

KIC 005640511

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})
005640511-01	OBS	No	0.550368	131.961301	15.3	1.099	8.3	9.1	3.05	7105	1.22	91221.53

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005640511-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED

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 005640511-01

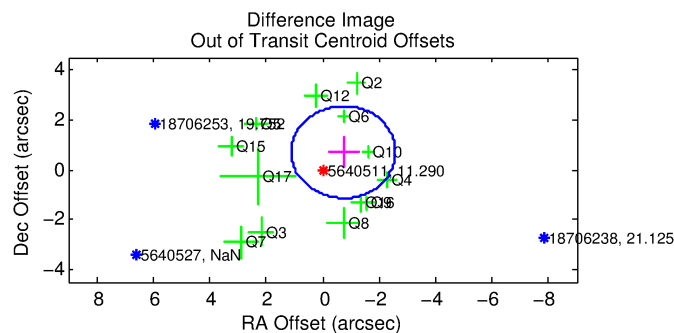
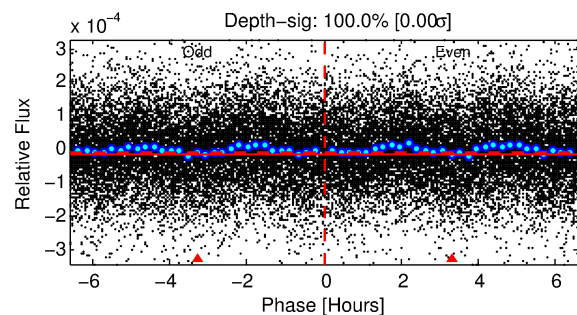
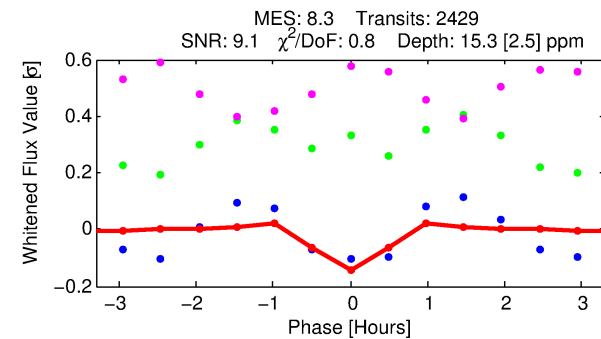
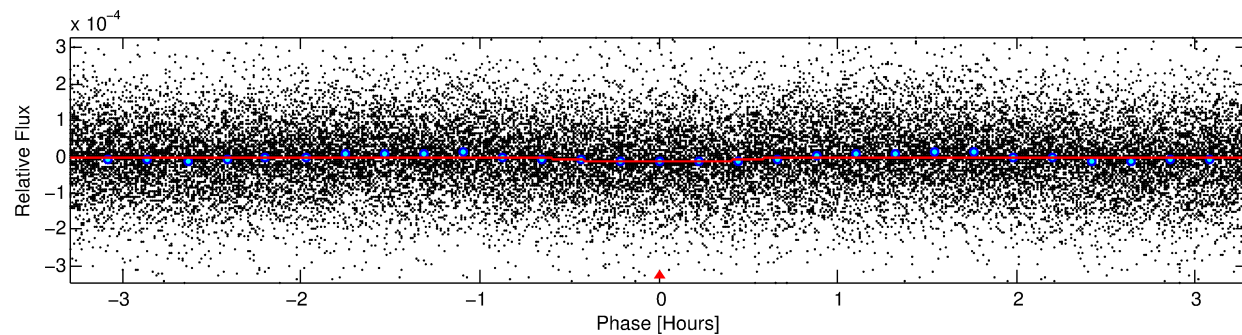
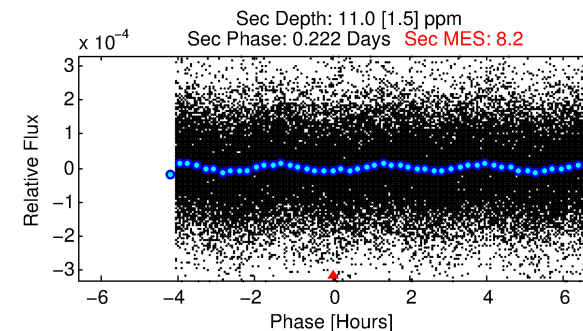
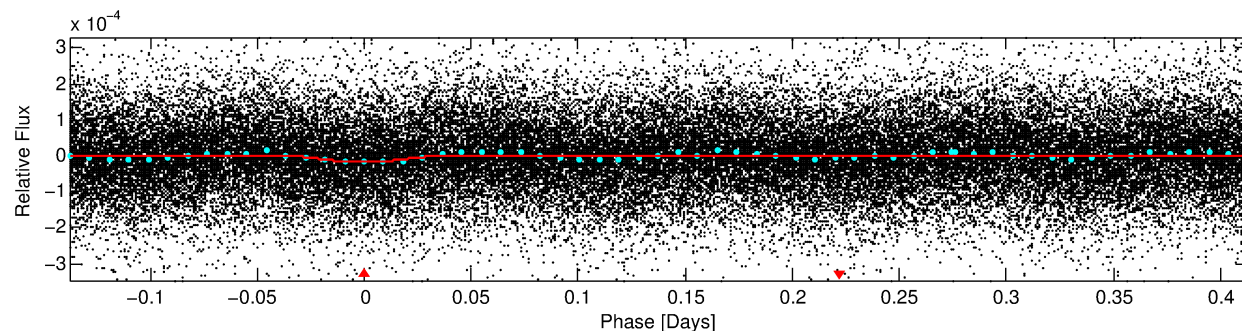
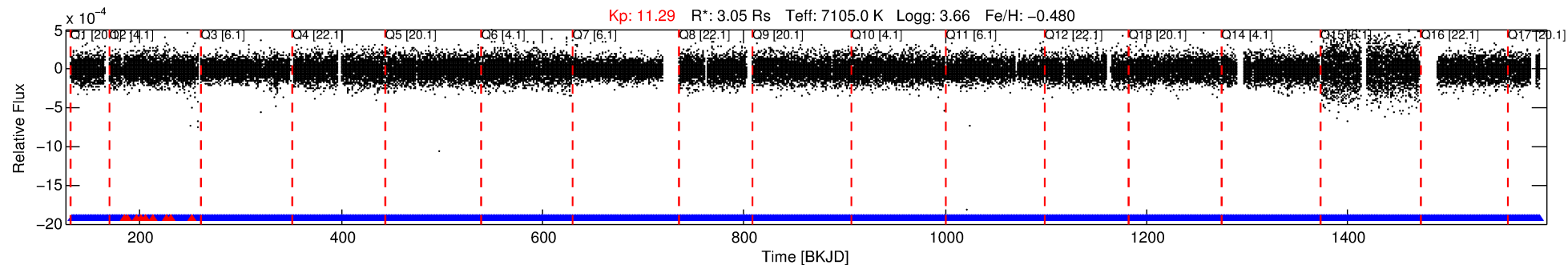
No Significant Match Found

DV One-Page Summary

KIC: 5640511 Candidate: 1 of 1 Period: 0.550 d

KOI: K03139 Corr: No Ephemeris Match

Kp: 11.29 R*: 3.05 Rs Teff: 7105.0 K Logg: 3.66 Fe/H: -0.480



DV Fit Results:

Period = 0.55037 [0.00001] d
Epoch = 131.9613 [0.0017] BKJD
Rp/R* = 0.0037 [0.0013]
a/R* = 3.72 [6.83]
b = 0.30 [6.02]
Seff = 91221.53 [50430.02]
Teff = 4431 [612] K
Rp = 1.22 [0.63] Re
a = 0.0153 [0.0053] AU
Ag = 0.95 [0.86] [-0.06σ]
Teffp = 6759 [1243] K [1.68σ]

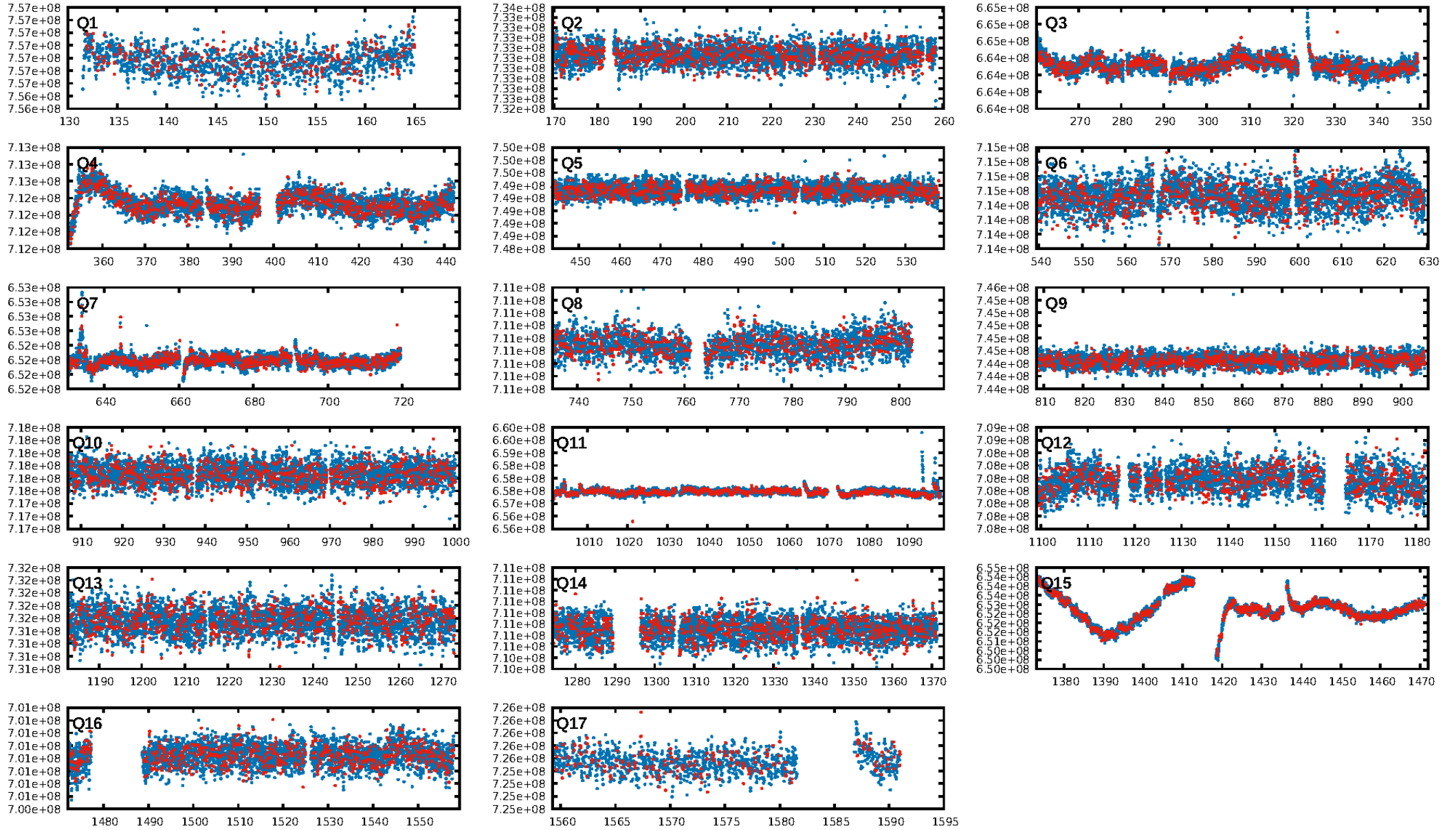
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 2.06e-15
RollingBand-fgt: 0.99 [2308/2320]
GhostDiagnostic-chr: 0.9257
Centroid-sig: 0.1%
Centroid-so: 1.540 arcsec [2.50σ]
OotOffset-rm: 1.013 arcsec [1.65σ]
KicOffset-rm: 1.104 arcsec [2.00σ]
OotOffset-st: 3/3/4/3 [13]
KicOffset-st: 3/3/4/3 [13]
DiffImageQuality-fgm: 0.69 [9/13]
DiffImageOverlap-fno: 1.00 [17/17]

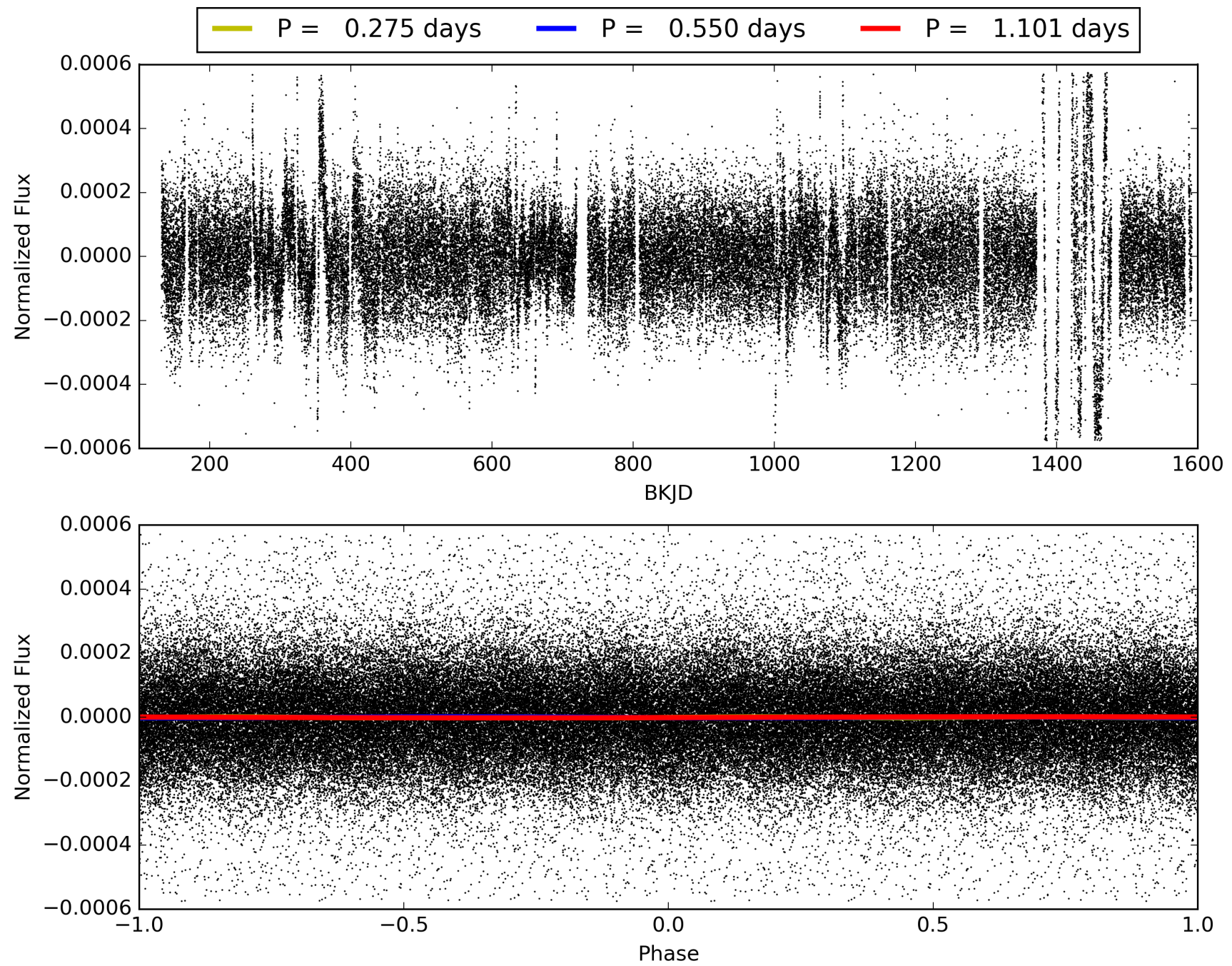
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 17:42:13 Z

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

TCE 005640511-01, PDC Light Curves

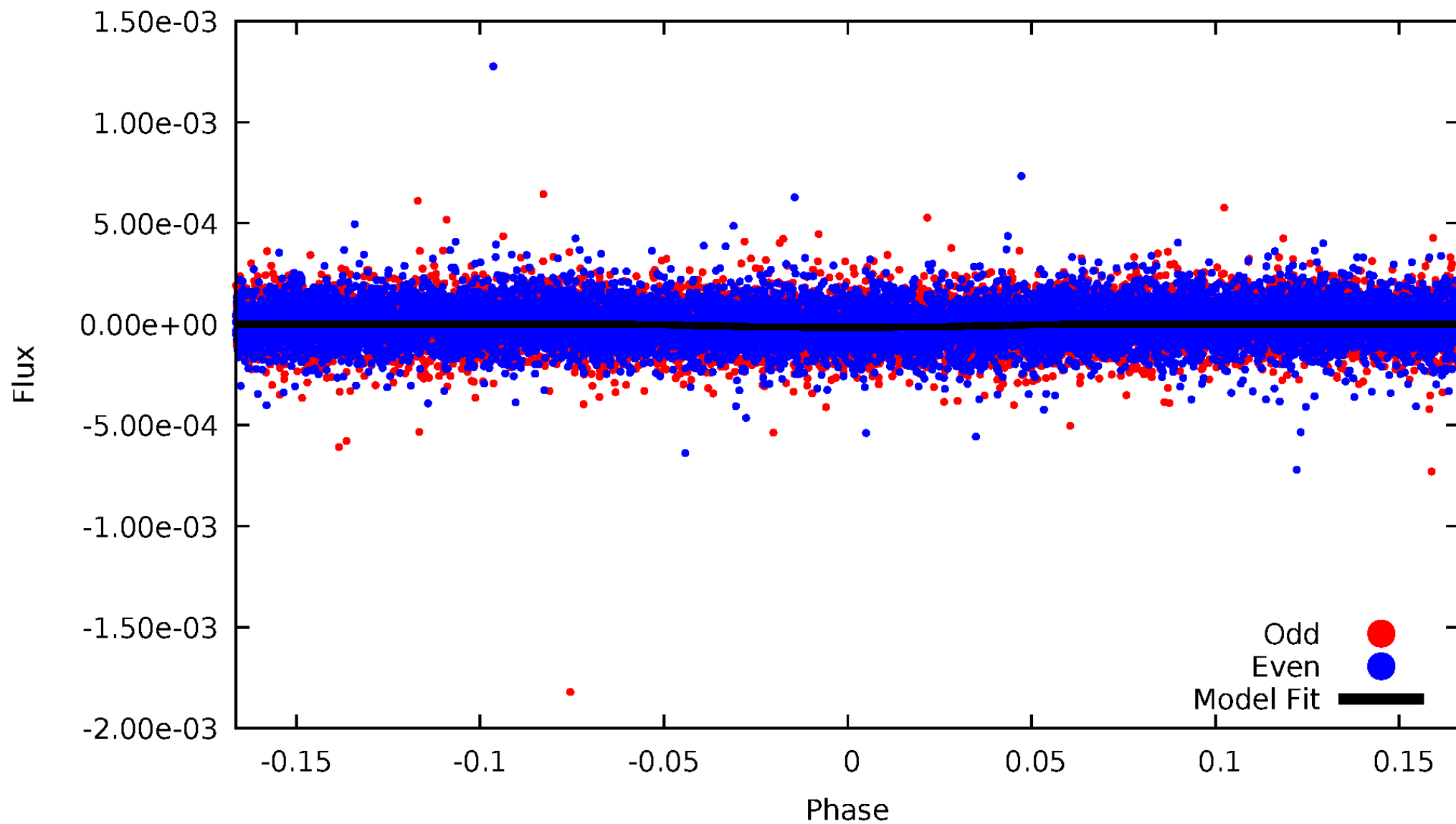


TCE 005640511-01



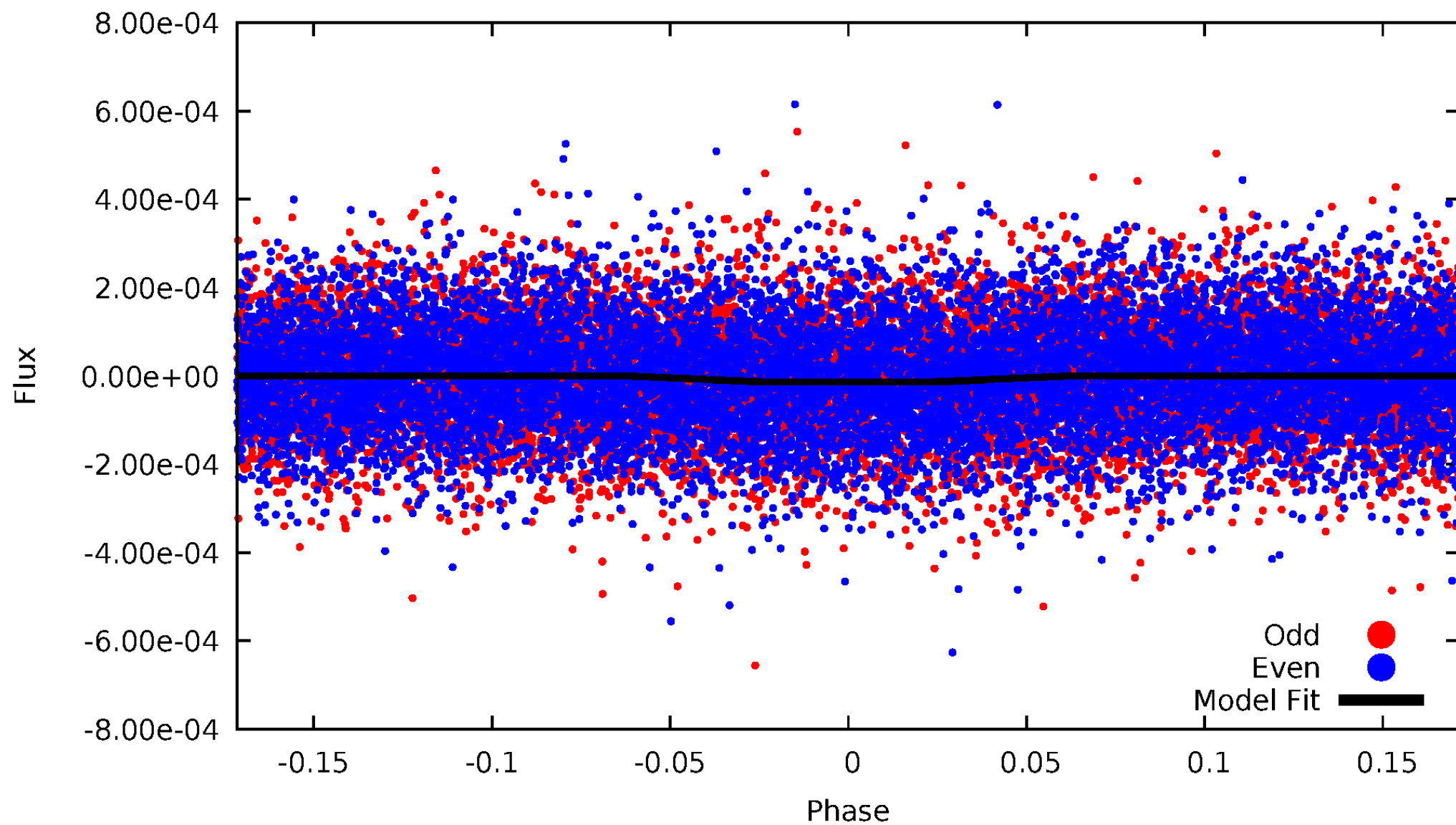
DV Odd/Even

TCE 005640511-01



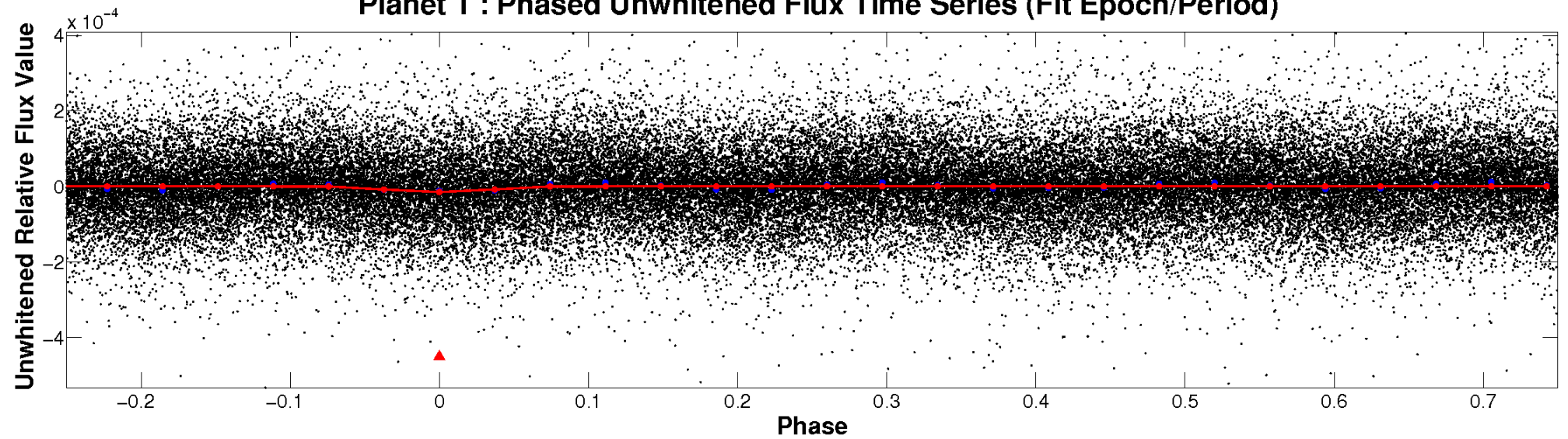
ALT Odd/Even

TCE 005640511-01

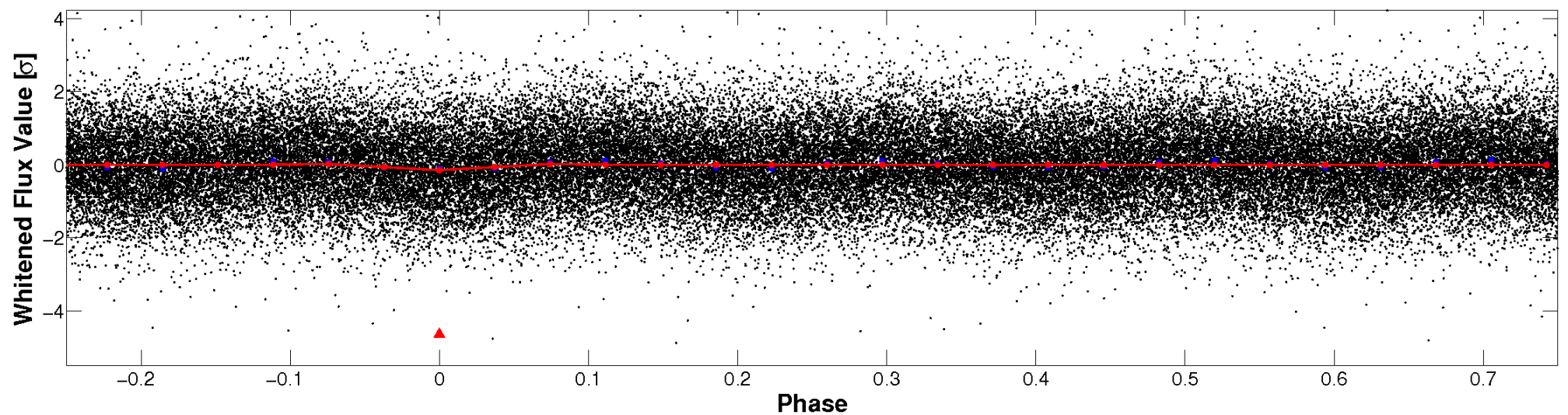


Non-Whitened Vs. Whitened Light Curve

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

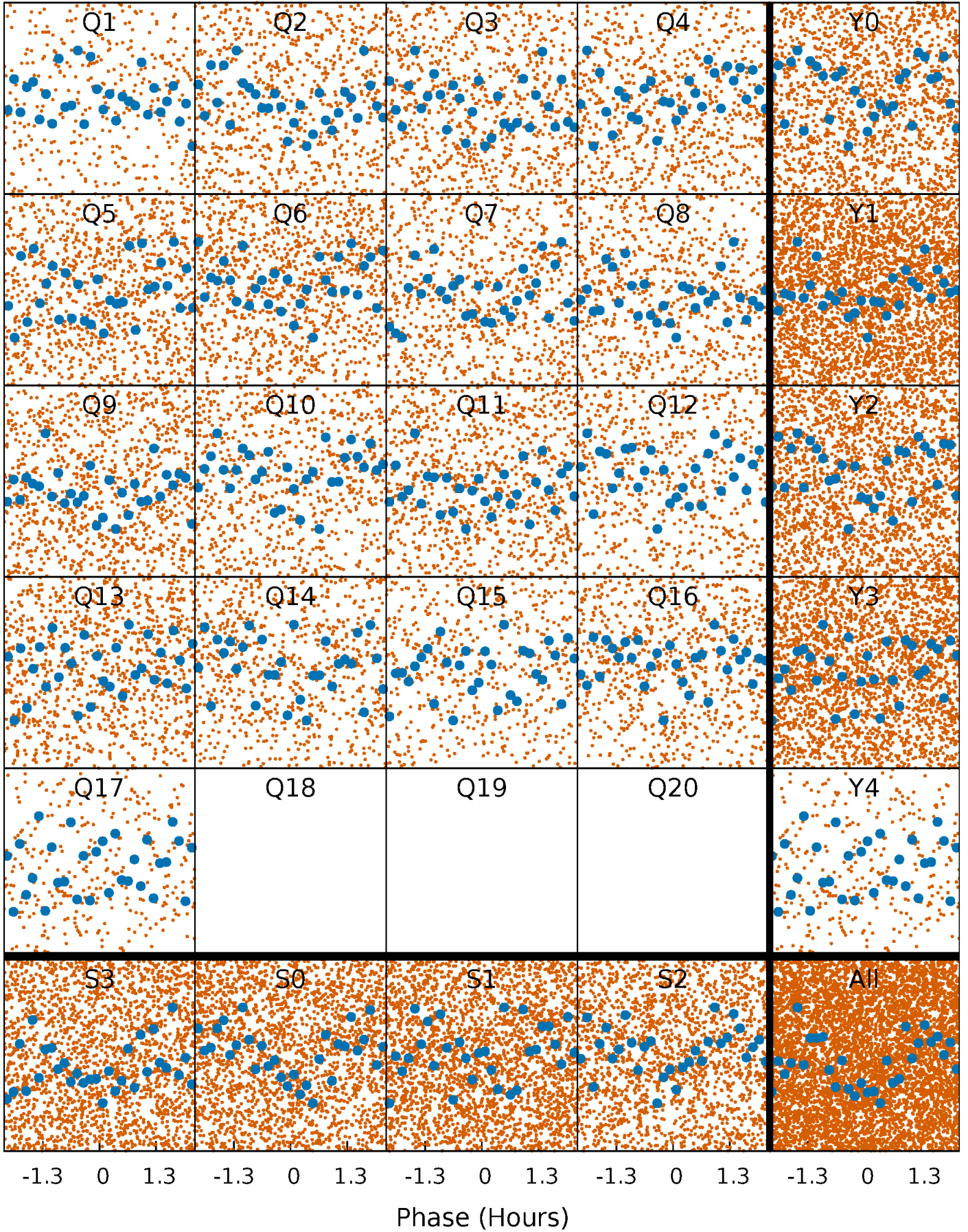


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



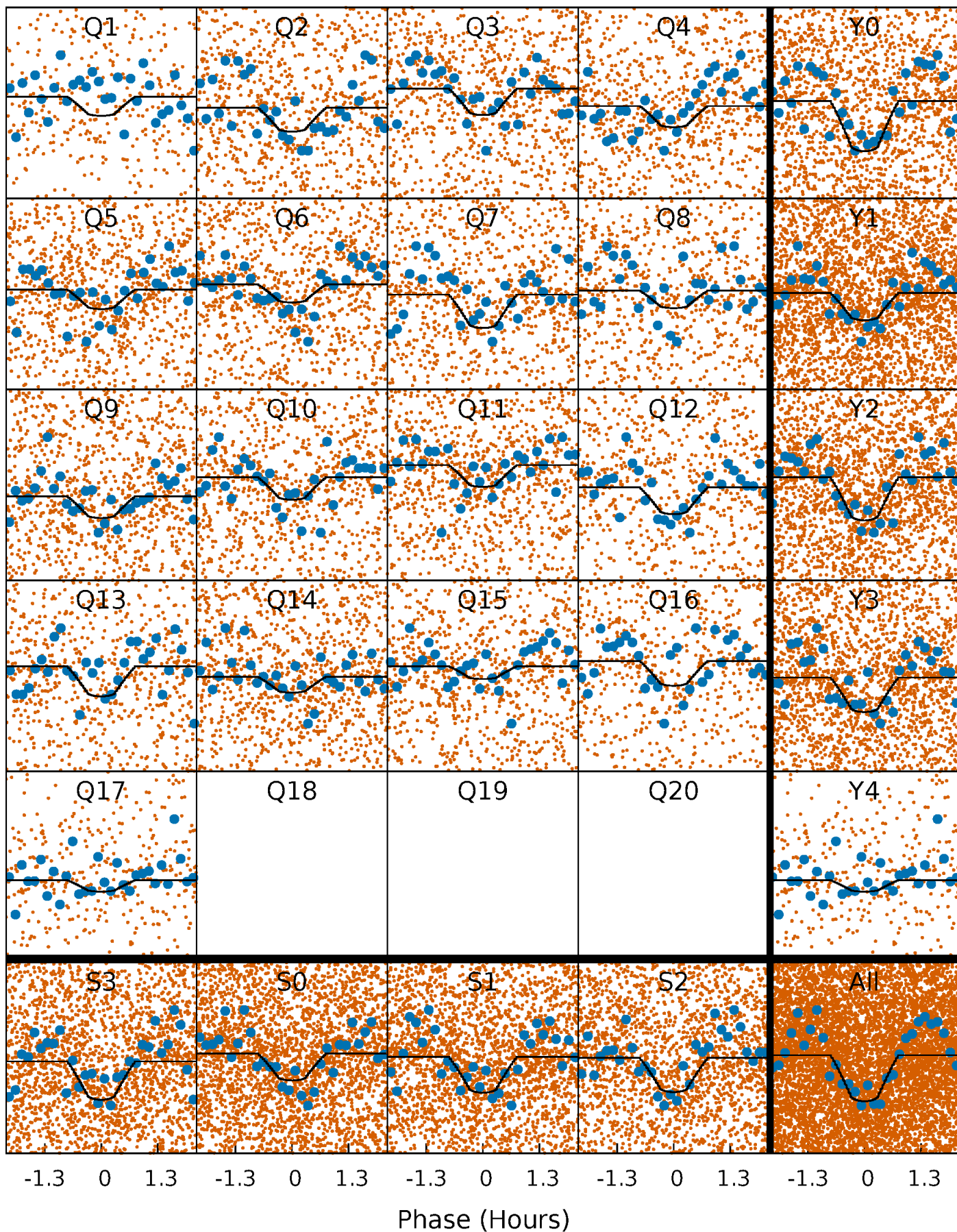
PDC Quarter-Phased Transit Curves

TCE 005640511-01 P= 0.550368 Days $T_0=131.961301$ (BKJD)



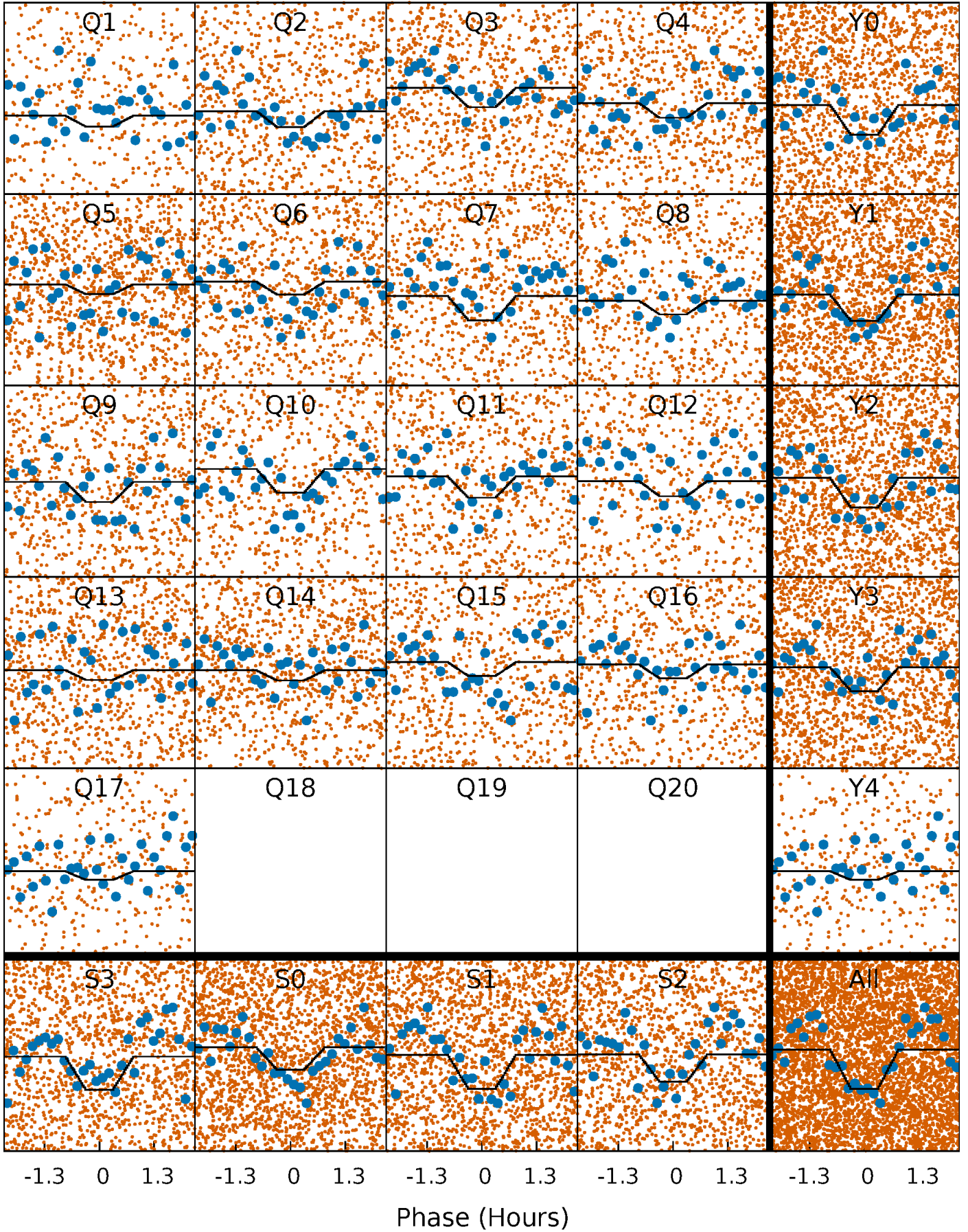
DV Quarter-Phased Transit Curves

TCE 005640511-01 P= 0.550368 Days $T_0=131.961301$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

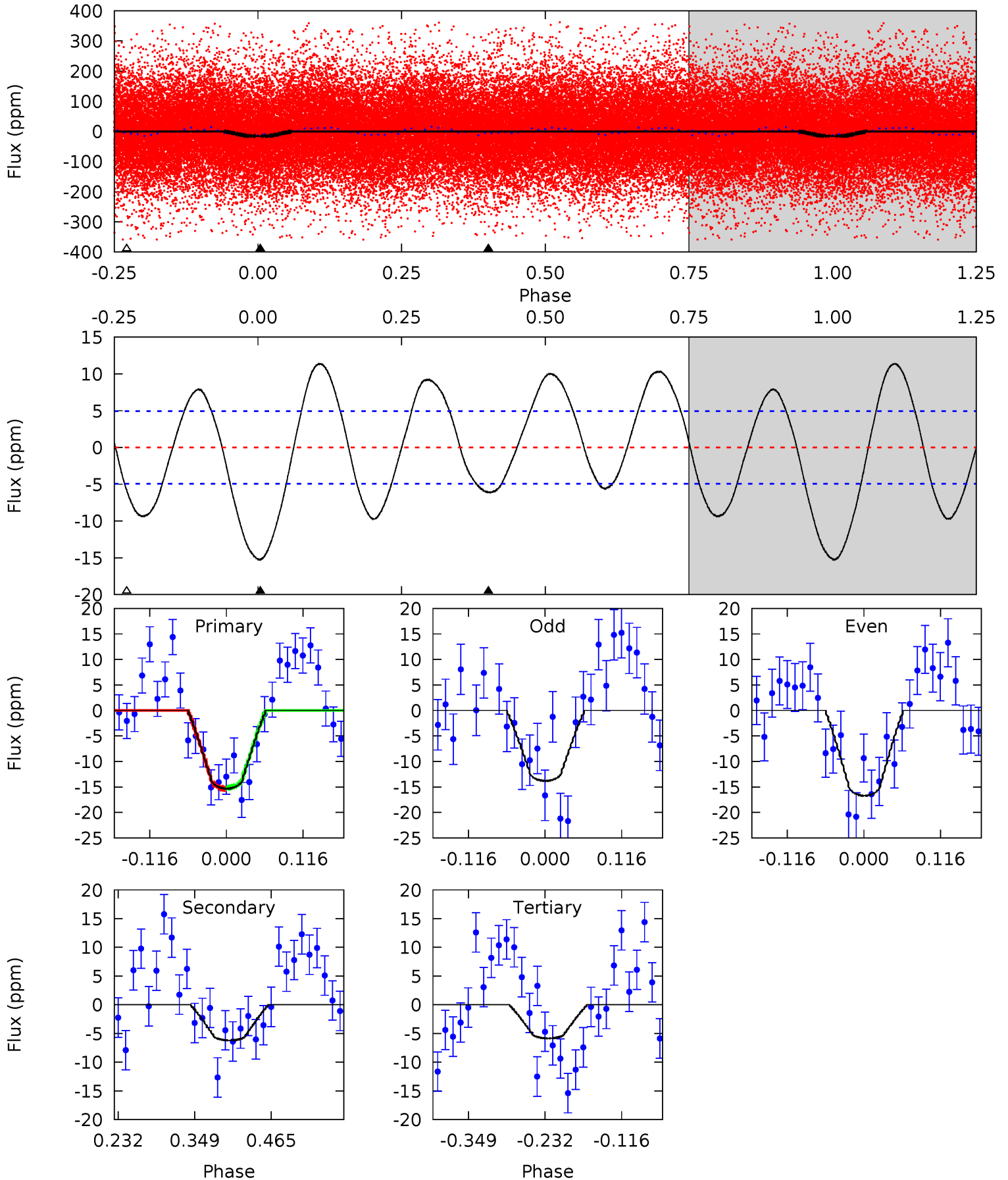
TCE 005640511-01 P= 0.550370 Days $T_0=131.961106$ (BKJD)



DV Model-Shift Uniqueness Test

005640511-01, P = 0.550368 Days, E = 131.410933 Days

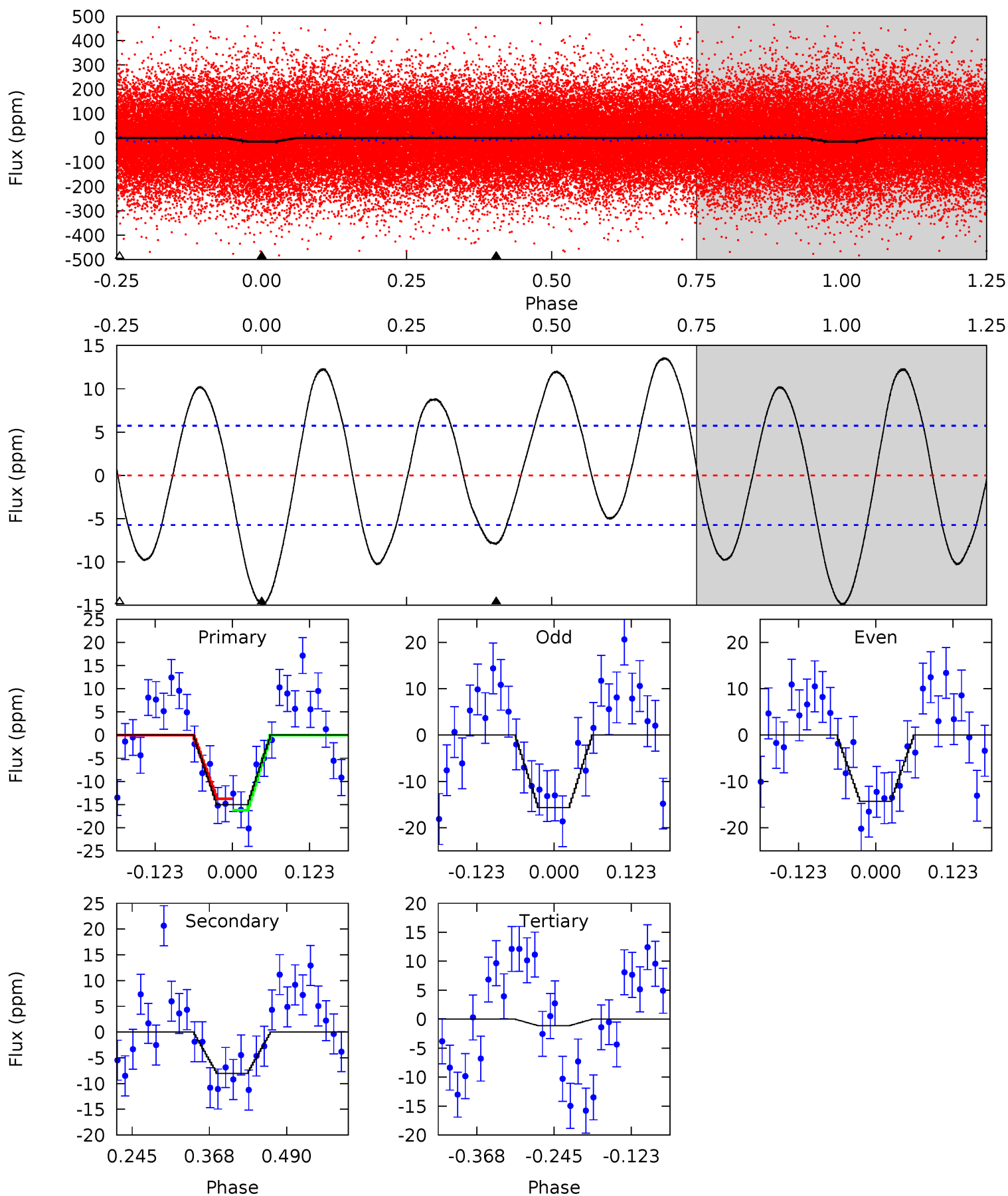
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.1	5.70	5.38	0	4.53	1.57	5.81	8.72	14.1	0.32	5.70	1.34	0.87	0.43	0.11



Alt Model-Shift Uniqueness Test

005640511-01, P = 0.550370 Days, E = 131.410736 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.8	6.32	0.89	0	4.52	1.54	5.59	10.9	11.8	5.43	6.32	0.55	0.86	0.48	0.96



Stellar Parameters For KIC 005640511

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	7105^{+192}_{-213}	$3.664^{+0.312}_{-0.078}$	$-0.480^{+0.300}_{-0.250}$	$3.053^{+0.380}_{-1.139}$	$1.567^{+0.241}_{-0.322}$	$0.078^{+0.175}_{-0.020}$
	+3%/-3%	+9%/-2%	+62%/-52%	+12%/-37%	+15%/-21%	+226%/-26%
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 005640511-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-6 ± 1	$1.12^{+0.46}_{-0.41}$	6063^{+376}_{-546}	4966^{+1821}_{-1789}	$0.613^{+0.969}_{-0.294}$
Alt.	-8 ± 1	$1.15^{+0.45}_{-0.43}$	6050^{+359}_{-553}	5430^{+1956}_{-1444}	$0.773^{+1.123}_{-0.388}$

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 $A_{obs} \gg 1.0$

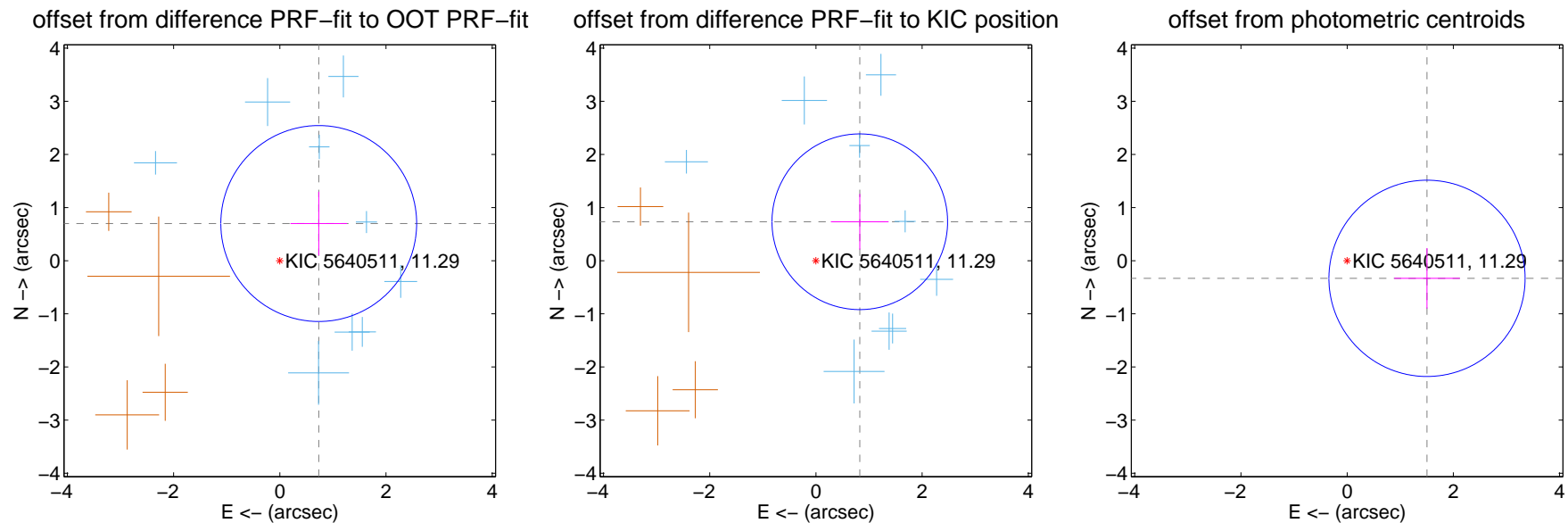
DV Centroid Data

Supplemental centroid analysis for 005640511-01. **Kepler magnitude: 11.29.** Transit SNR 9.09

There are 9 quarters with good PRF difference image offsets

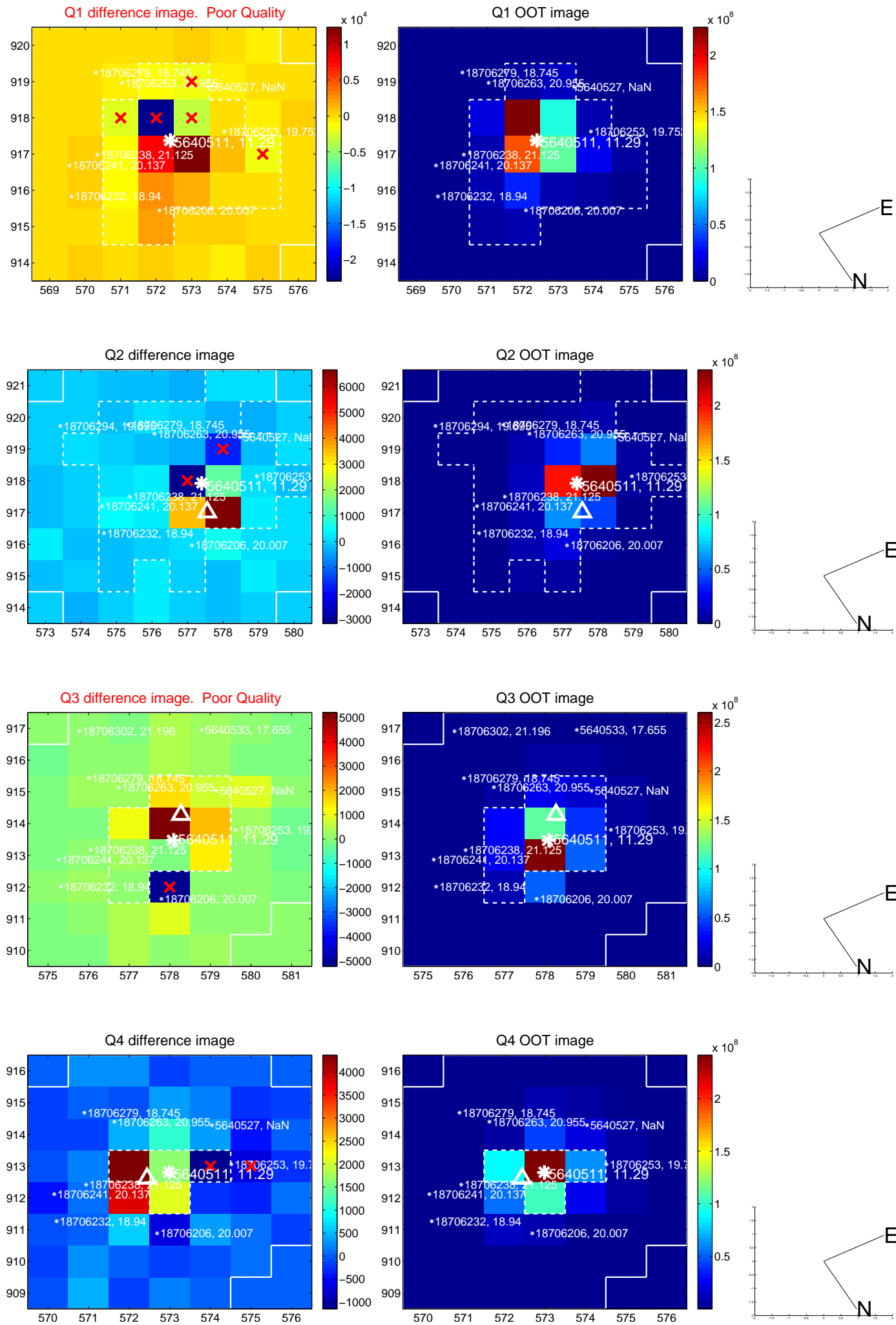
The direct PRF centroid is offset from the target star catalog position by about 0.14 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.013 ± 0.615	1.65	-0.733 ± 0.532	0.700 ± 0.598
PRF-fit source offset from KIC position	1.104 ± 0.551	2.00	-0.826 ± 0.543	0.733 ± 0.523
photometric centroid source offset	1.54 ± 0.62	2.50	-1.50 ± 0.62	-0.33 ± 0.57

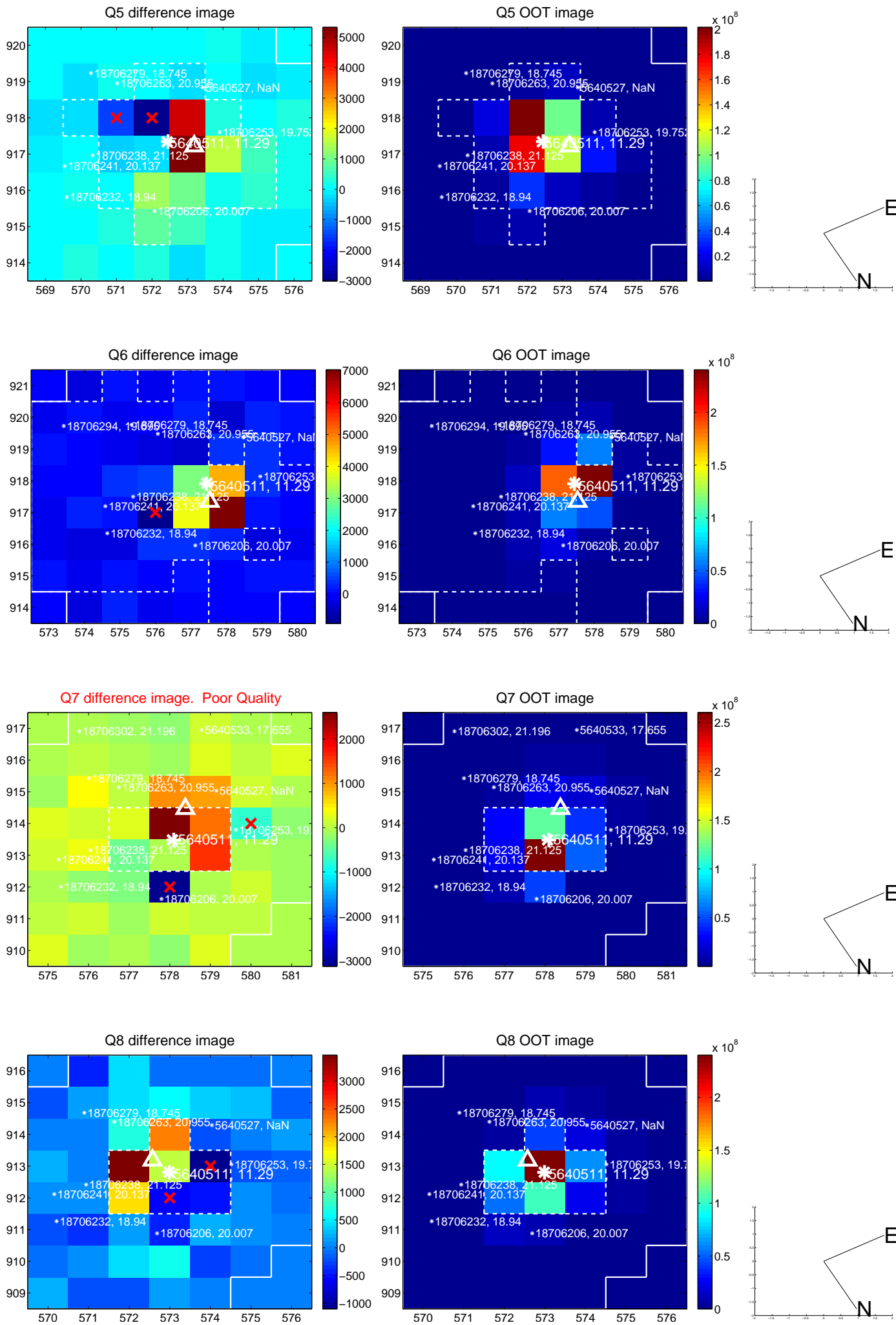


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

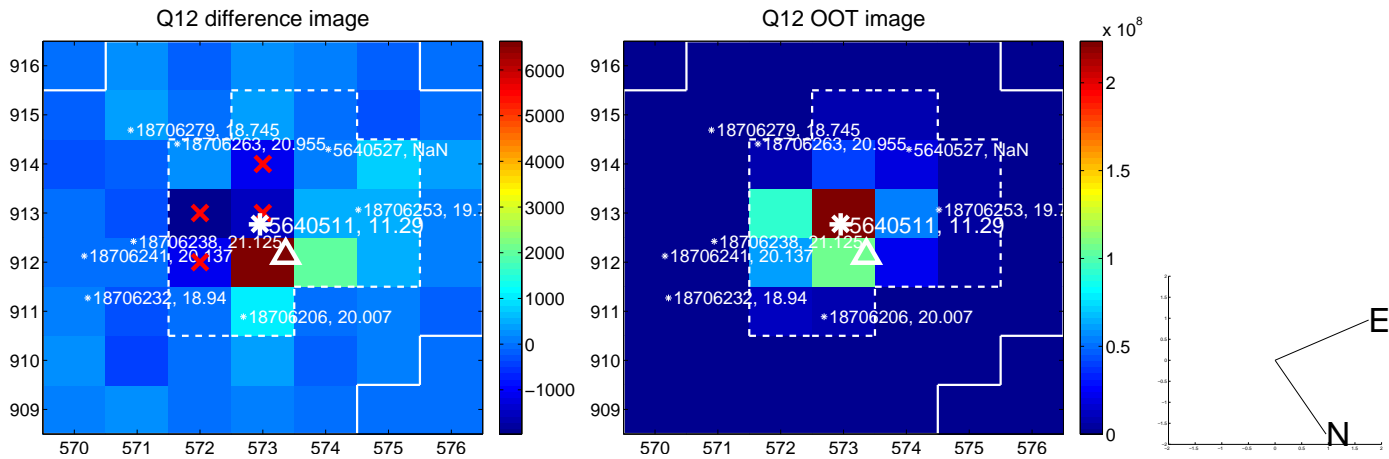
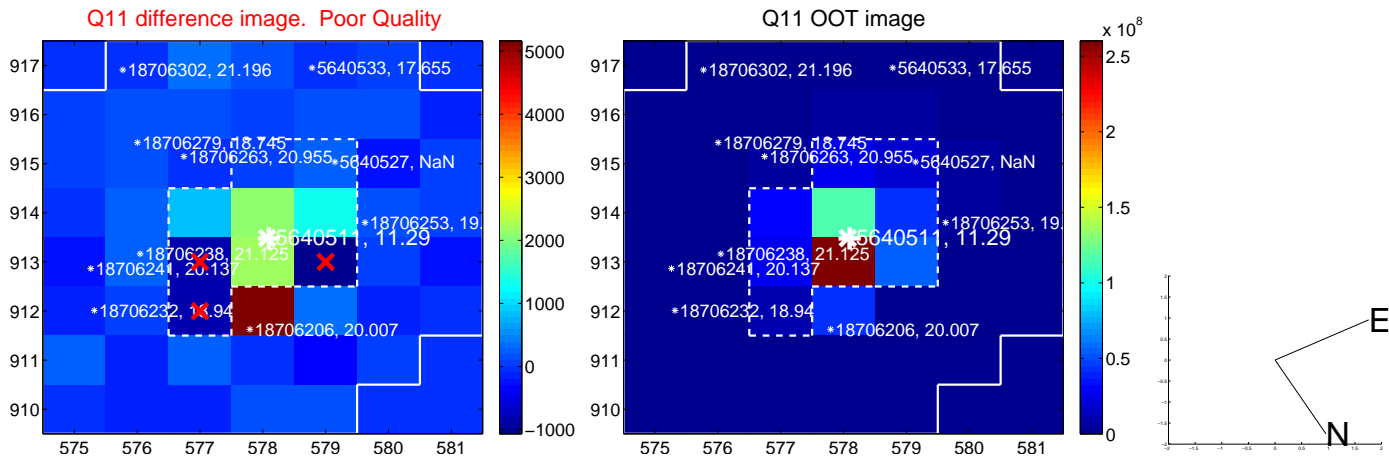
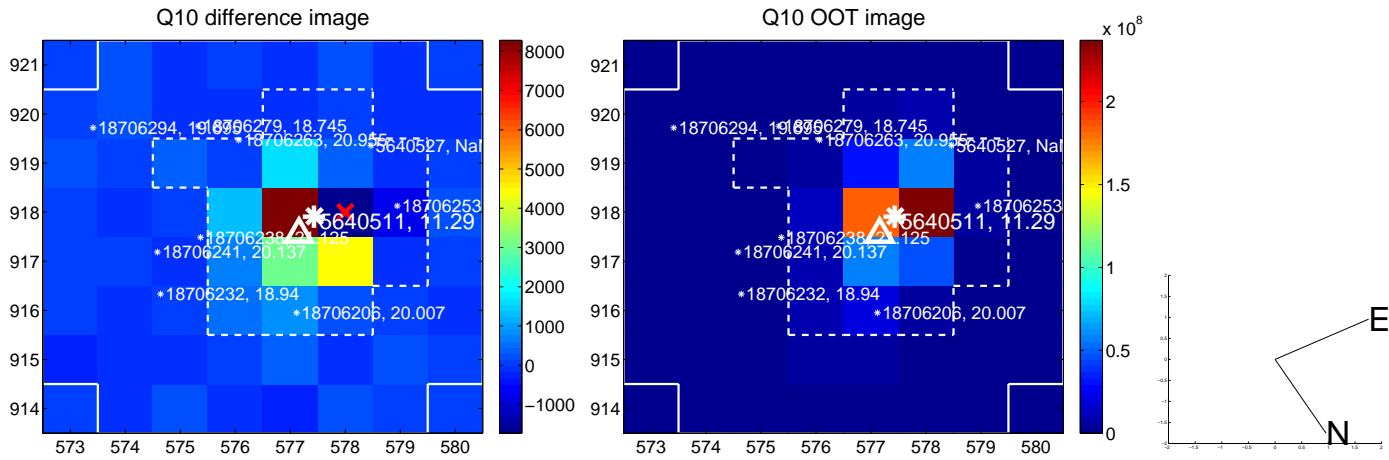
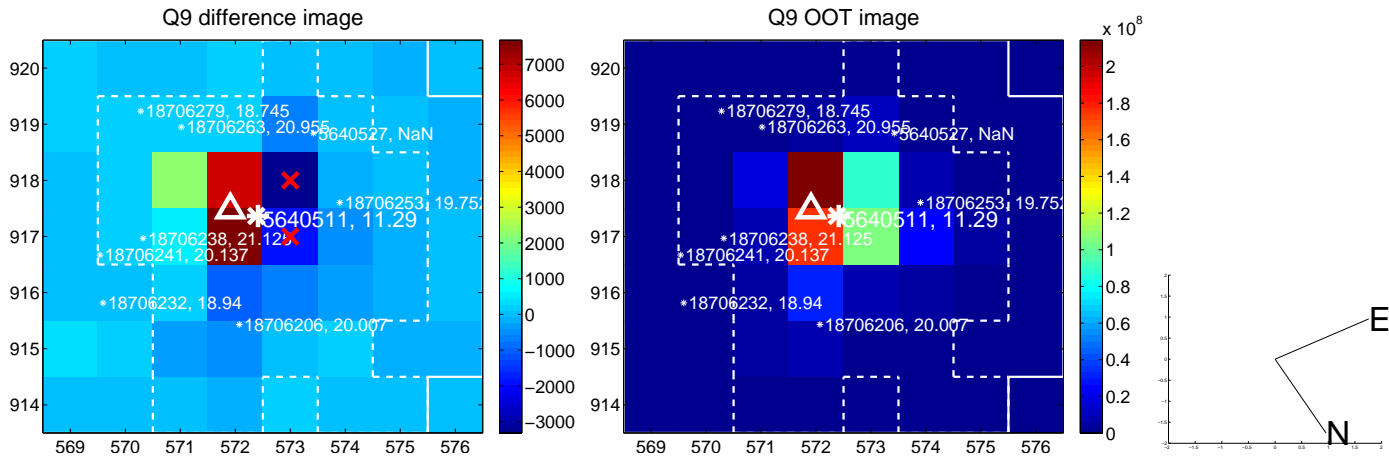
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



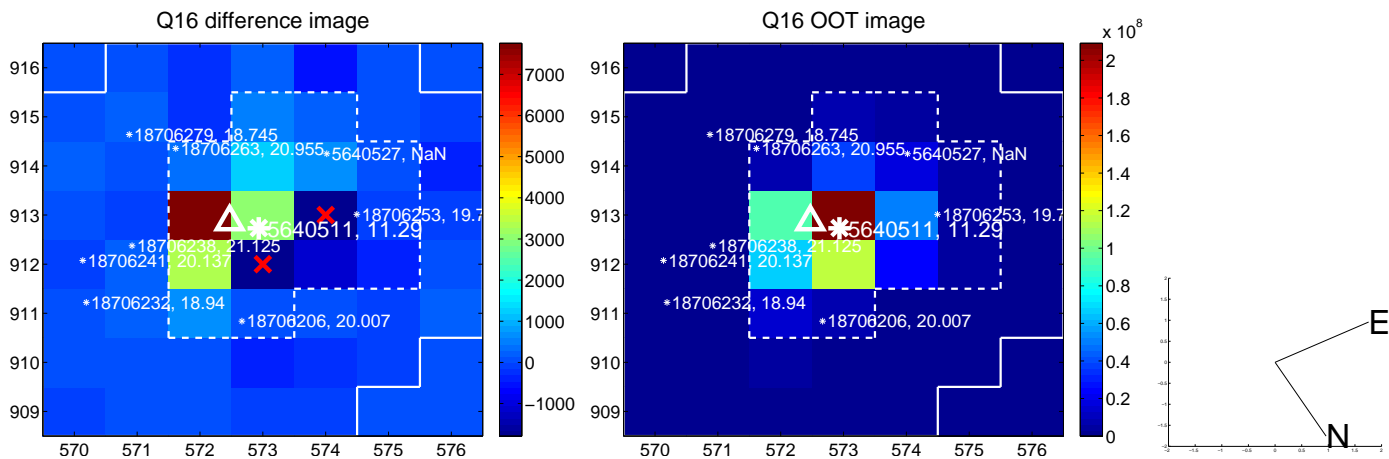
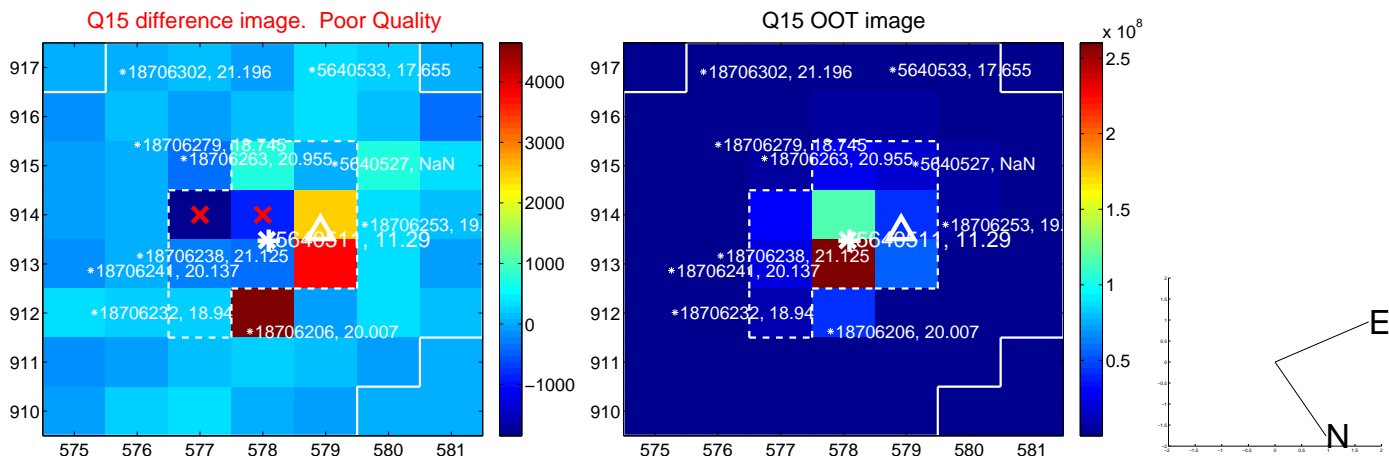
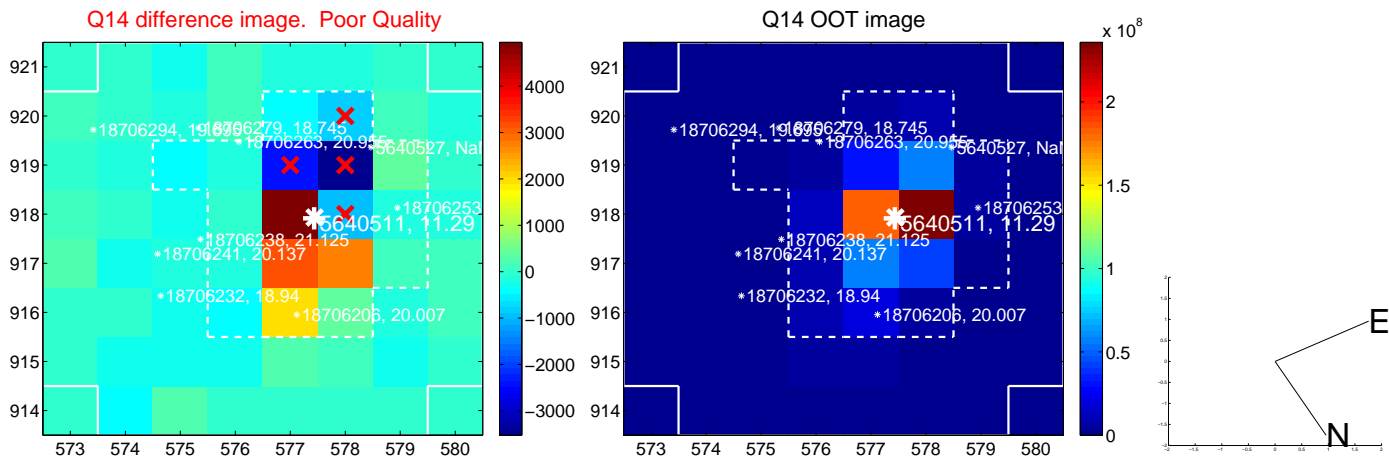
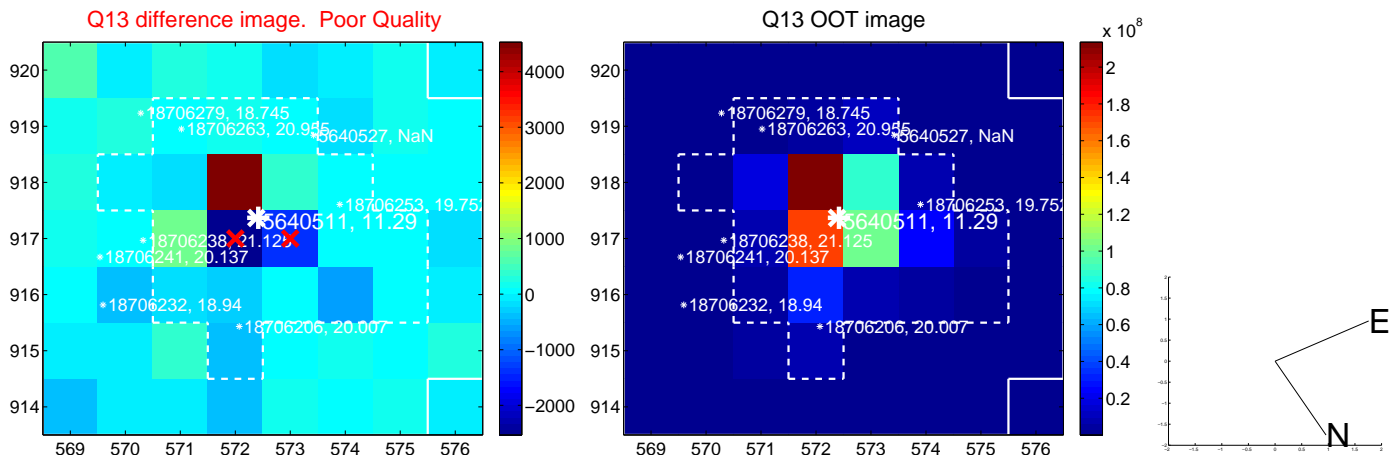
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



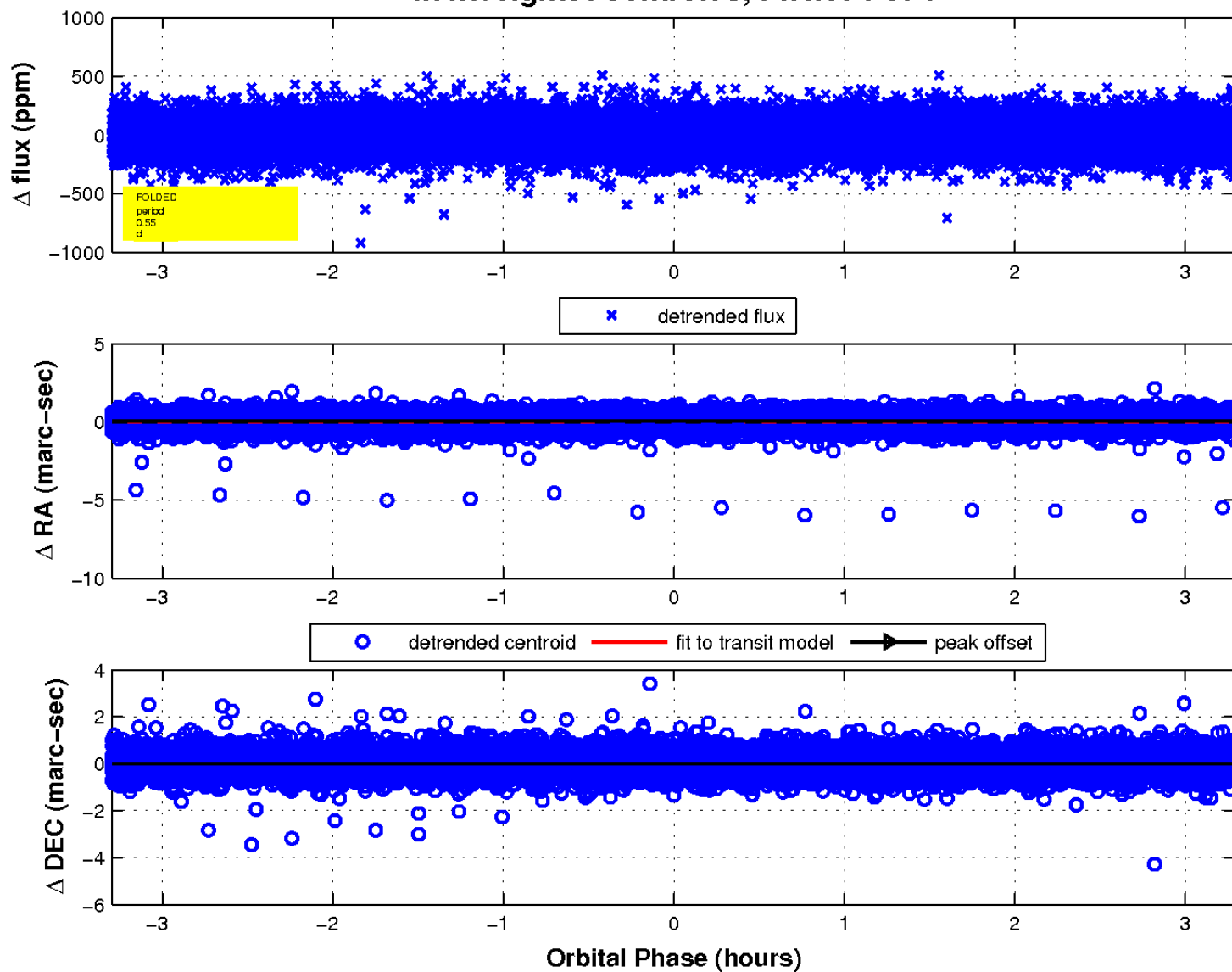
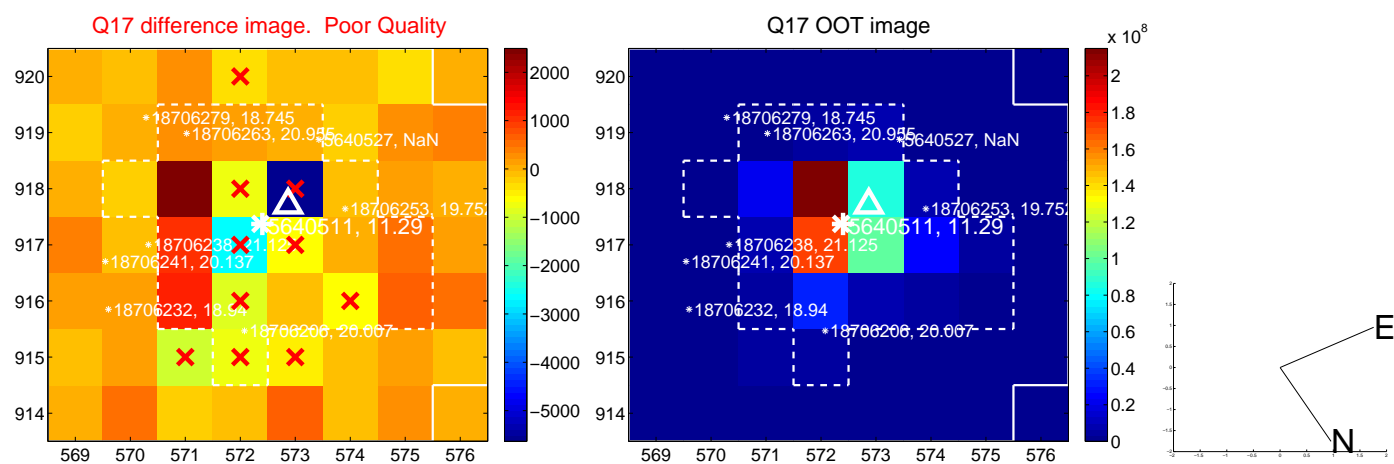
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UKIRT Image

