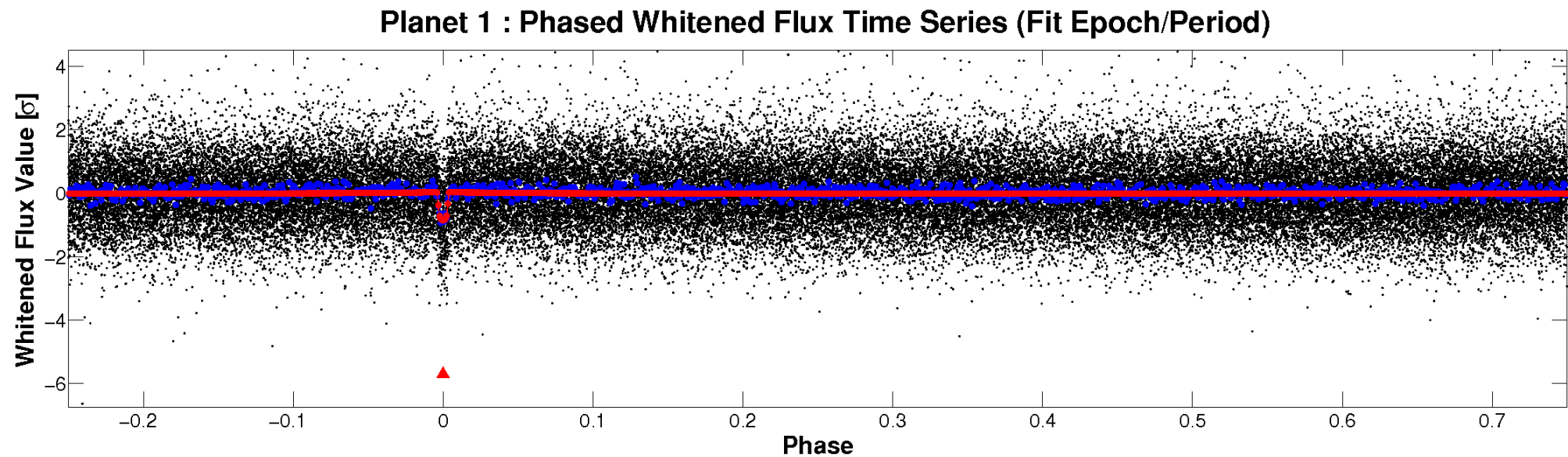
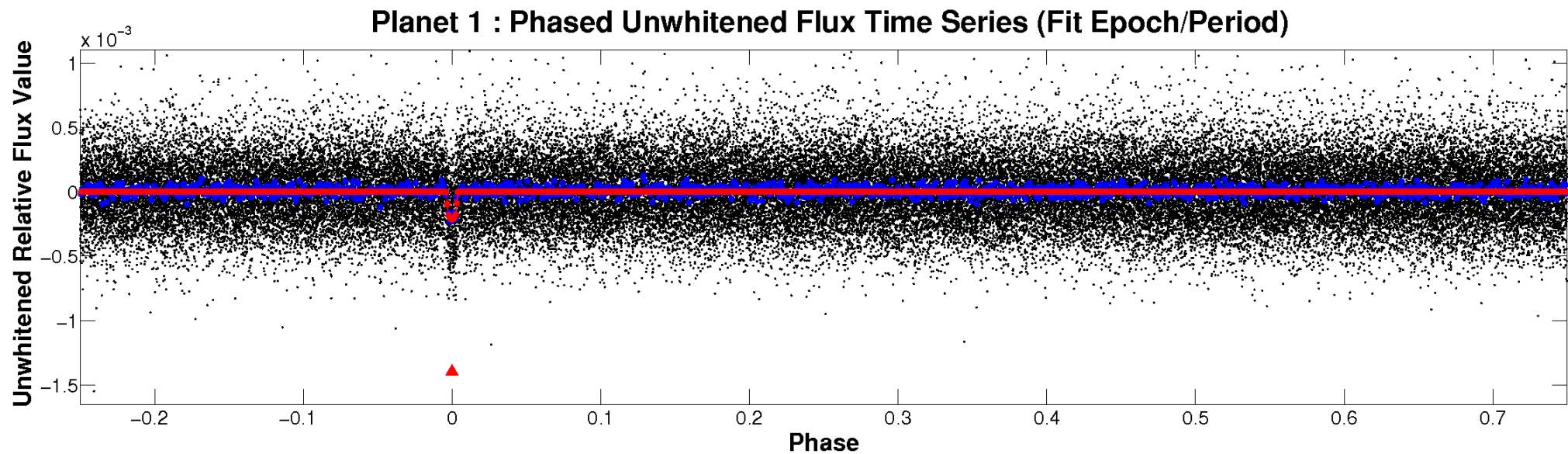


ALT Odd/Even

TCE 005436013-01

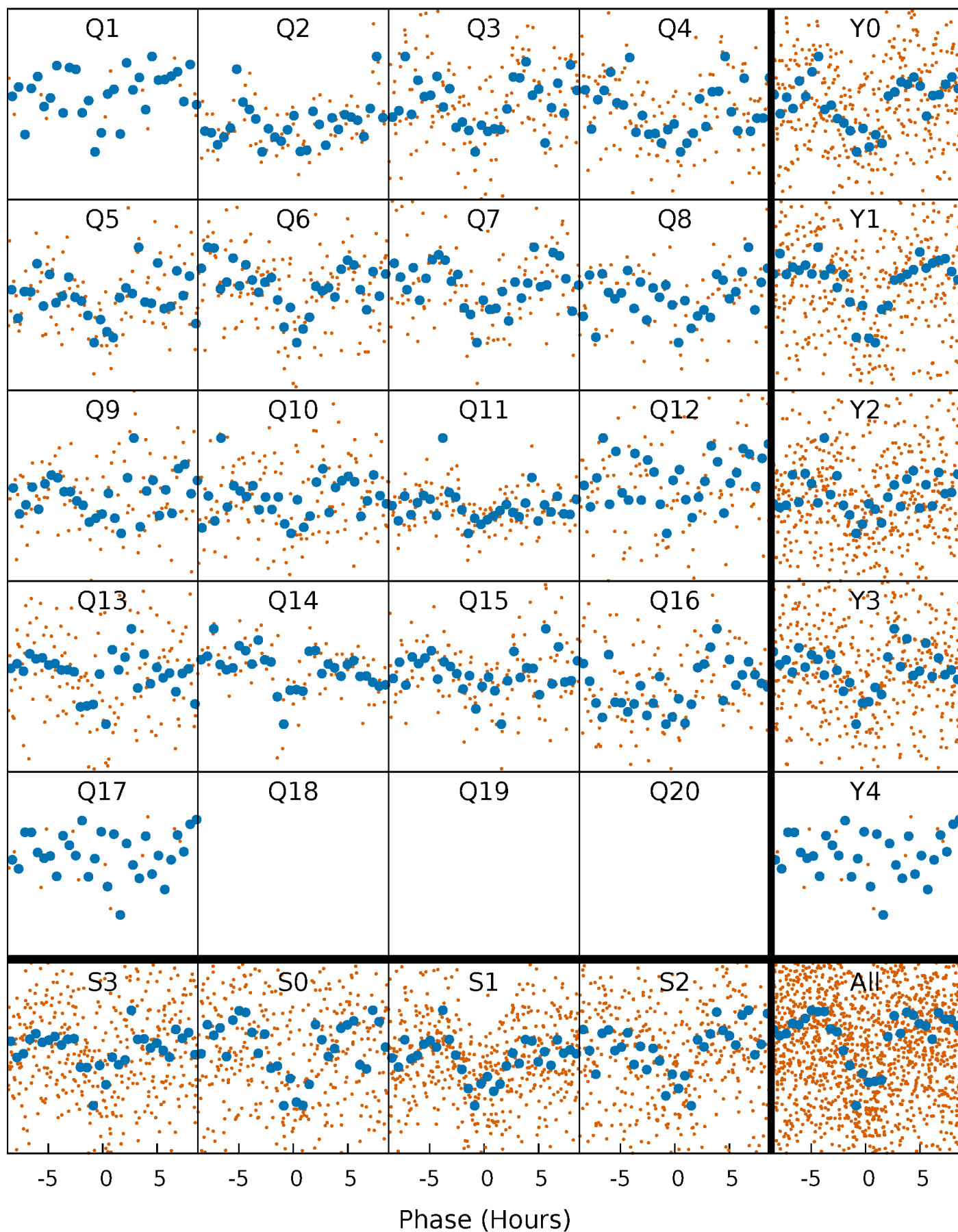


Non-Whitened Vs. Whitened Light Curve



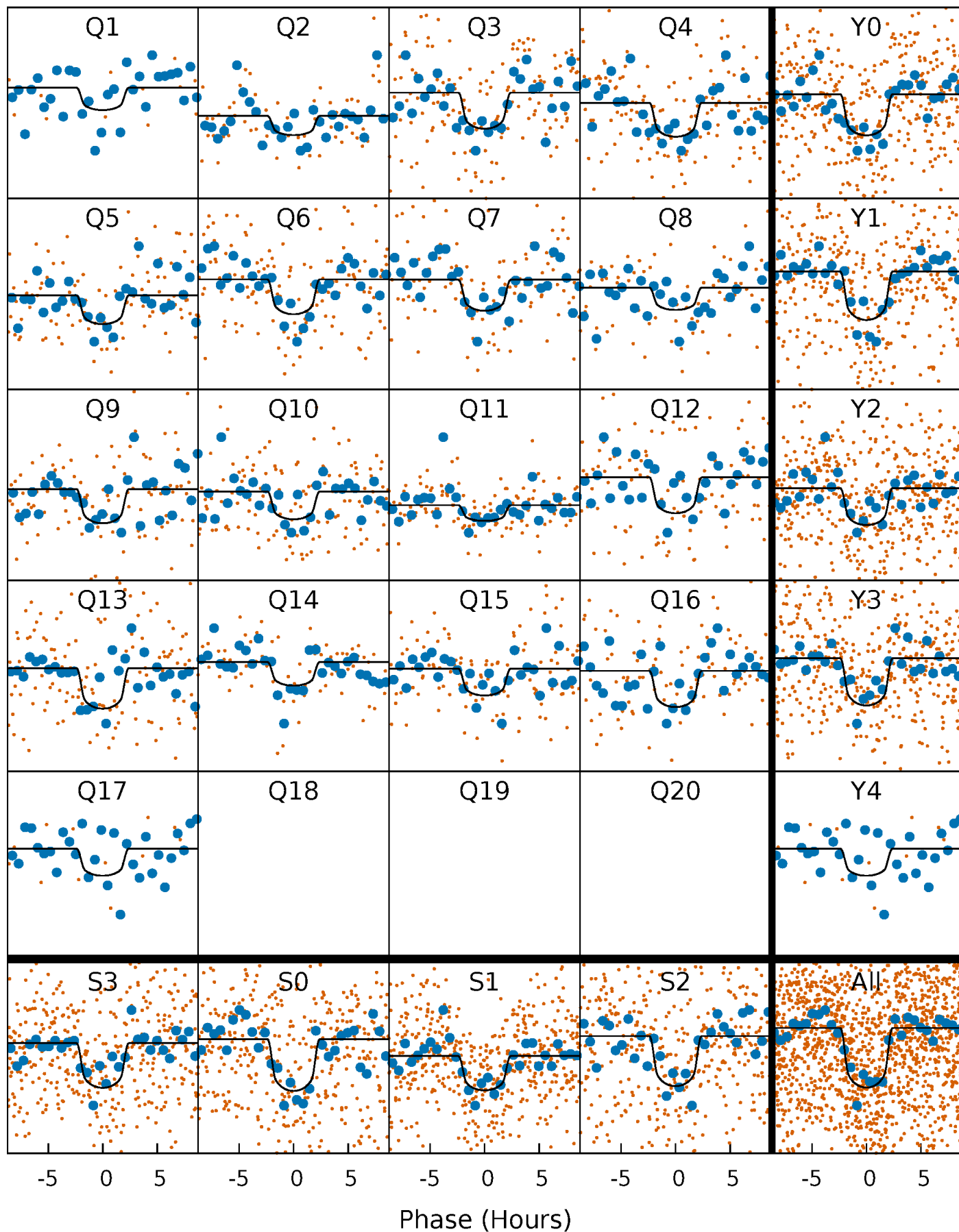
PDC Quarter-Phased Transit Curves

TCE 005436013-01 P= 25.885981 Days $T_0=157.045542$ (BKJD)



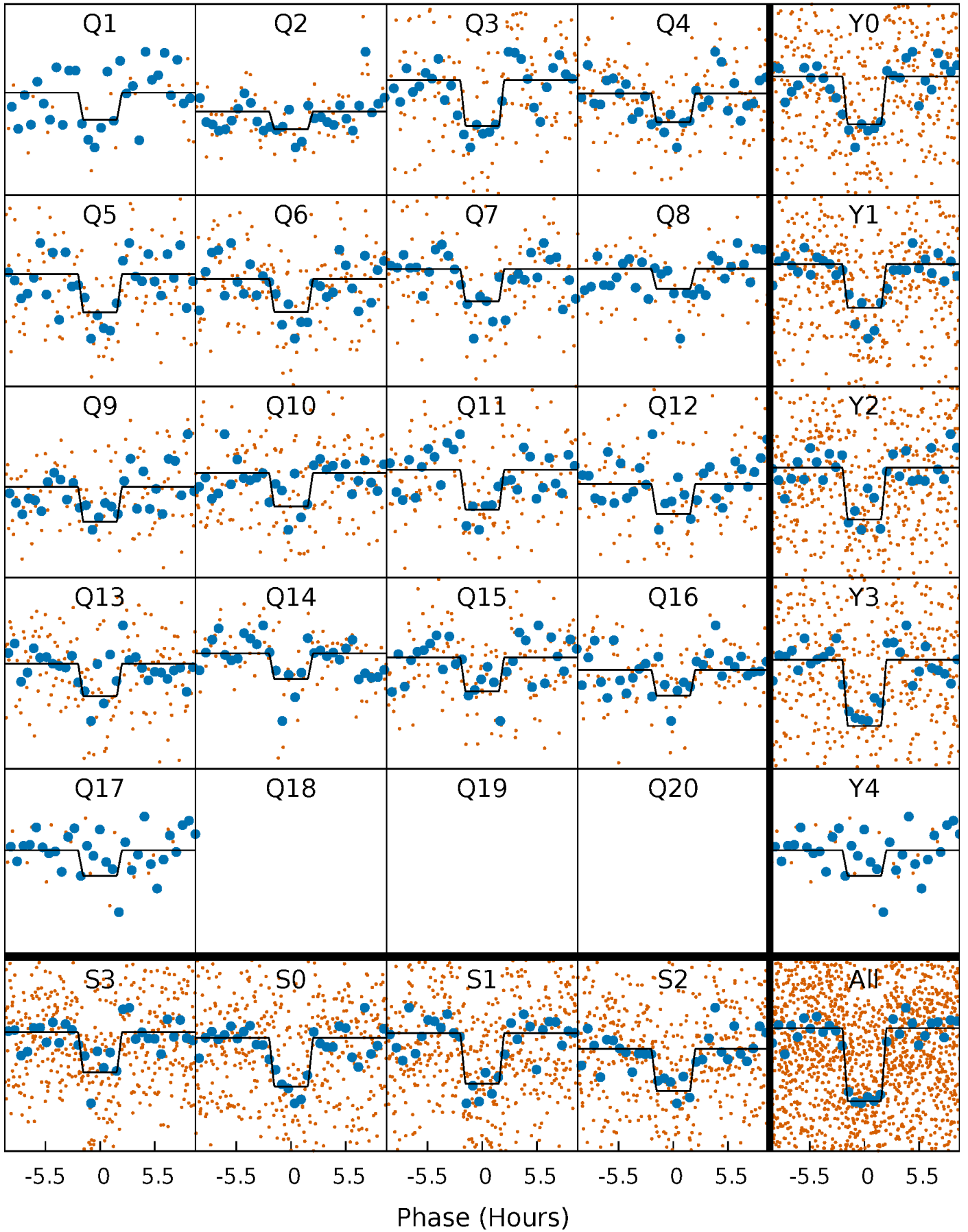
DV Quarter-Phased Transit Curves

TCE 005436013-01 P= 25.885981 Days $T_0=157.045542$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

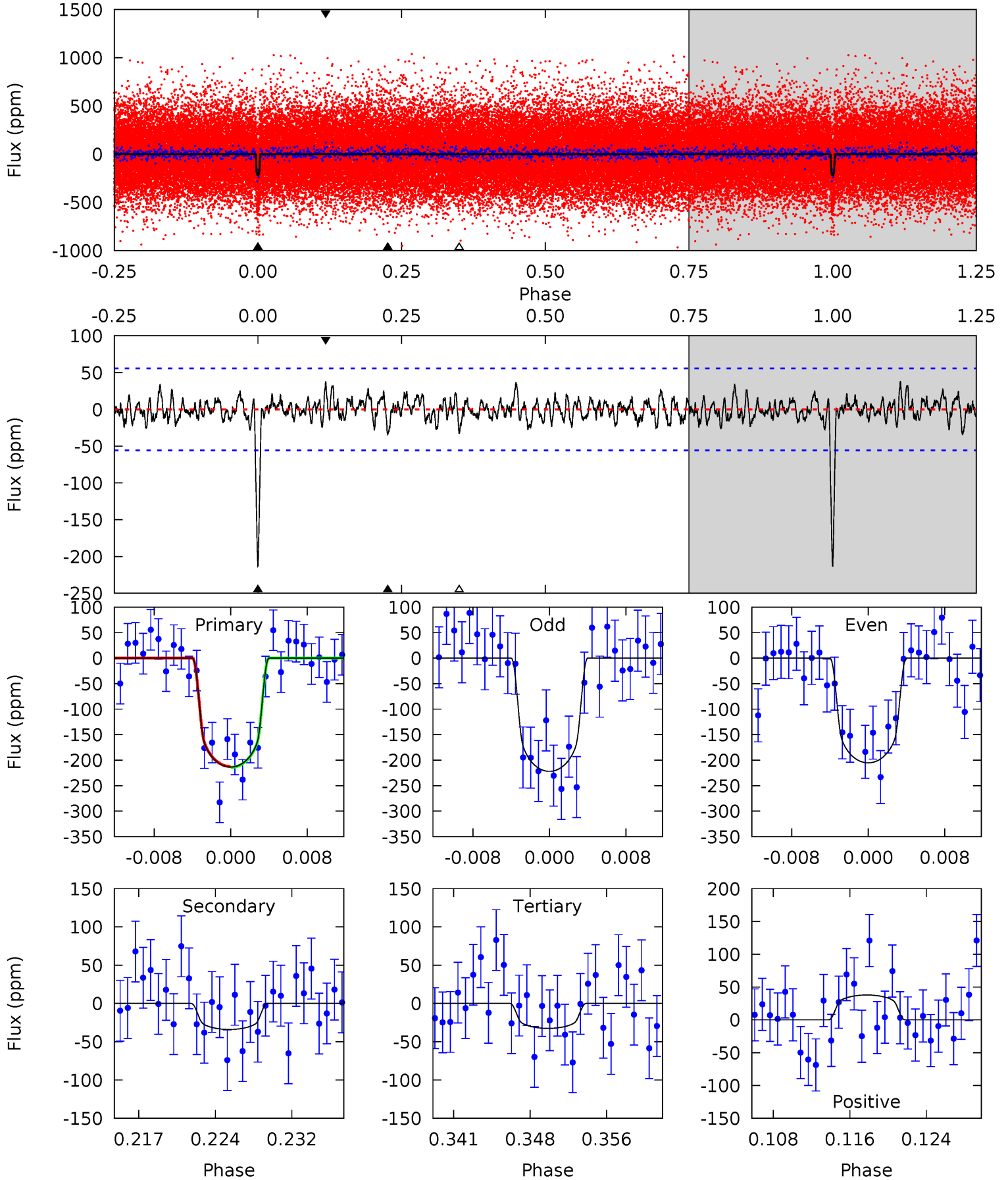
TCE 005436013-01 P= 25.885691 Days $T_0=157.050940$ (BKJD)



DV Model-Shift Uniqueness Test

005436013-01, P = 25.885981 Days, E = 131.159561 Days

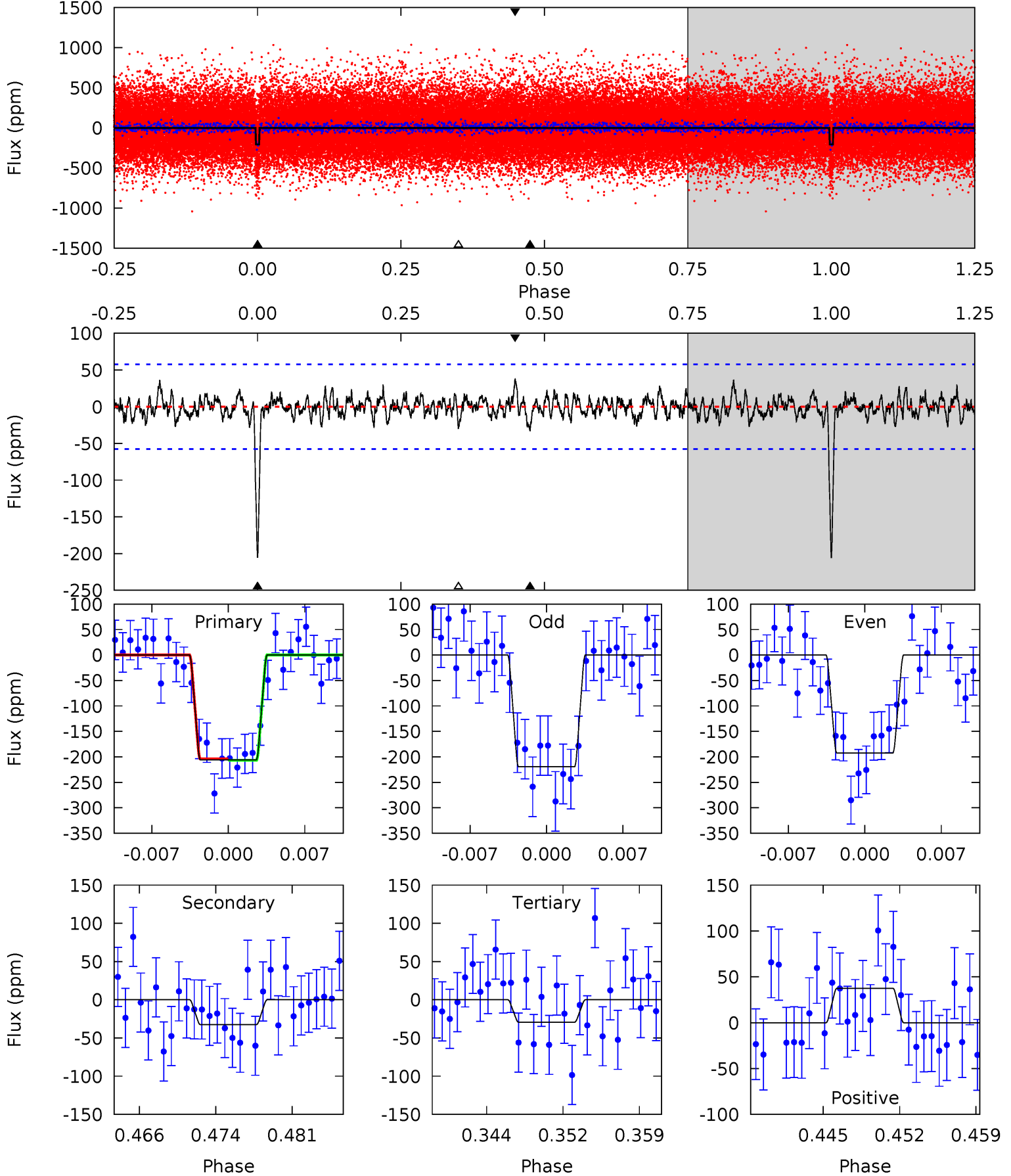
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
19.5	3.10	2.97	3.46	5.08	2.66	1.05	16.5	16.0	0.13	-0.36	0.76	0.94	0.15	0.08



Alt Model-Shift Uniqueness Test

005436013-01, P = 25.885691 Days, E = 131.165249 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
18.2	2.87	2.59	3.31	5.09	2.69	0.94	15.6	14.8	0.28	-0.44	1.20	0.92	0.15	0.12



Stellar Parameters For KIC 005436013

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5190^{+85}_{-77}	$4.446^{+0.105}_{-0.042}$	$0.120^{+0.150}_{-0.150}$	$0.899^{+0.051}_{-0.083}$	$0.823^{+0.064}_{-0.032}$	$1.597^{+0.591}_{-0.216}$
	+2%/-1%	+2%/-1%	+125%/-125%	+6%/-9%	+8%/-4%	+37%/-14%
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 005436013-01 / KOI 2471.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-34 ± 11	$1.53^{+0.62}_{-0.57}$	751^{+22}_{-23}	3539^{+625}_{-359}	197^{+330}_{-102}
Alt.	-33 ± 11	$1.37^{+0.52}_{-0.54}$	751^{+21}_{-21}	3647^{+764}_{-414}	237^{+439}_{-131}

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 $T_{obs} \gg T_{max}$ AND $A_{obs} \gg 1.0$

DV Centroid Data

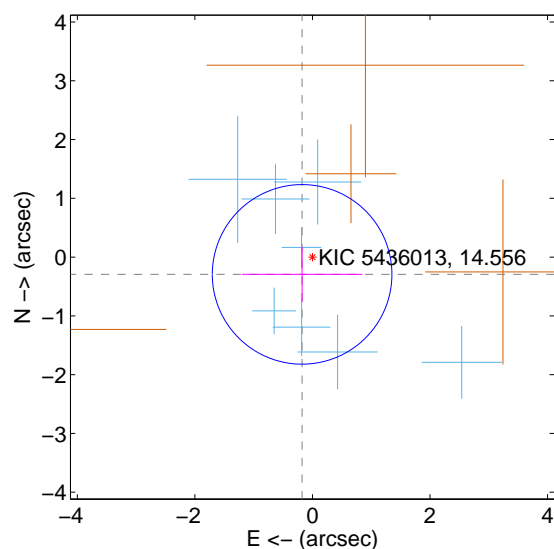
Supplemental centroid analysis for 005436013-01. Kepler magnitude: 14.56. Transit SNR 14.94

There are 8 quarters with good PRF difference image offsets

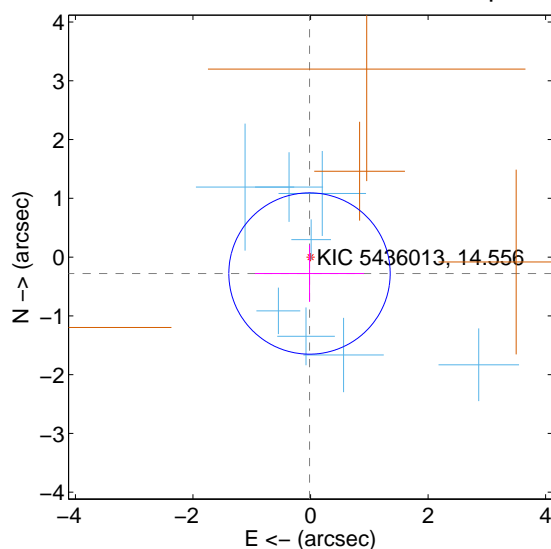
The direct PRF centroid is offset from the target star catalog position by about 0.08 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.343 ± 0.509	0.67	0.176 ± 1.026	-0.294 ± 0.471
PRF-fit source offset from KIC position	0.280 ± 0.458	0.61	0.017 ± 0.929	-0.279 ± 0.483
photometric centroid source offset	0.53 ± 0.97	0.54	0.50 ± 0.98	0.15 ± 0.82

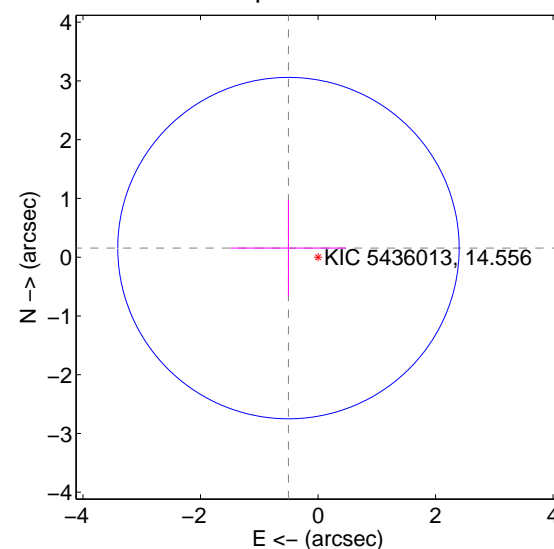
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

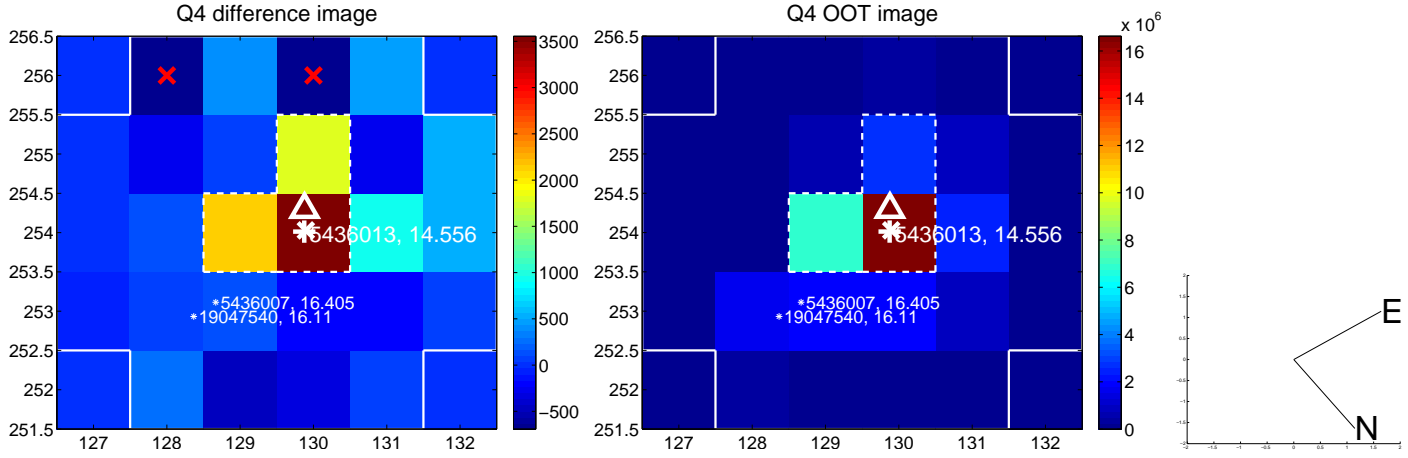
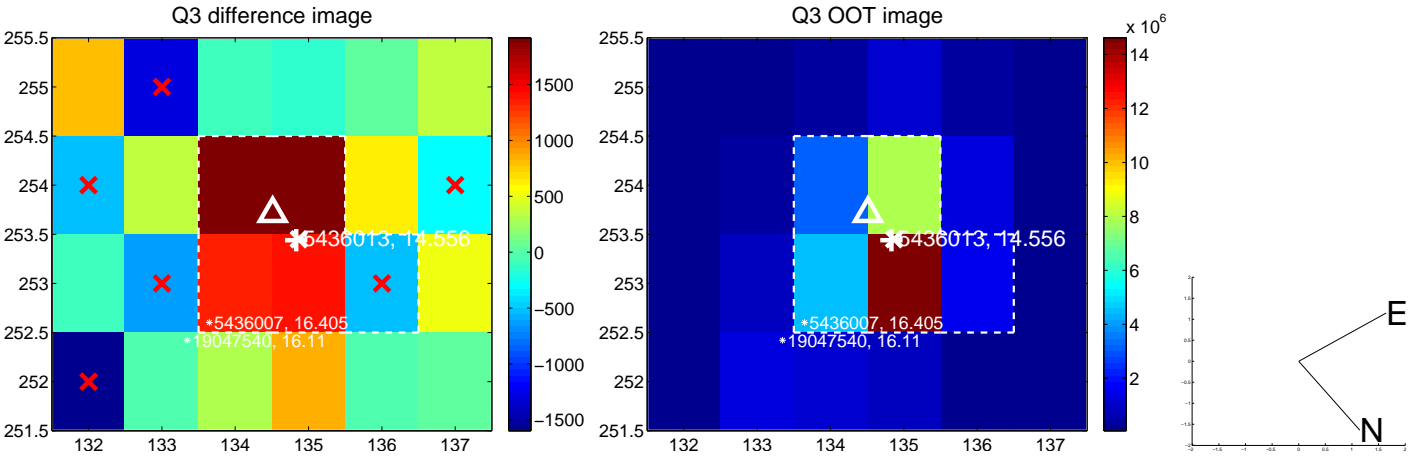
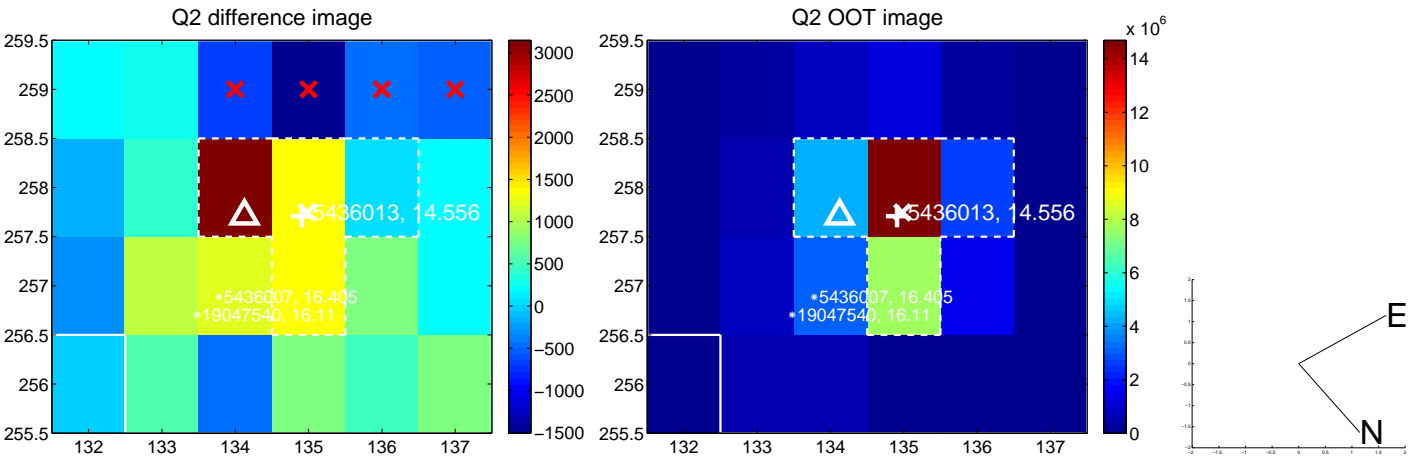
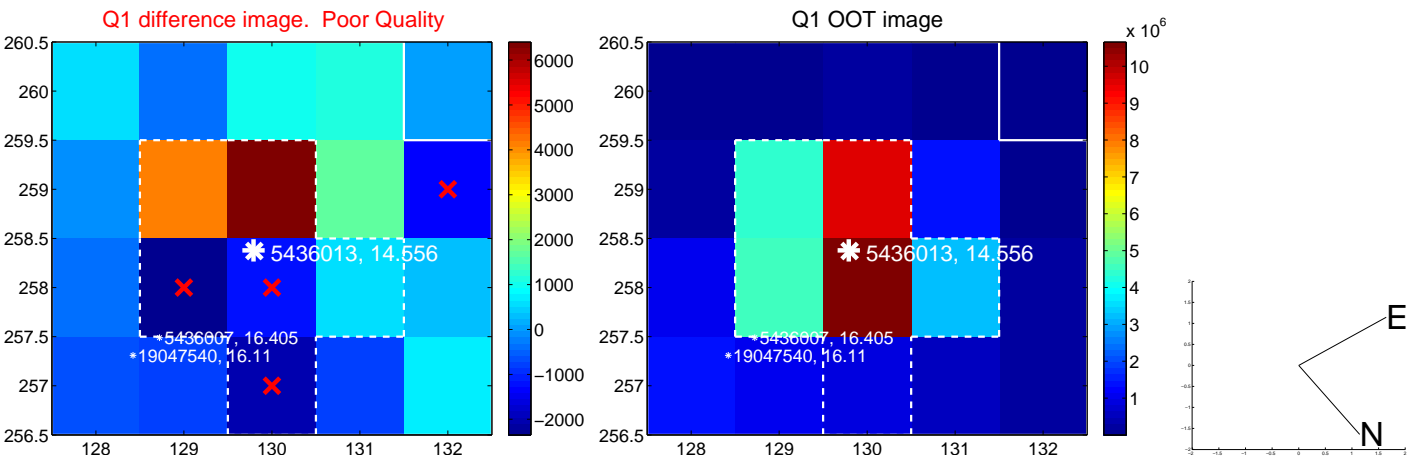


offset from photometric centroids

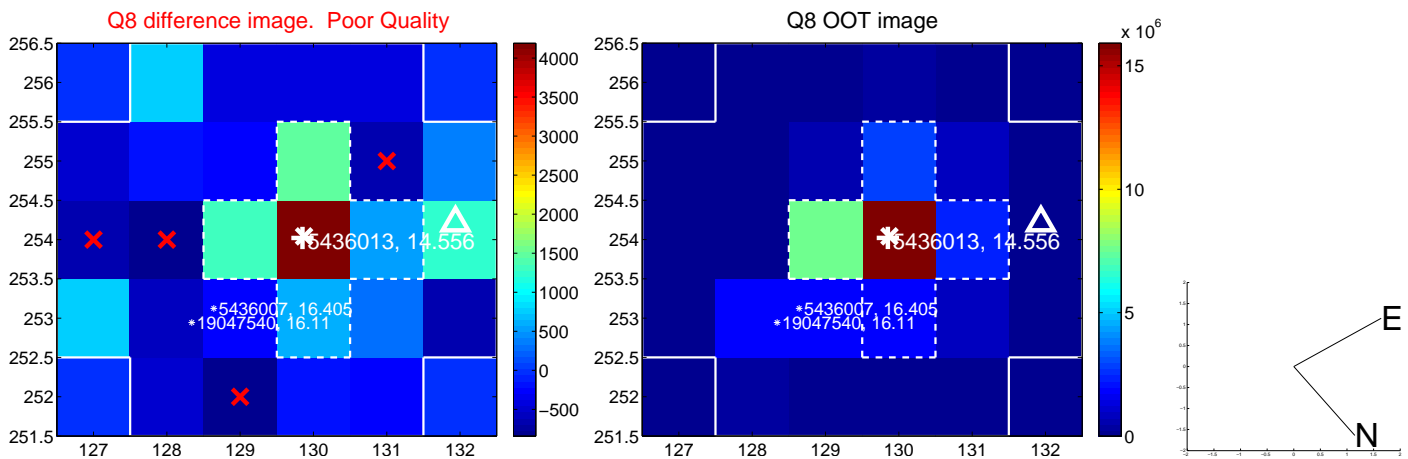
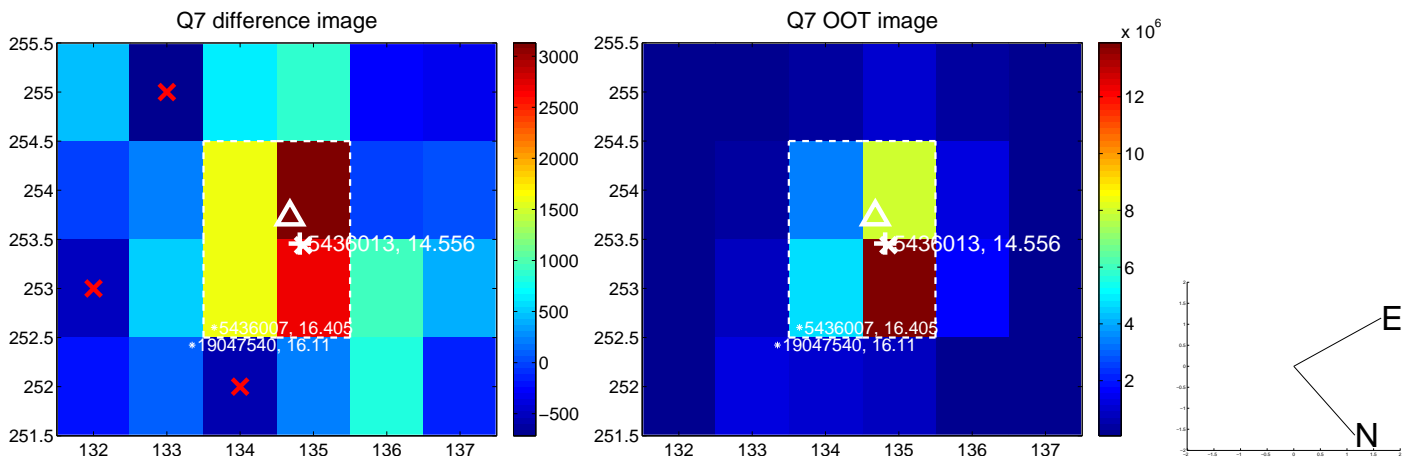
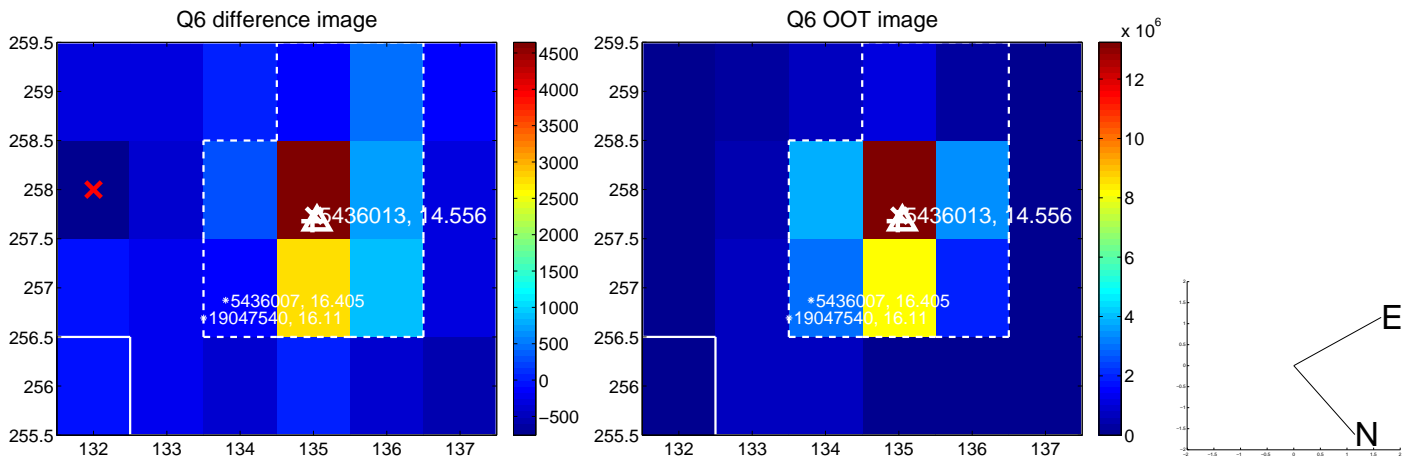
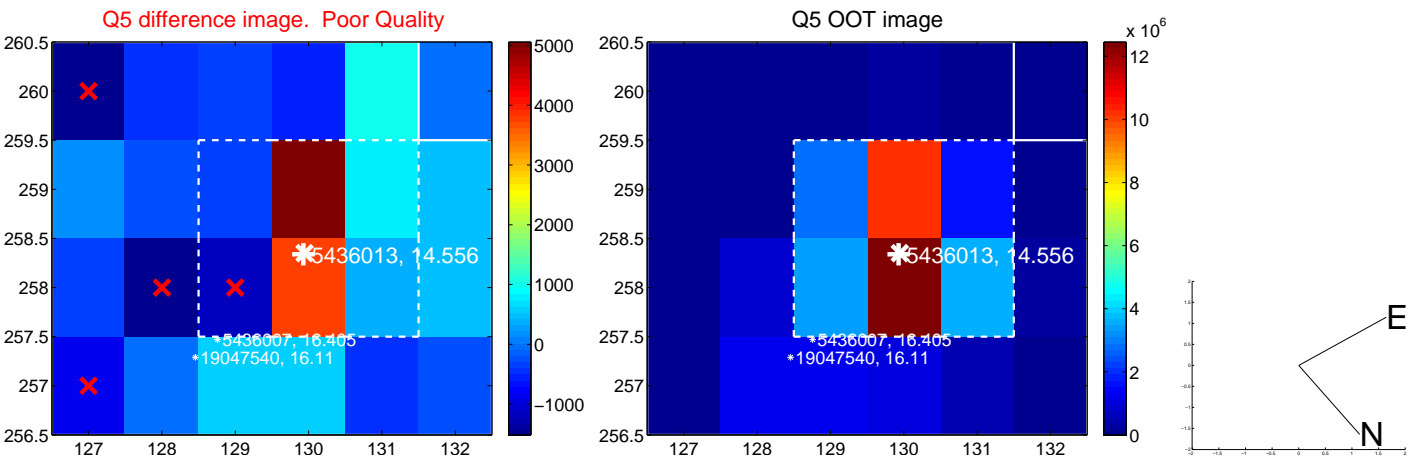


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

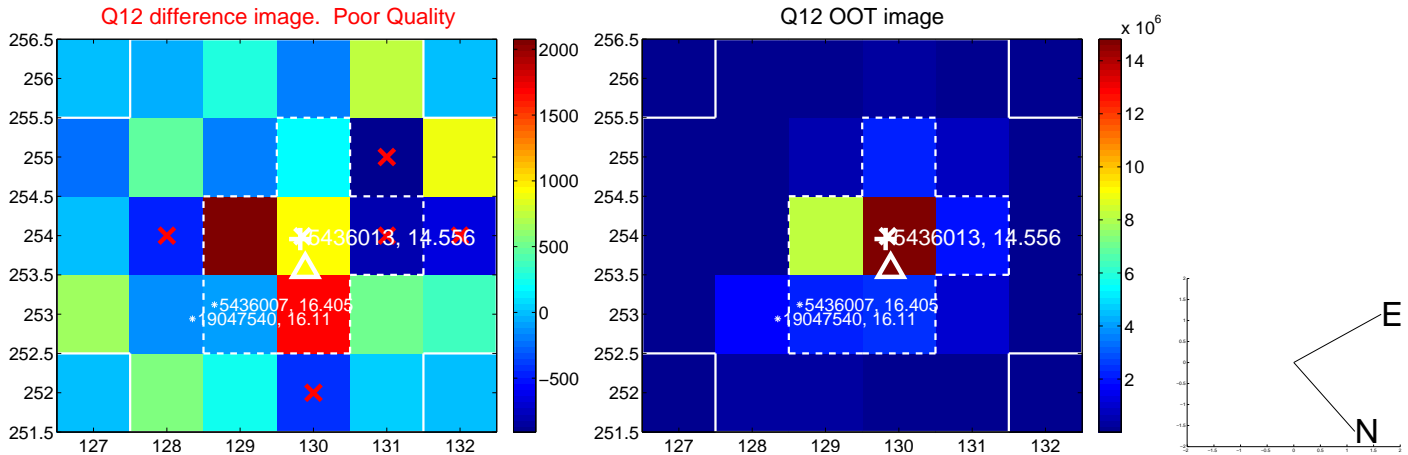
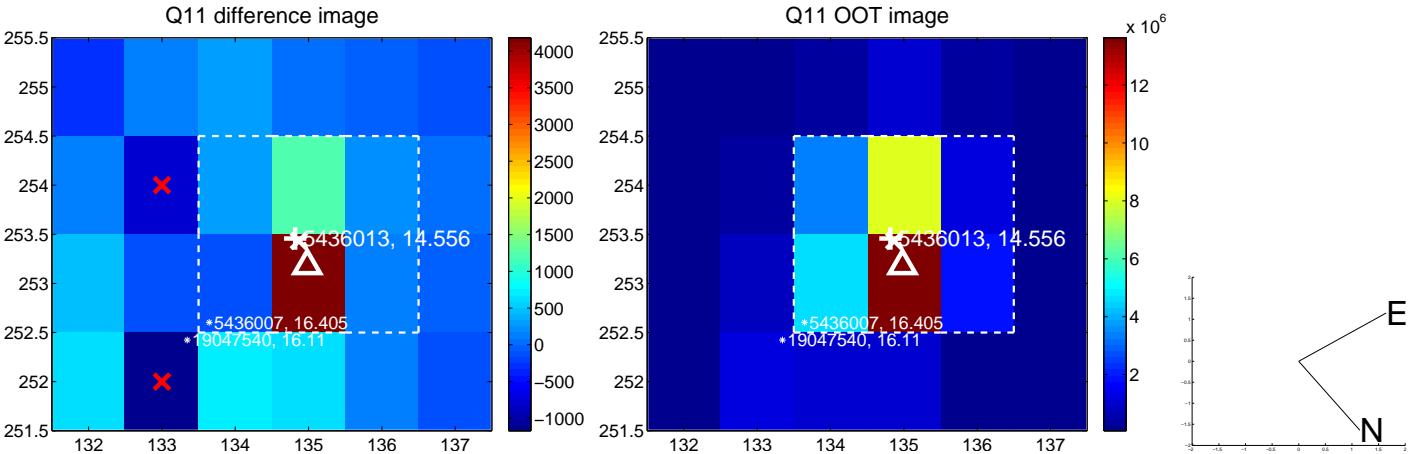
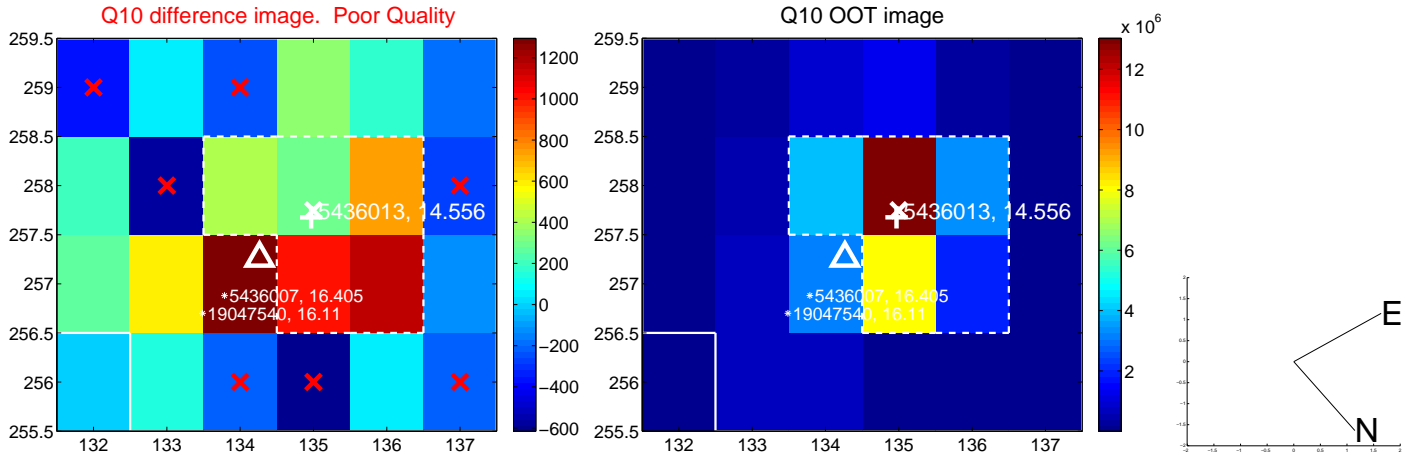
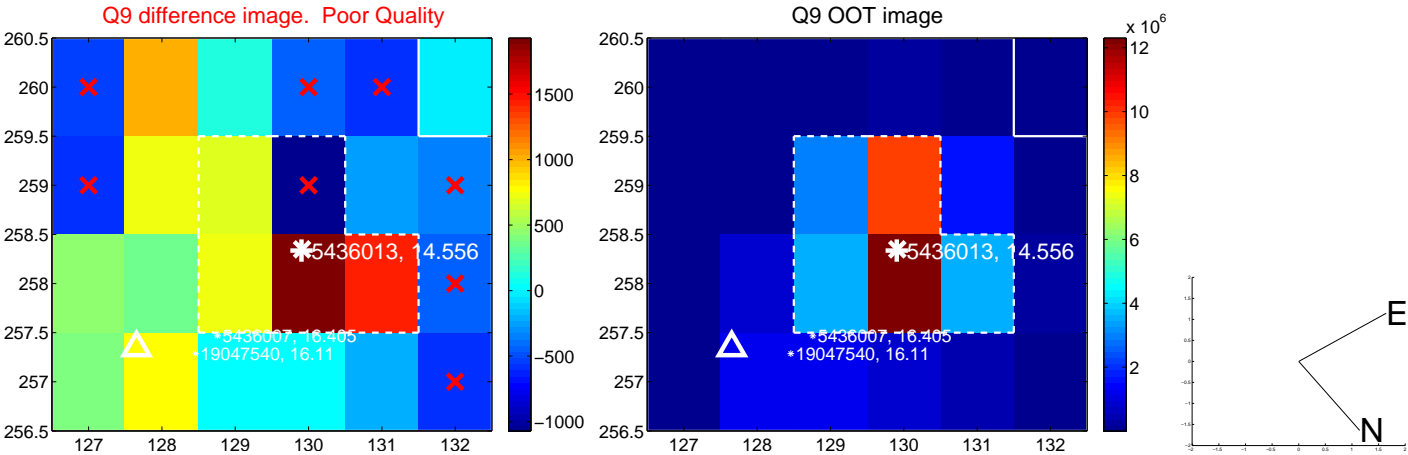
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



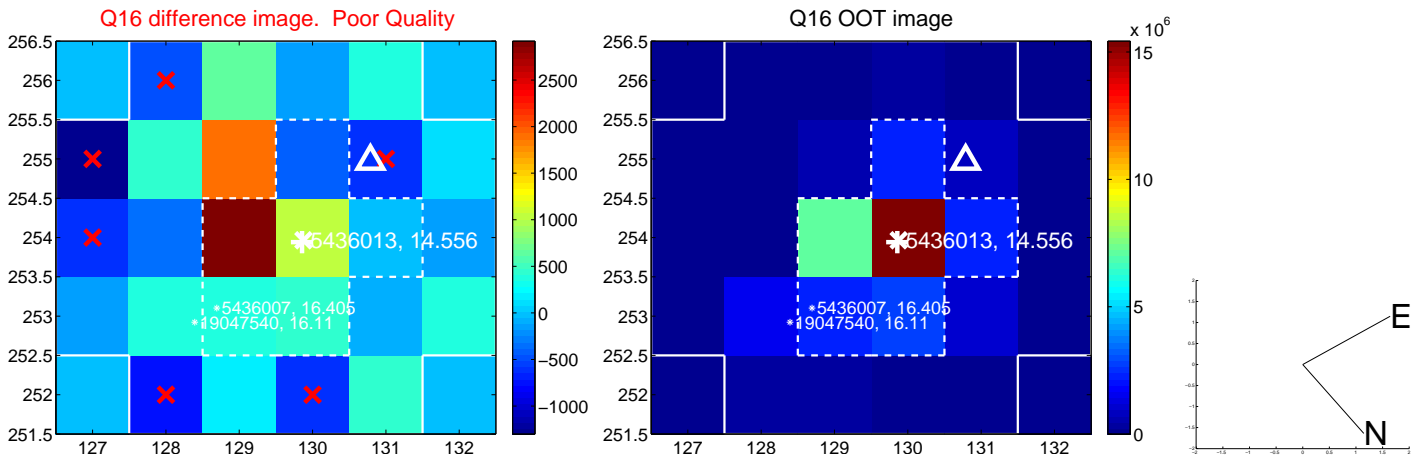
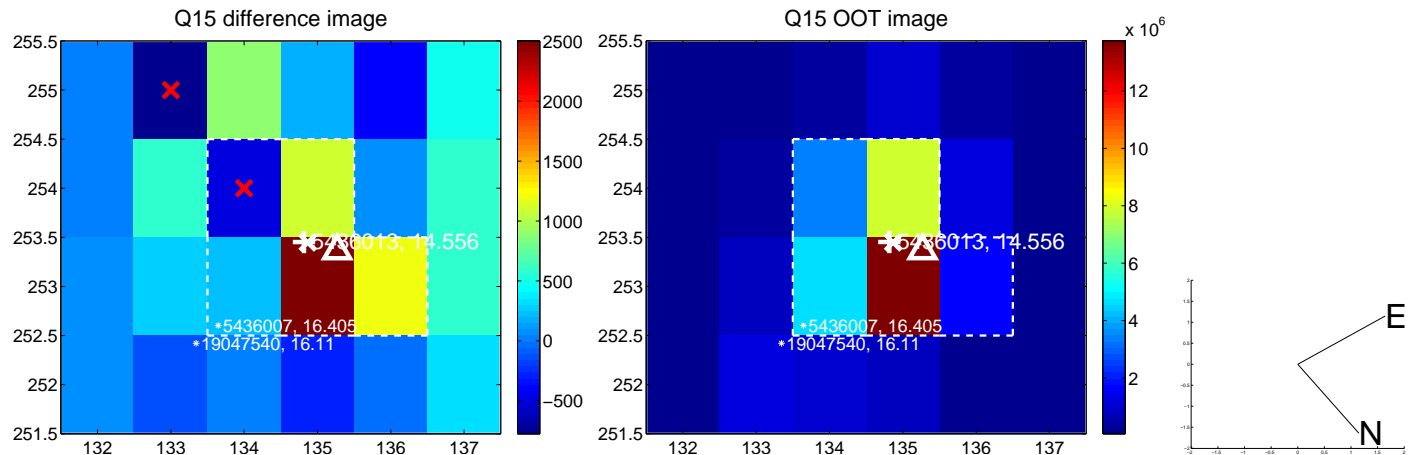
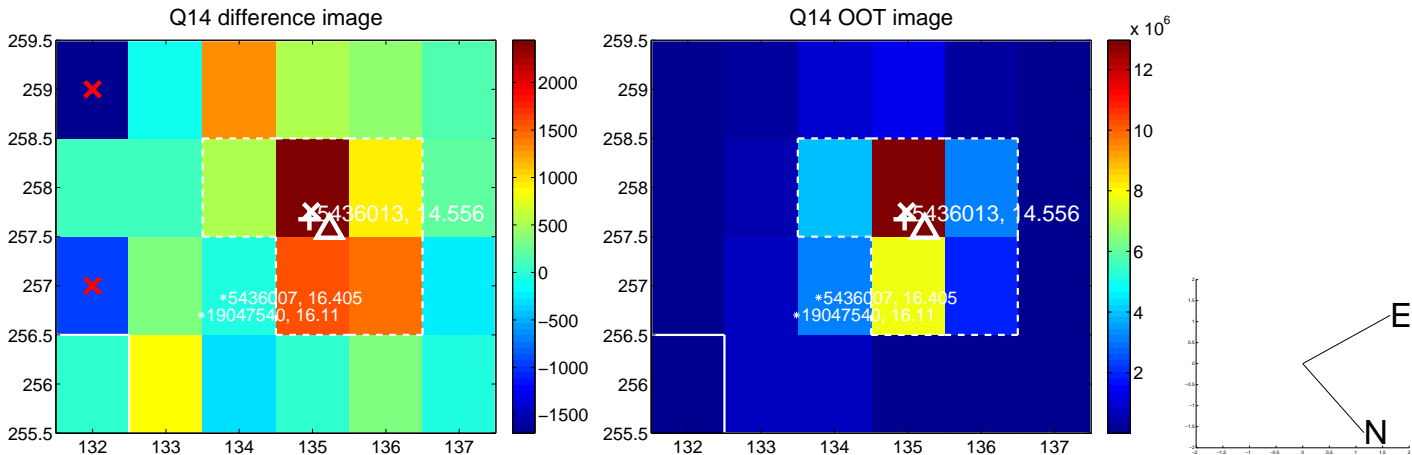
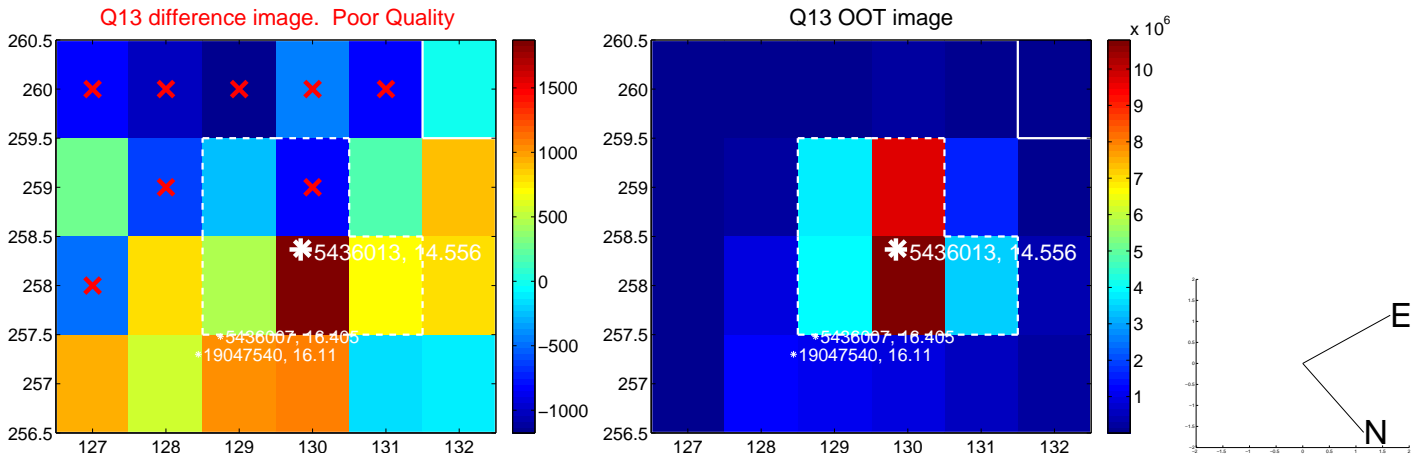
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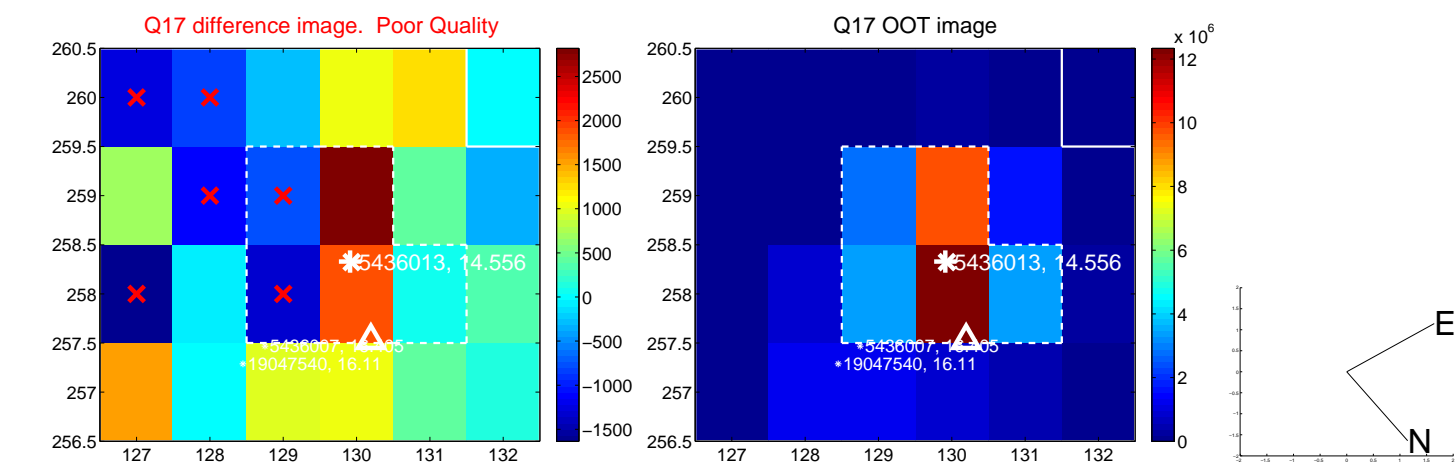
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



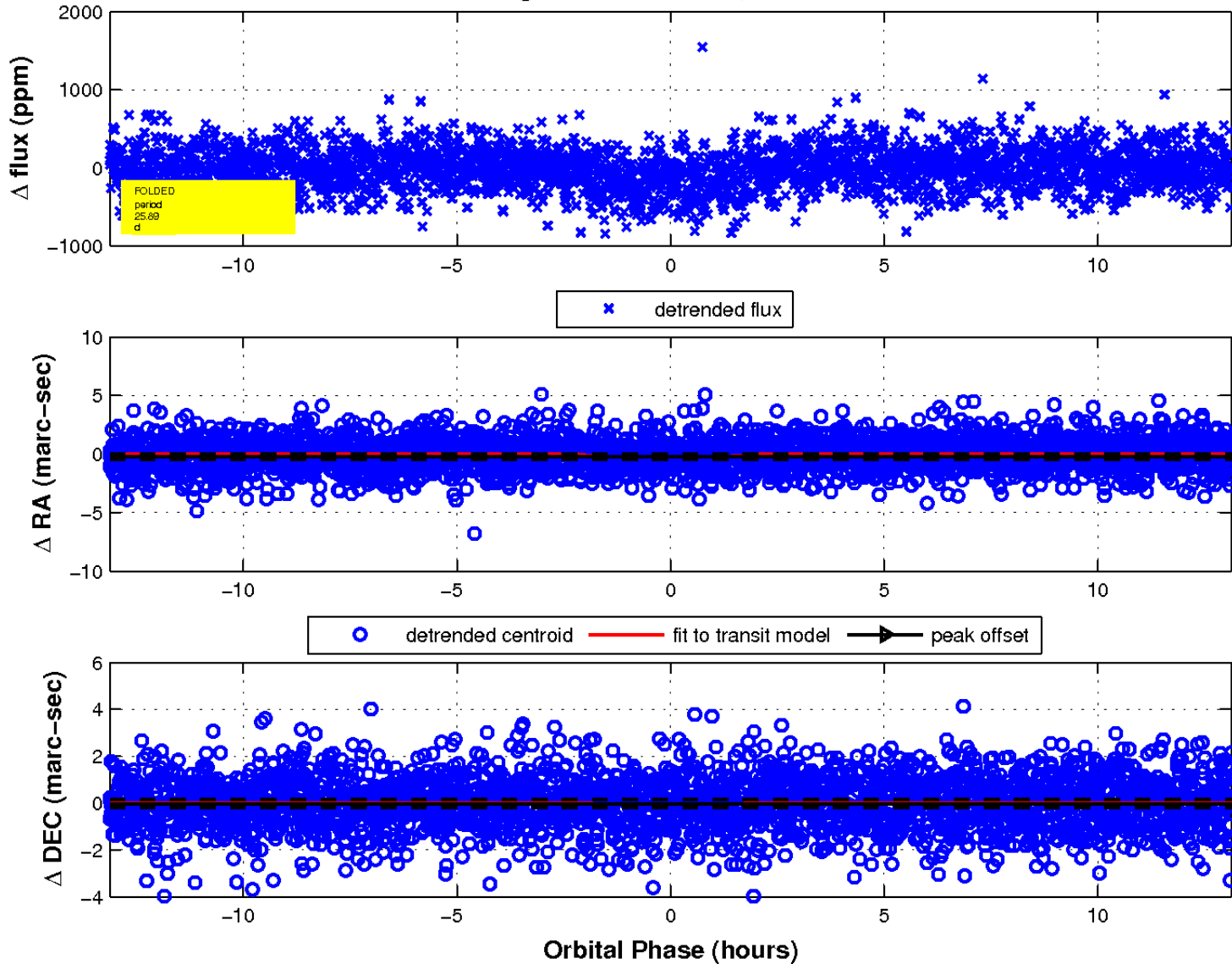
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

