

KIC 004457122

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})
004457122-01	OBS	No	1.347501	132.300187	1.7	0.504	8.8	0.5	1.61	6811	0.22	7425.69

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004457122-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT

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

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

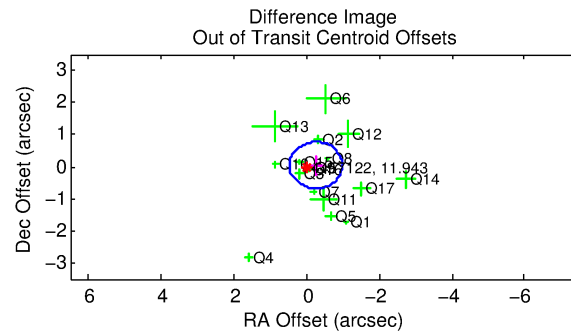
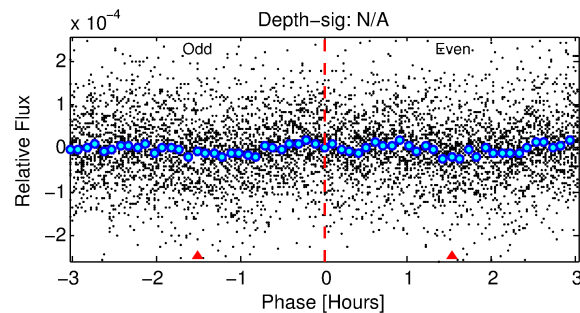
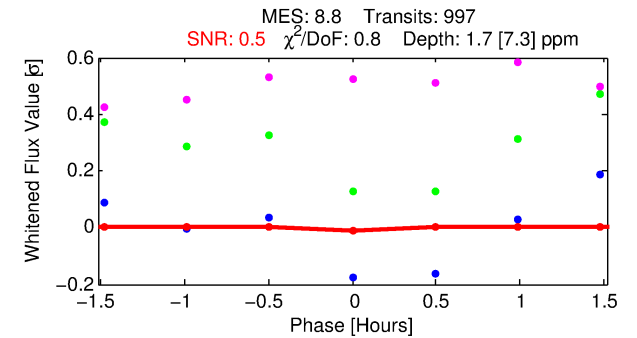
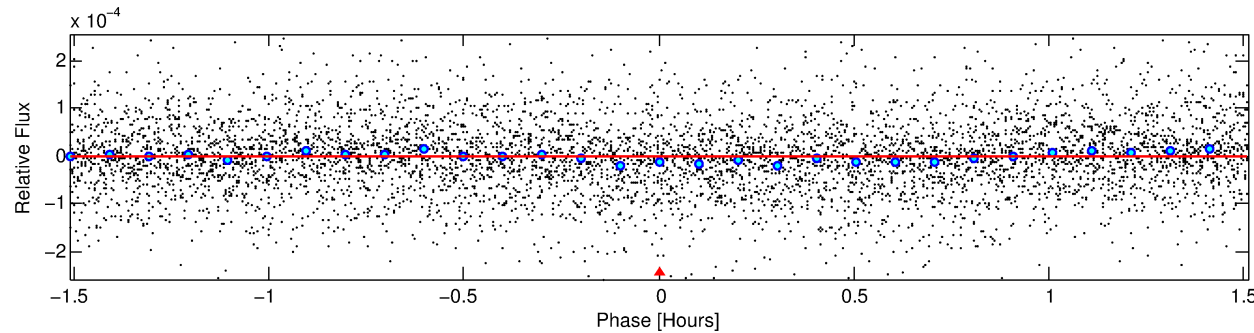
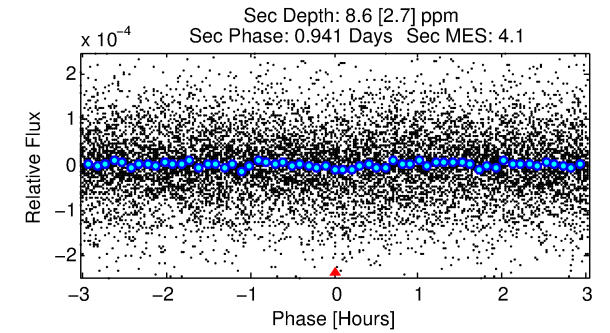
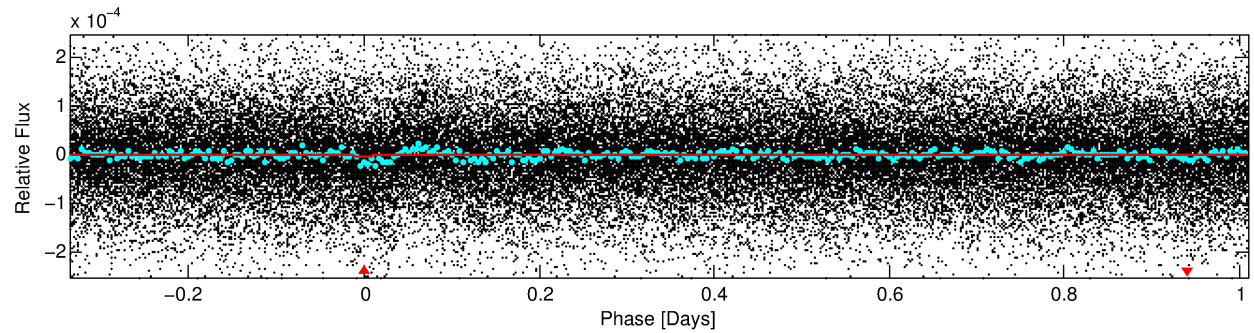
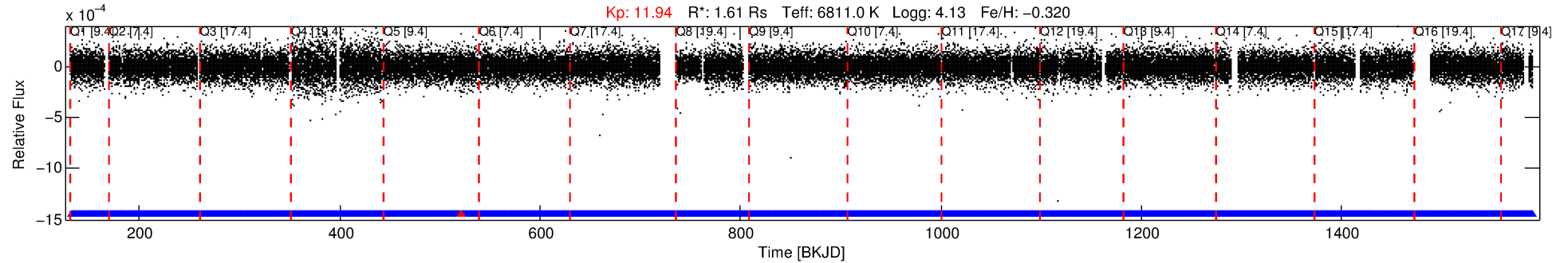
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 004457122-01

No Significant Match Found

DV One-Page Summary

KIC: 4457122 Candidate: 1 of 1 Period: 1.348 d



DV Fit Results:

Period = 1.34750 [0.00019] d
Epoch = 132.3002 [0.0197] BKJD
Rp/R* = 0.0013 [0.0707]
a/R* = 20.34 [6339.64]
b = 0.10 [3156.67]
Seff = 7425.69 [3014.39]
Teq = 2367 [240] K
Rp = 0.22 [12.41] Re
a = 0.0259 [0.0063] AU
Ag = 63.37 [7034.10] [0.01σ]
Teffp = 10326 [286535] K [0.03σ]

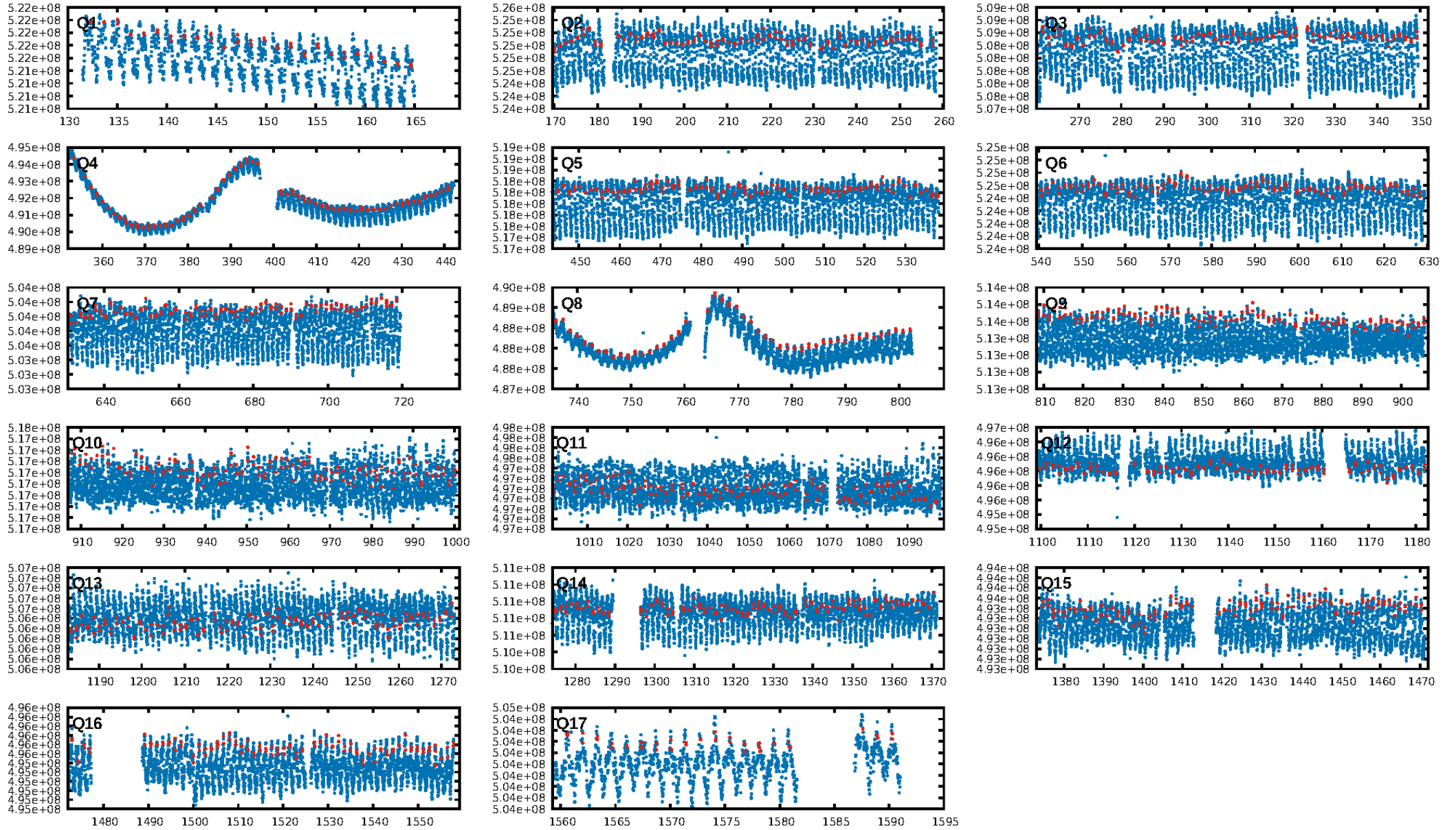
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.71e-17
RollingBand-fgt: 1.00 [951/952]
GhostDiagnostic-chr: N/A
Centroid-sig: N/A
Centroid-so: N/A
OotOffset-rm: 0.256 arcsec [1.06σ]
KicOffset-rm: 0.284 arcsec [1.16σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.18 [3/17]
DiffImageOverlap-fno: 1.00 [17/17]

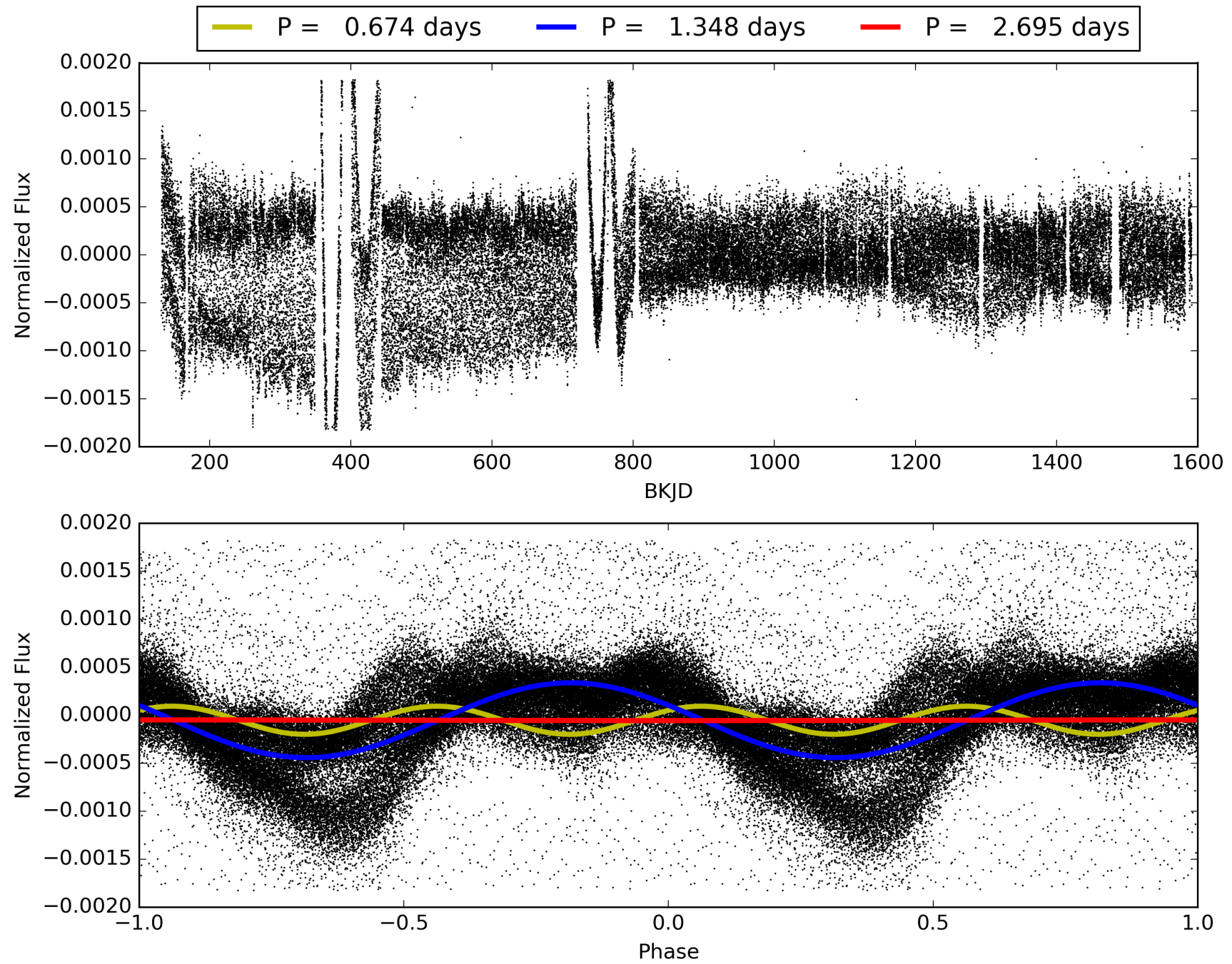
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 16:35:01 Z

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

TCE 004457122-01, PDC Light Curves

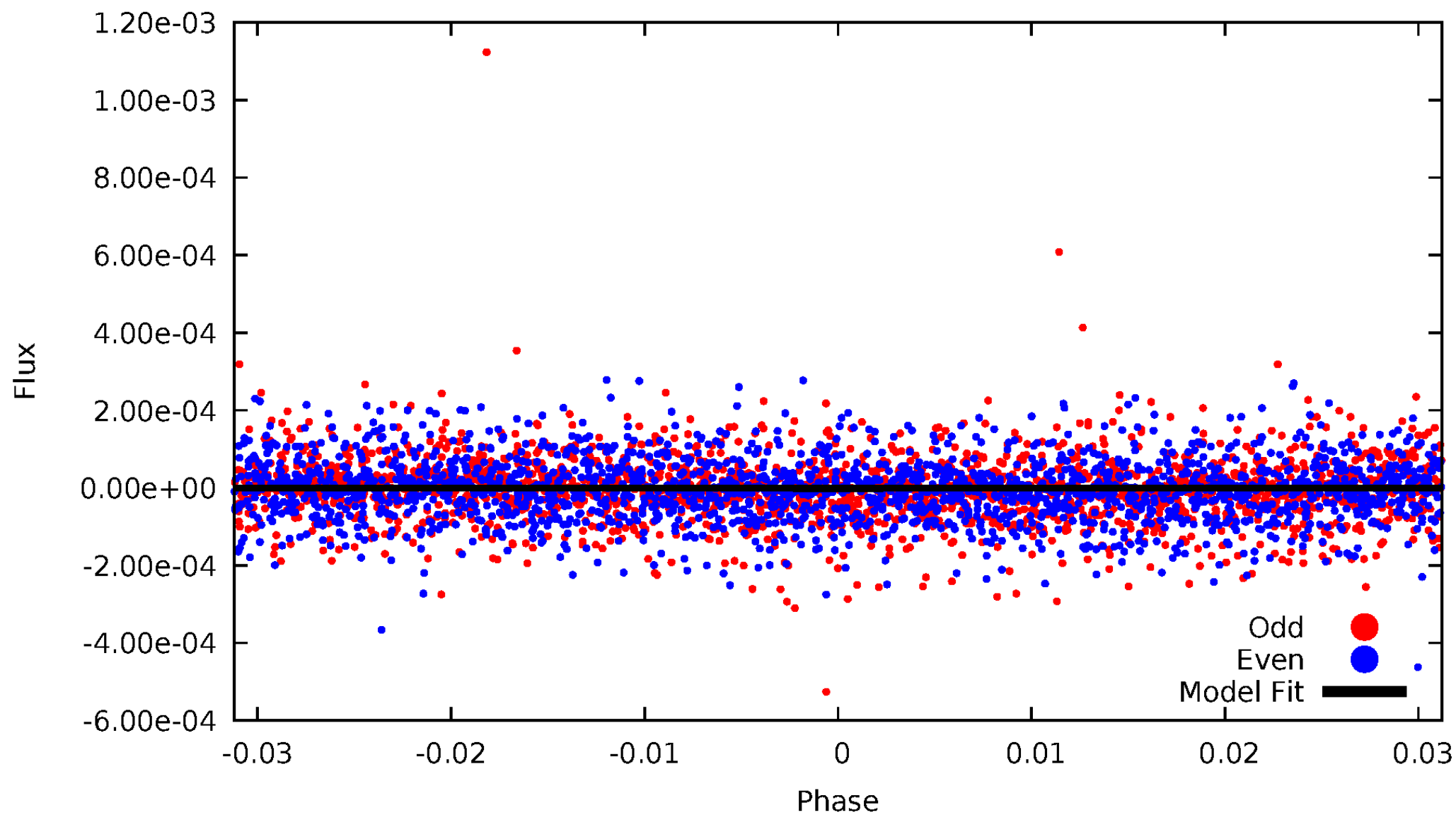


TCE 004457122-01



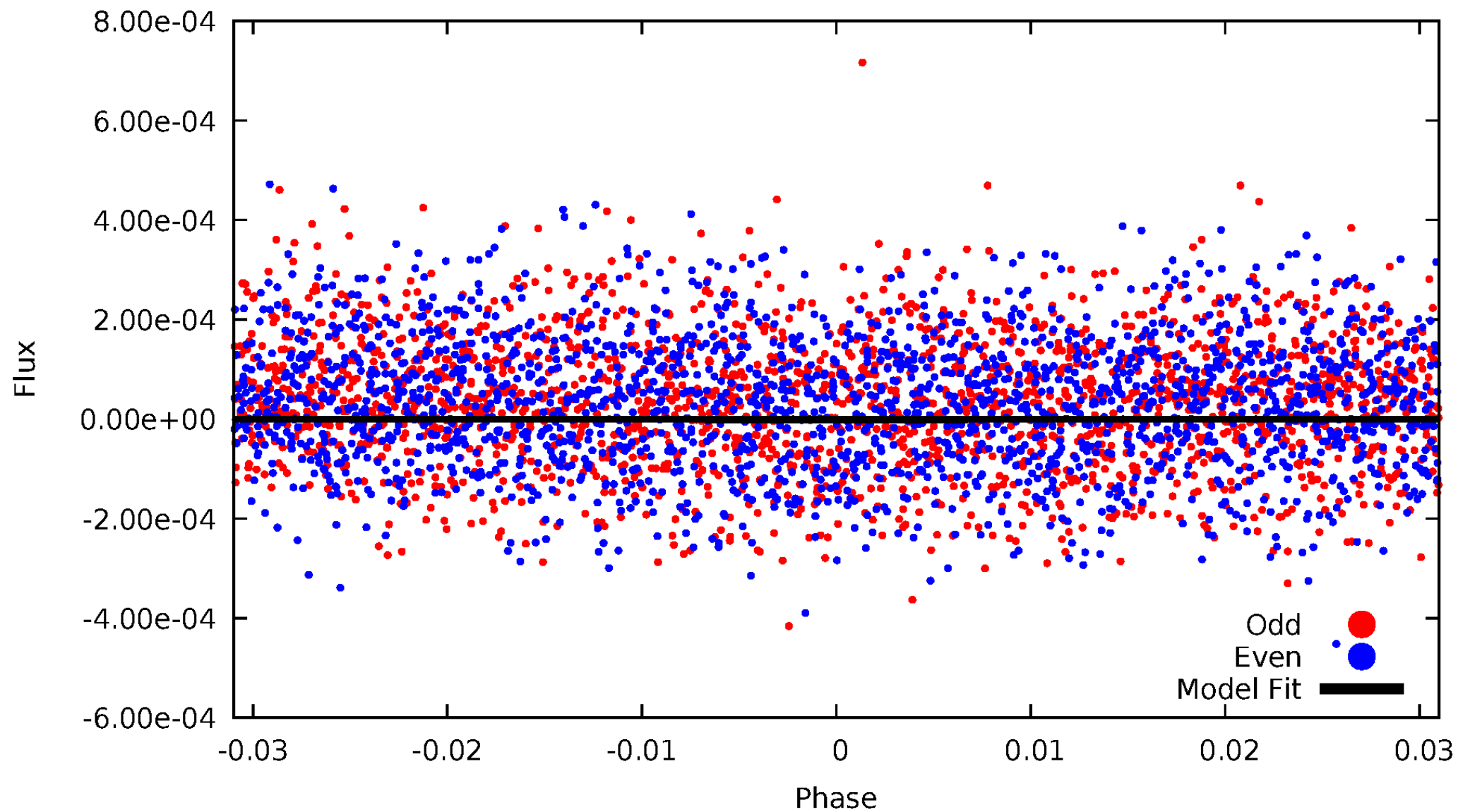
DV Odd/Even

TCE 004457122-01



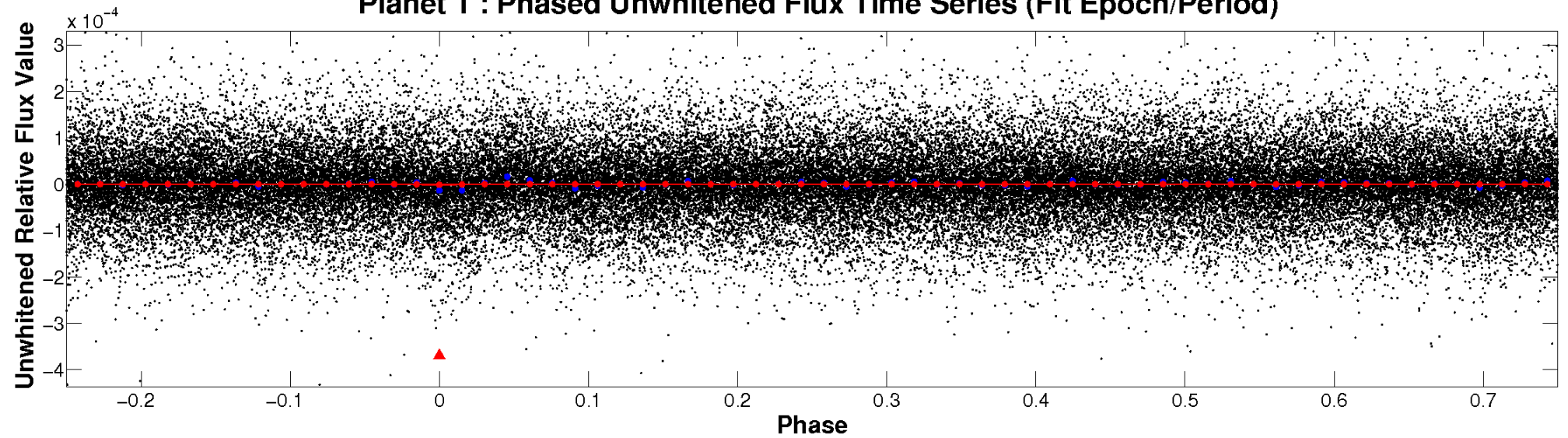
ALT Odd/Even

TCE 004457122-01

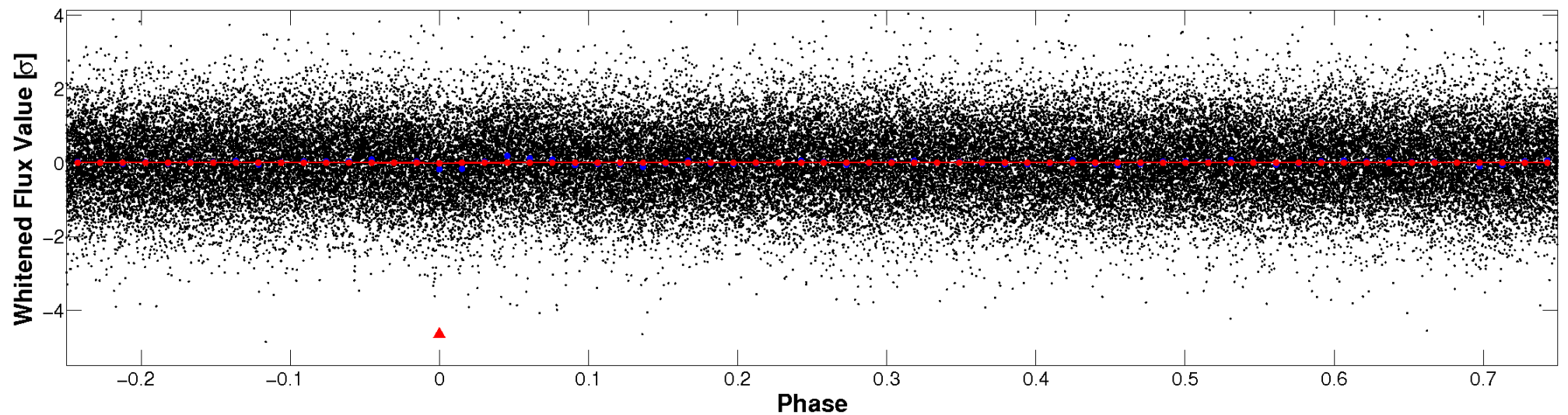


Non-Whitened Vs. Whitened Light Curve

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

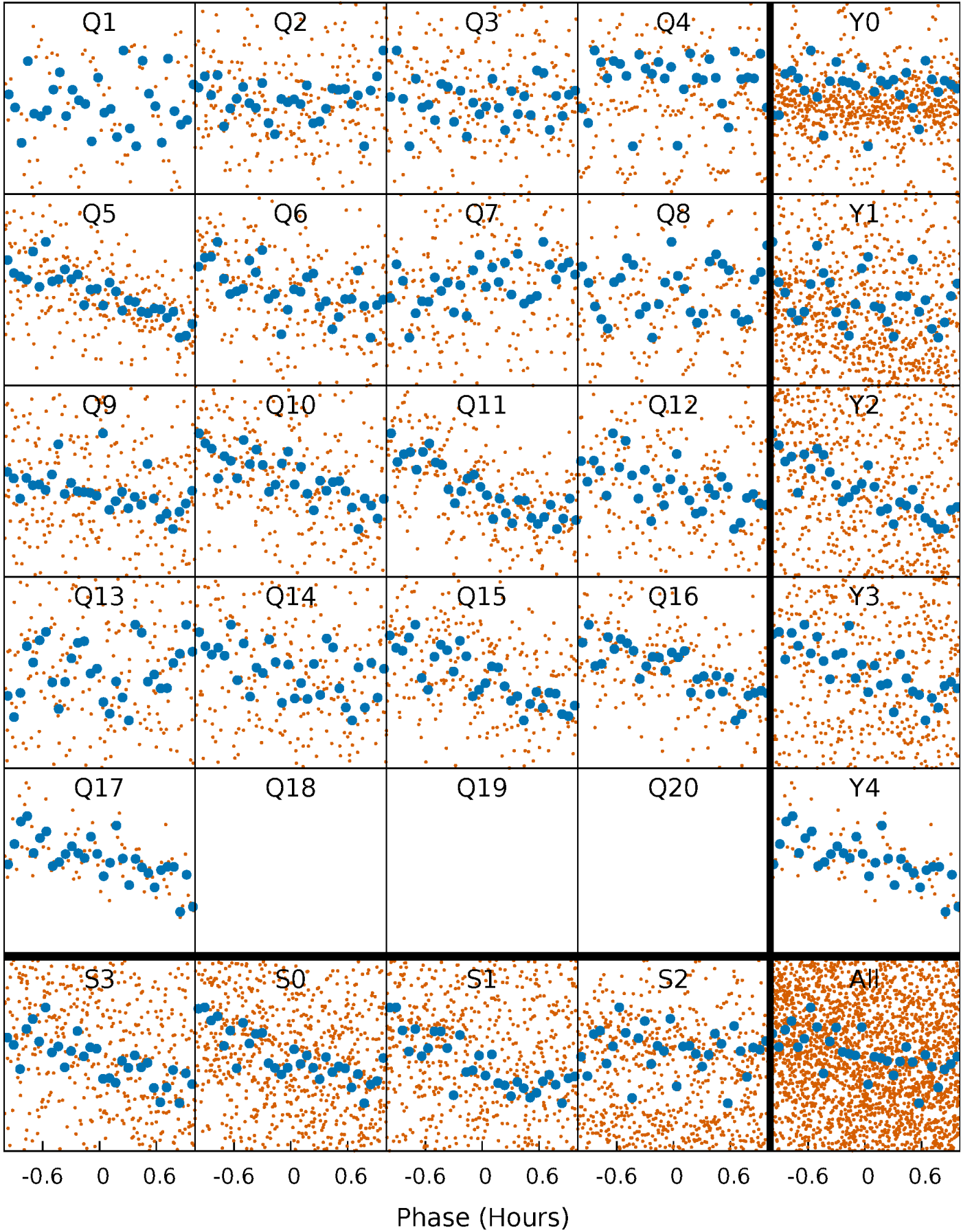


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



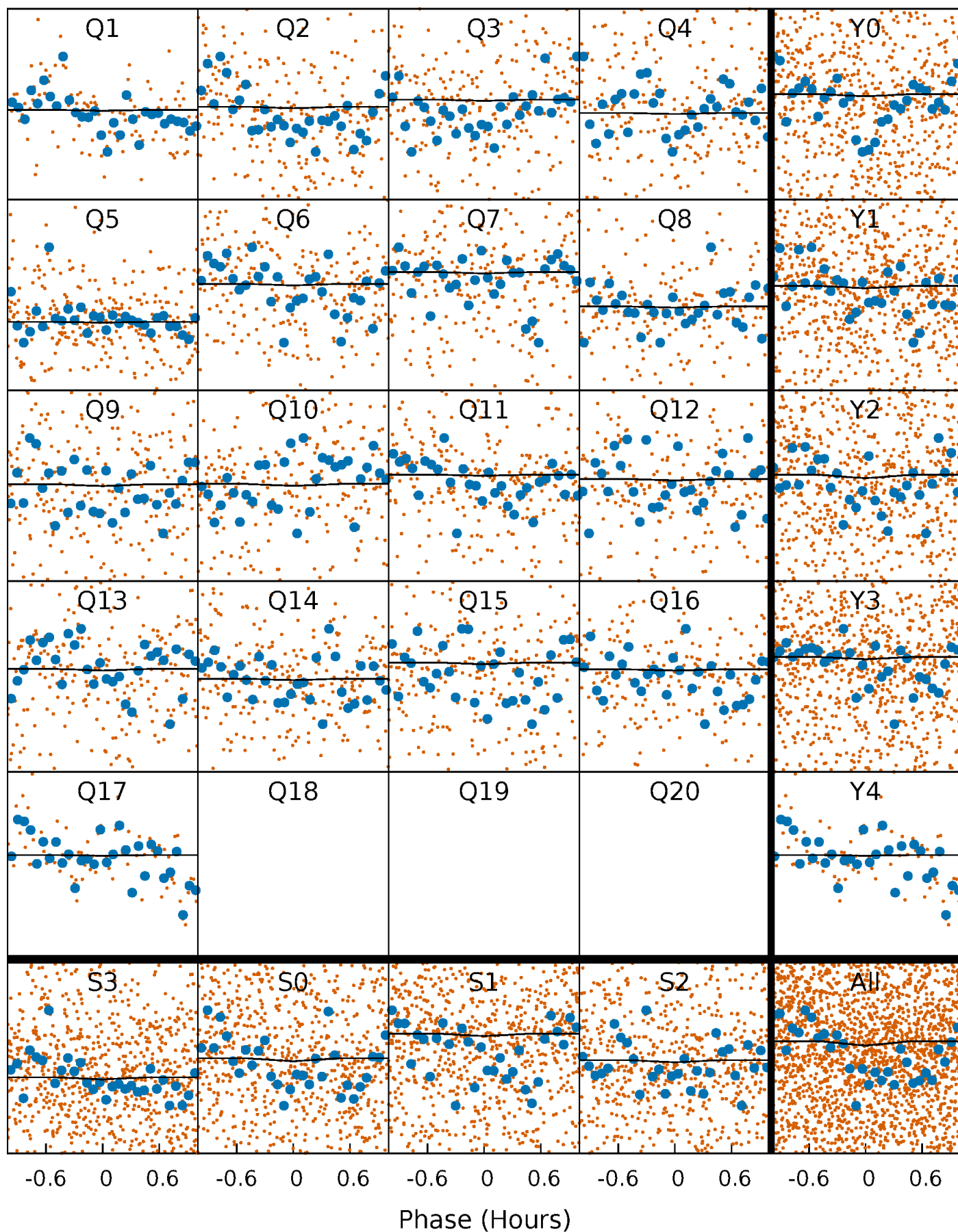
PDC Quarter-Phased Transit Curves

TCE 004457122-01 P= 1.347501 Days $T_0=132.300187$ (BKJD)



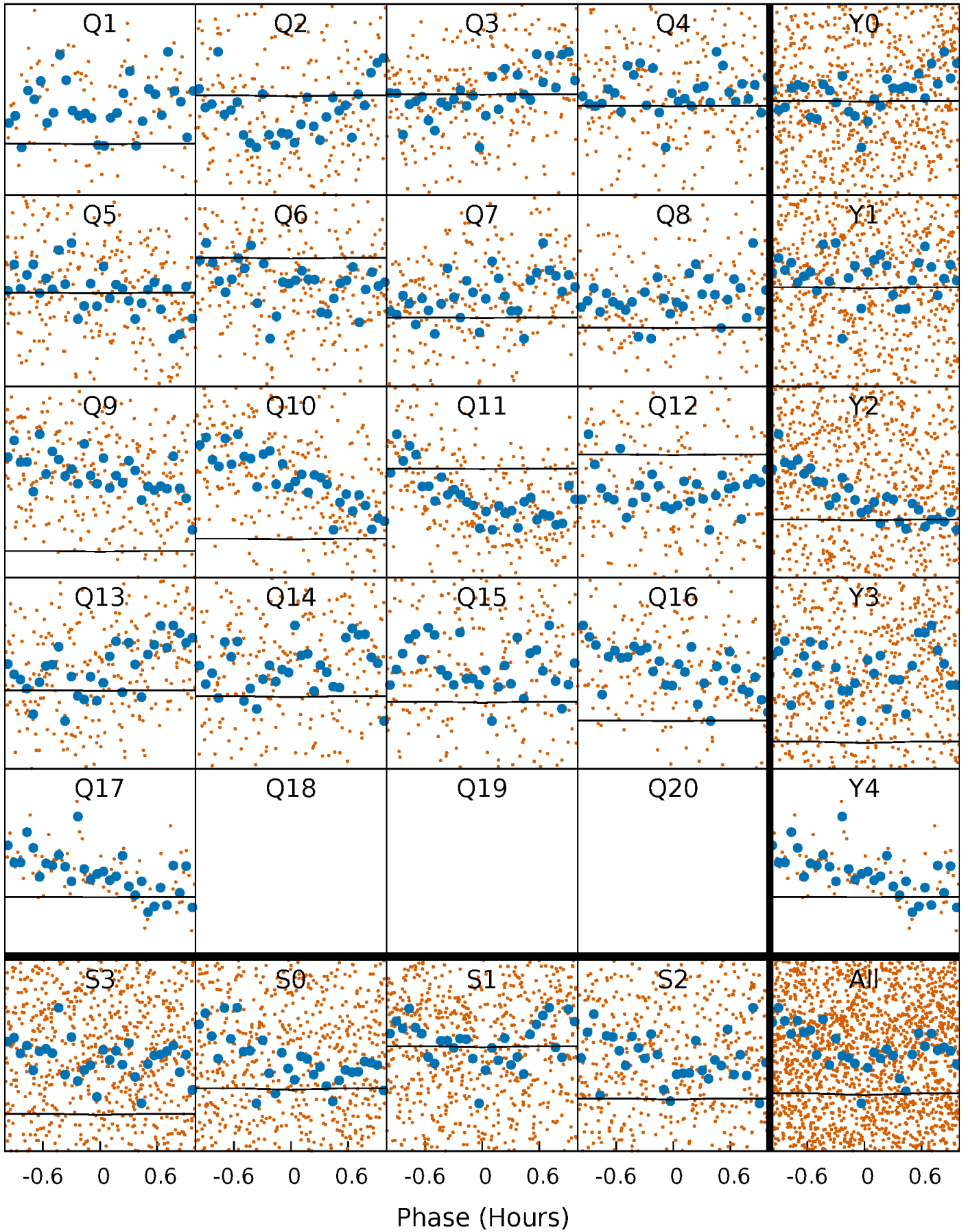
DV Quarter-Phased Transit Curves

TCE 004457122-01 P= 1.347501 Days $T_0=132.300187$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

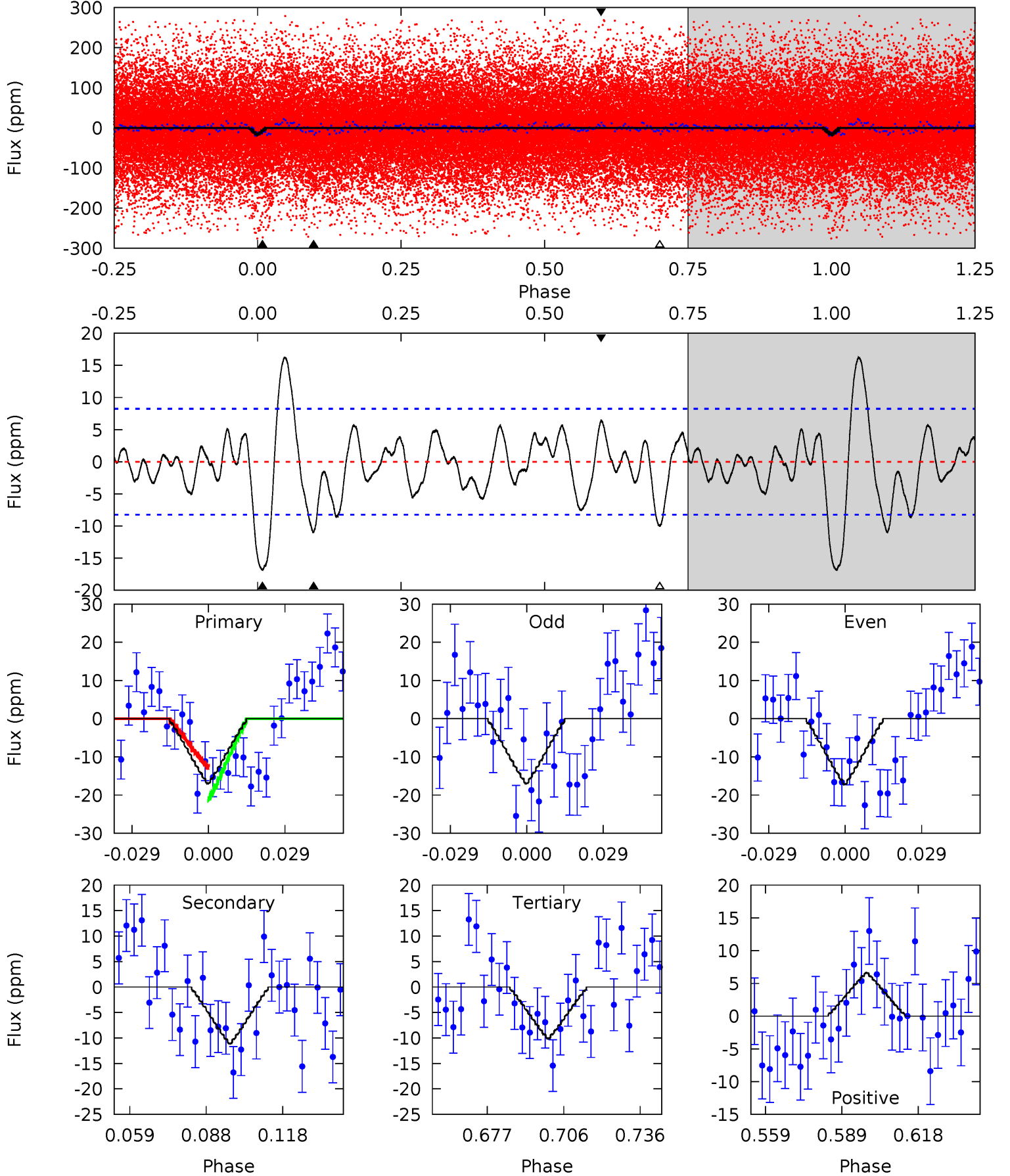
TCE 004457122-01 P= 1.347516 Days $T_0=132.300008$ (BKJD)



DV Model-Shift Uniqueness Test

004457122-01, P = 1.347501 Days, E = 130.952686 Days

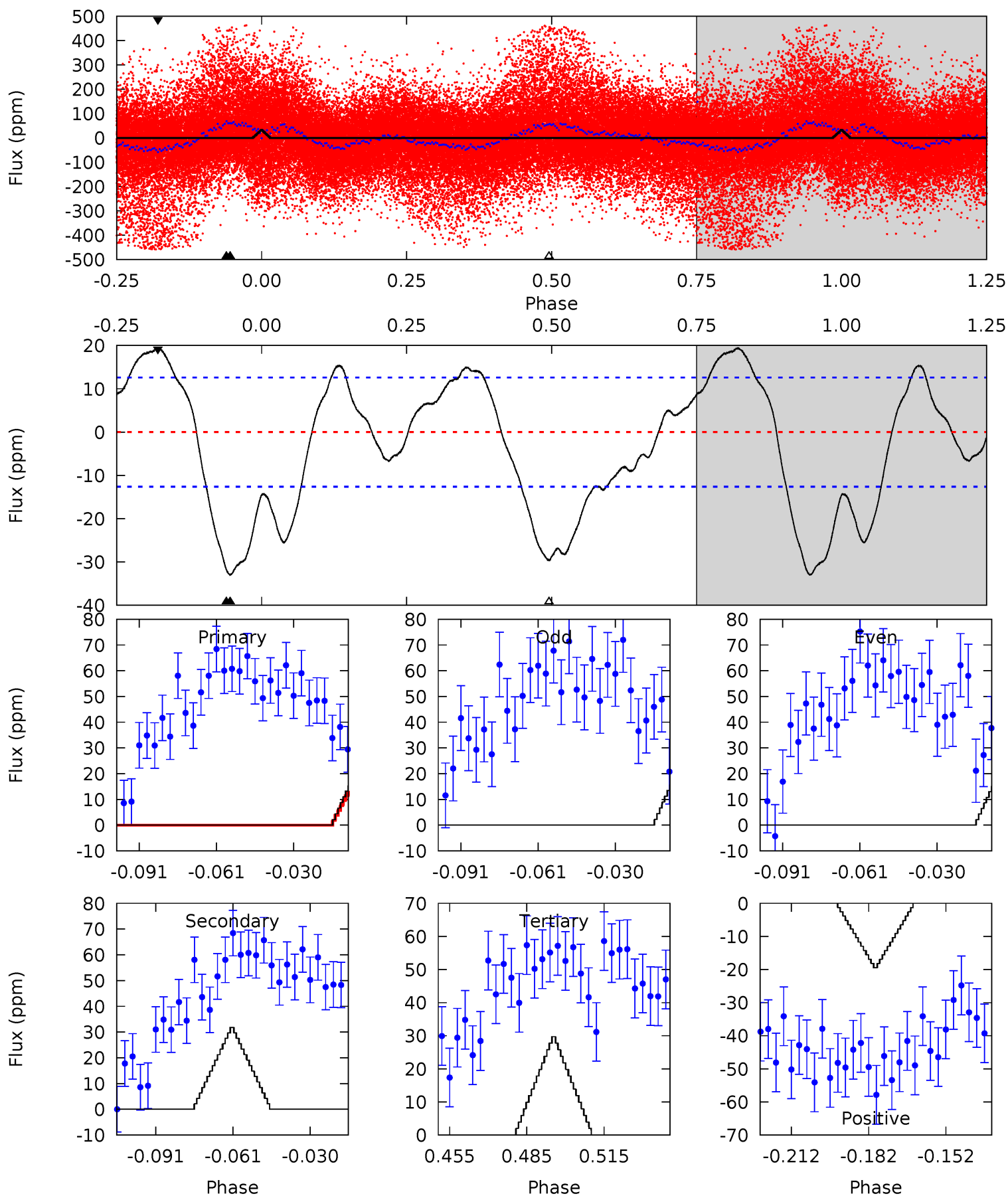
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.91	6.48	5.89	3.84	4.82	2.18	2.43	4.01	6.06	0.59	2.64	0.07	1.67	0.49	2.53



Alt Model-Shift Uniqueness Test

004457122-01, P = 1.347516 Days, E = 130.952492 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.6	12.2	11.4	7.44	4.81	2.17	5.21	1.27	5.19	0.80	4.72	0.24	1.02	0.37	1.81



Stellar Parameters For KIC 004457122

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6811^{+190}_{-285}	$4.132^{+0.209}_{-0.171}$	$-0.320^{+0.250}_{-0.300}$	$1.609^{+0.444}_{-0.400}$	$1.285^{+0.195}_{-0.216}$	$0.435^{+0.514}_{-0.207}$
	+3%/-4%	+5%/-4%	+78%/-94%	+28%/-25%	+15%/-17%	+118%/-48%
Source	PHO54	PHO54	PHO54	DSEP		

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

Secondary Eclipse Parameters for KIC 004457122-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-11 ± 2	$9.38^{+9.04}_{-6.75}$	3290^{+266}_{-242}	-3110^{+6238}_{-218}	$0.048^{+0.499}_{-0.037}$
Alt.	-32 ± 3	$8.62^{+9.39}_{-6.27}$	3285^{+237}_{-267}	-2860^{+7169}_{-372}	$0.164^{+2.040}_{-0.128}$

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 $A_{obs} \gg 1.0$

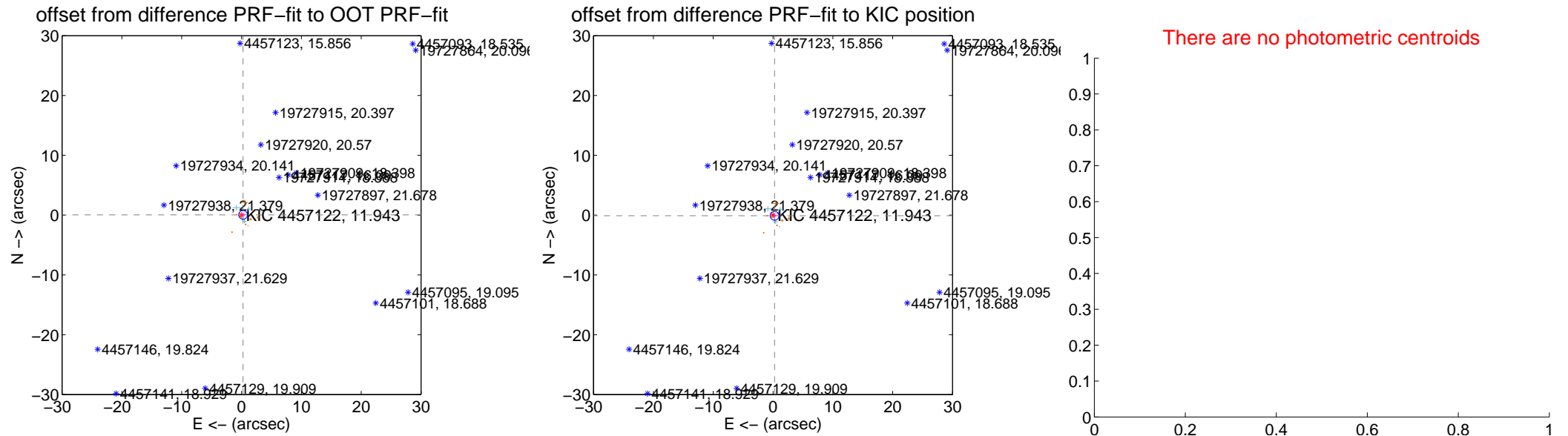
DV Centroid Data

Supplemental centroid analysis for 004457122-01. **Kepler magnitude: 11.94.** Transit SNR 0.50

There are 3 quarters with good PRF difference image offsets

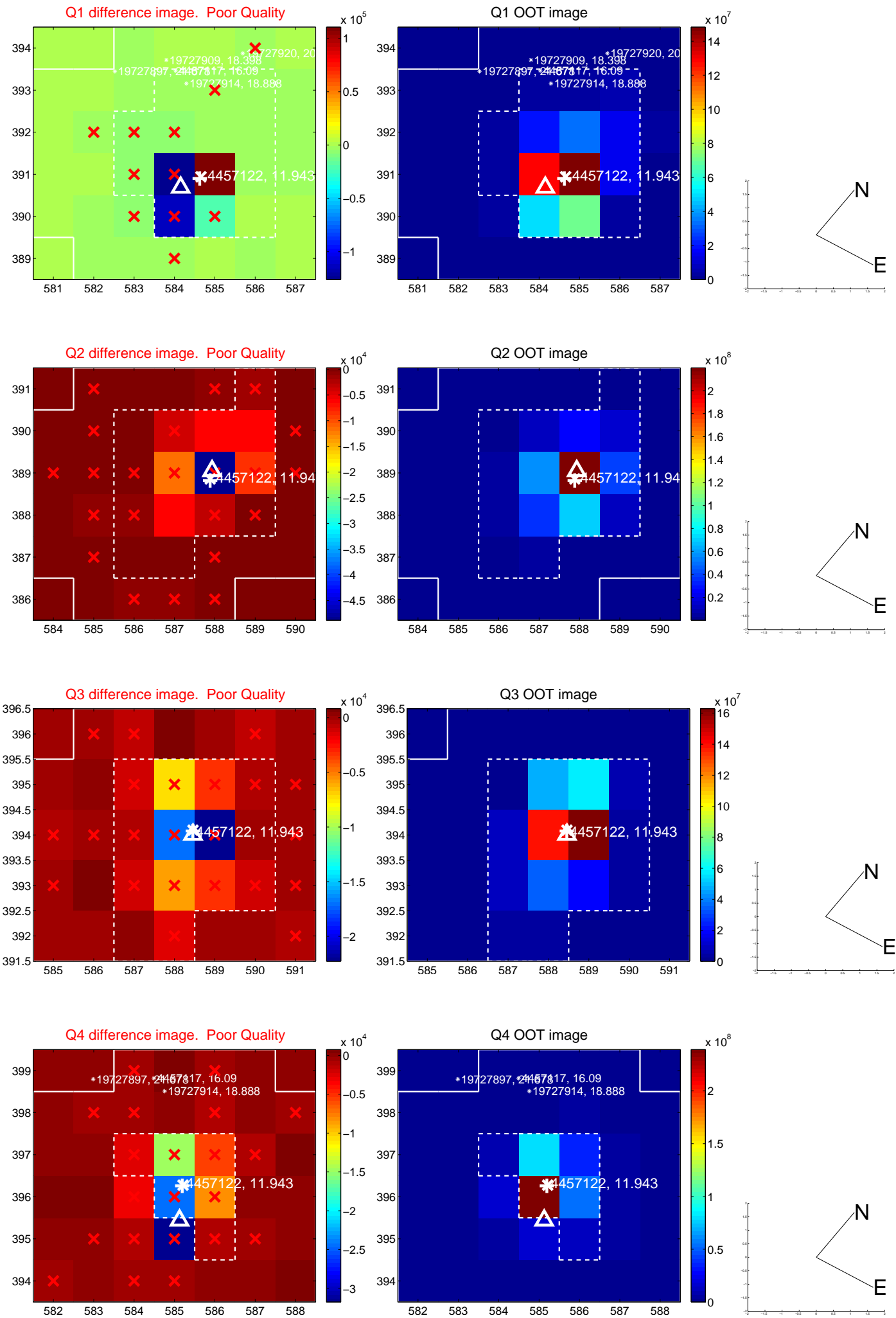
The direct PRF centroid is offset from the target star catalog position by about 0.19 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.256 ± 0.242	1.06	-0.253 ± 0.236	0.042 ± 0.279
PRF-fit source offset from KIC position	0.284 ± 0.245	1.16	-0.261 ± 0.236	-0.110 ± 0.294
photometric centroid source offset	—	—	—	—

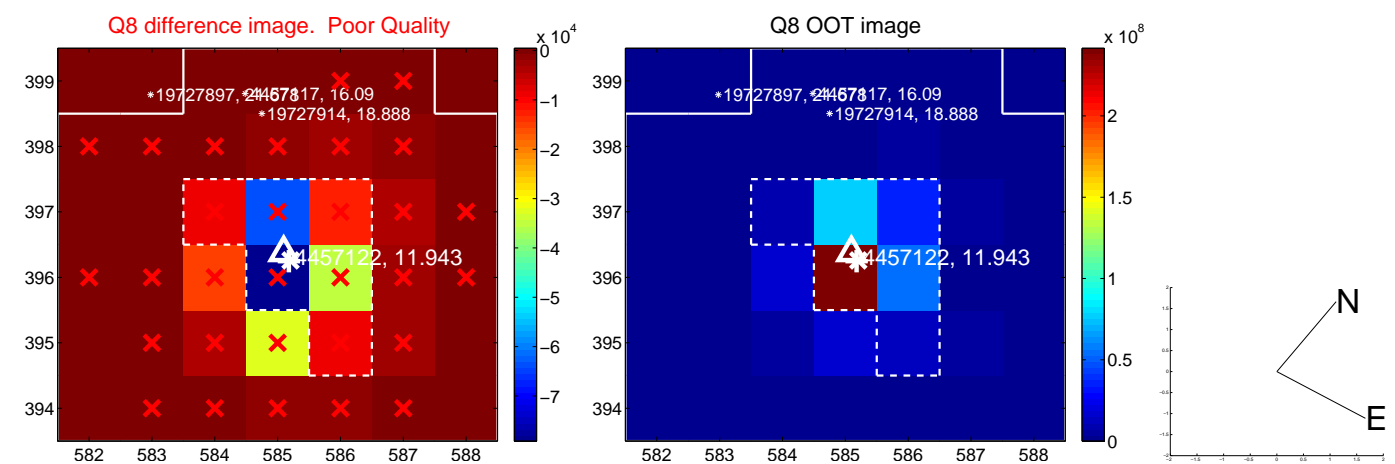
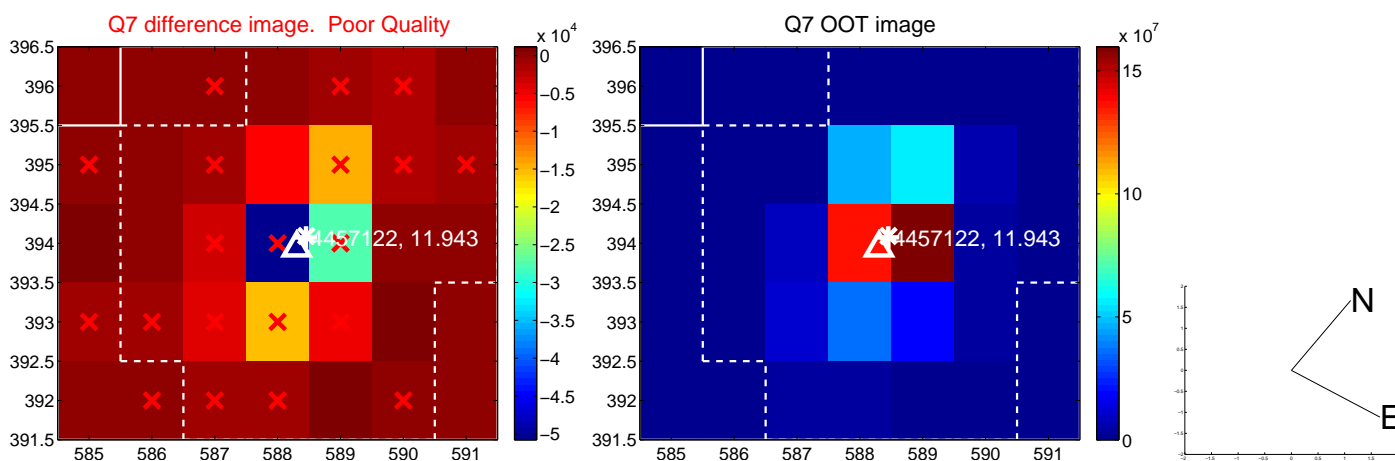
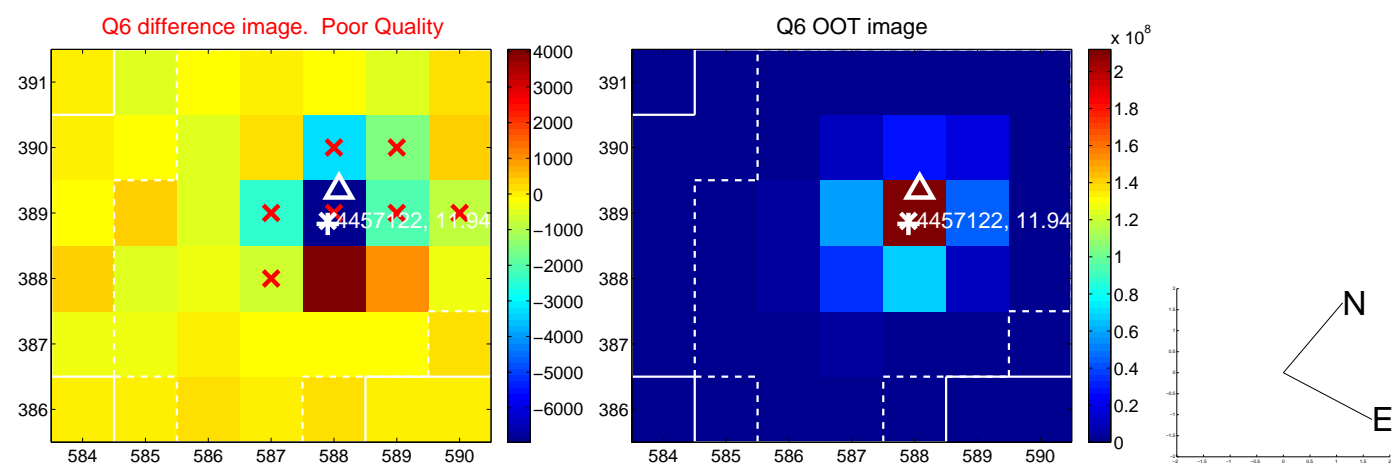
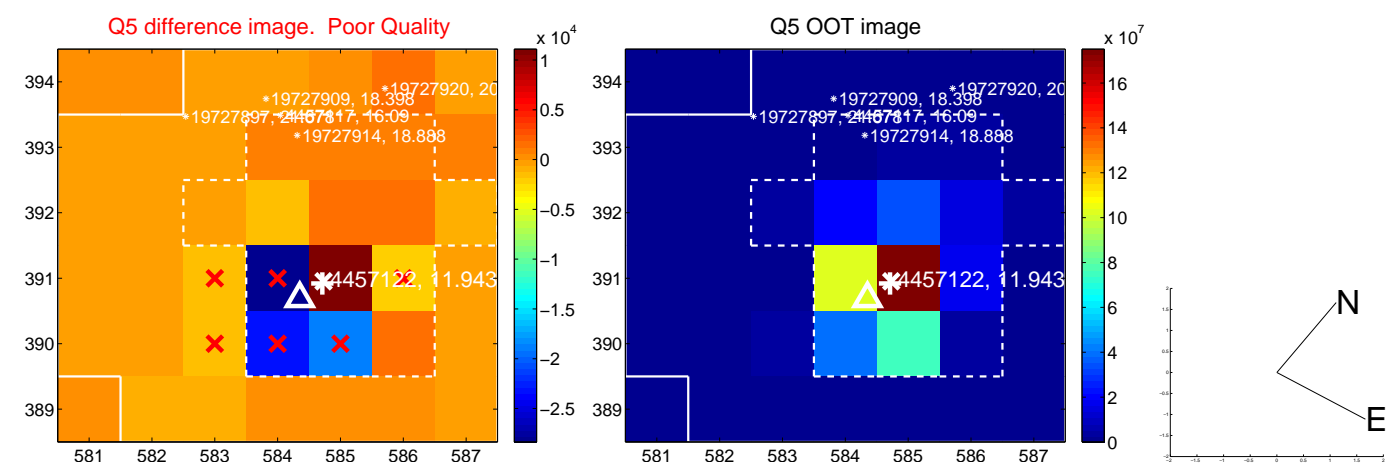


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

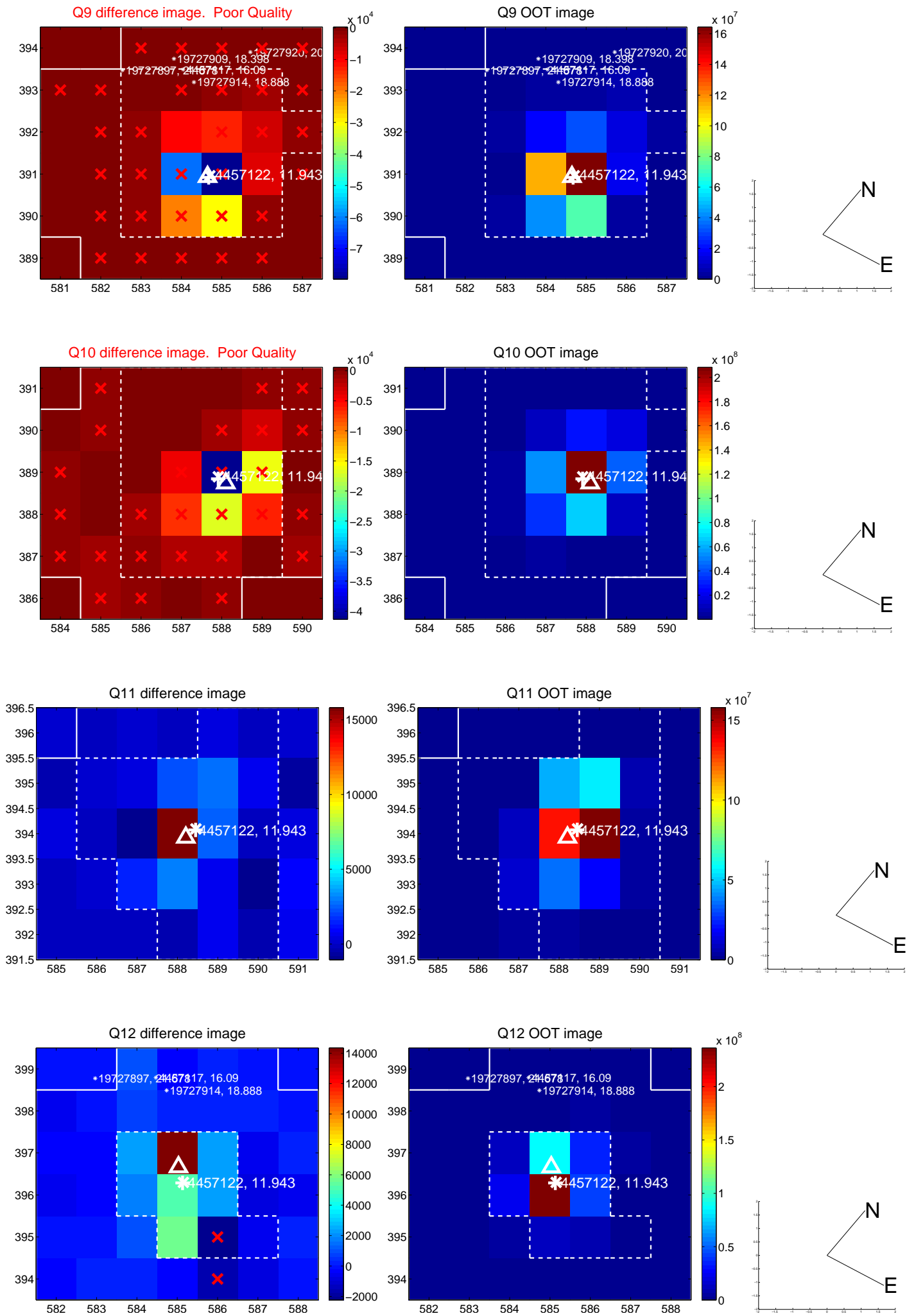
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



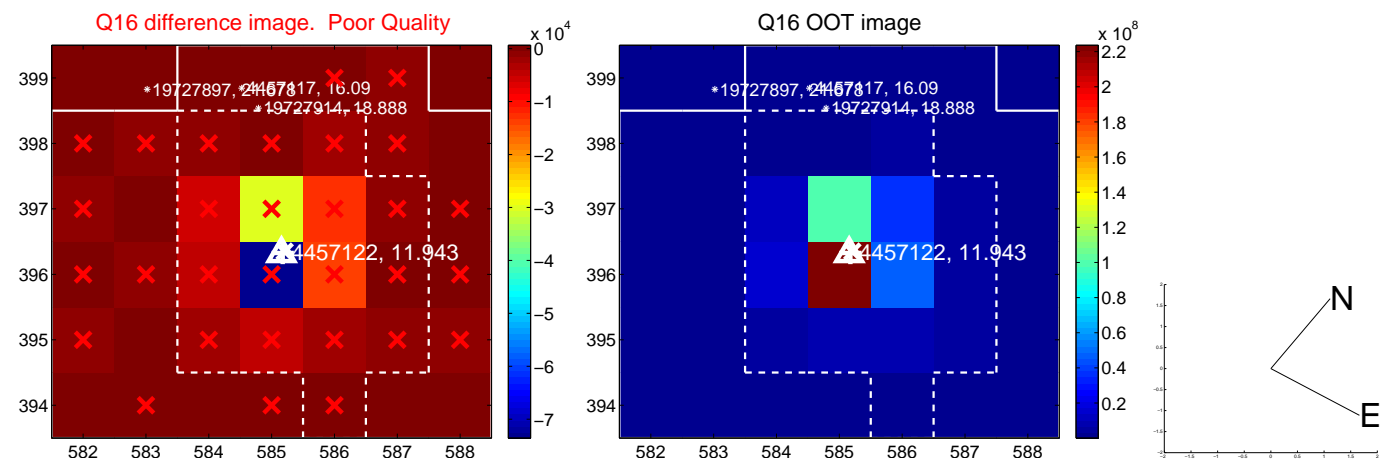
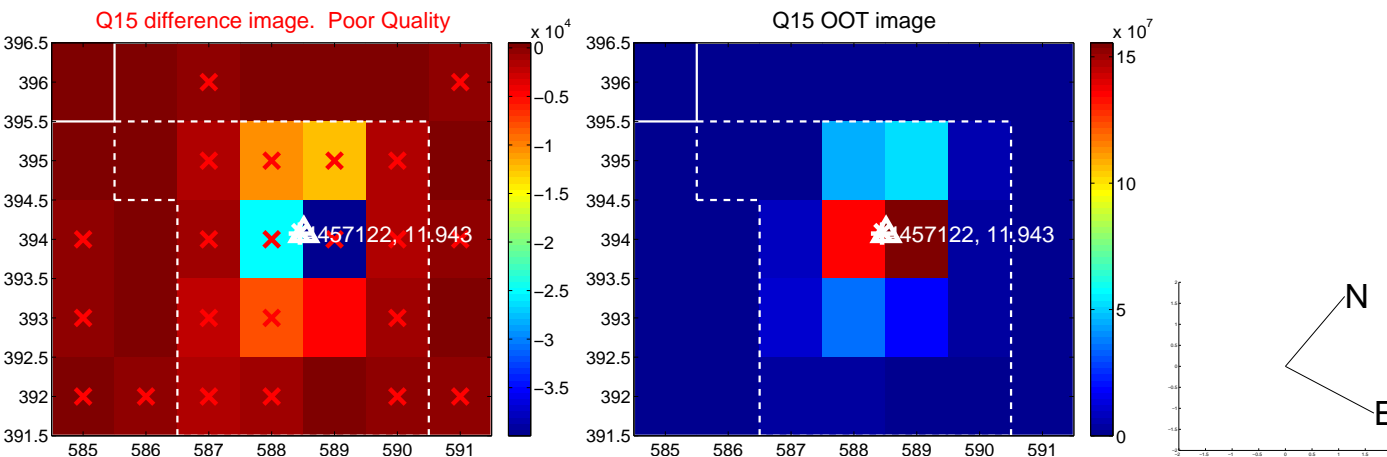
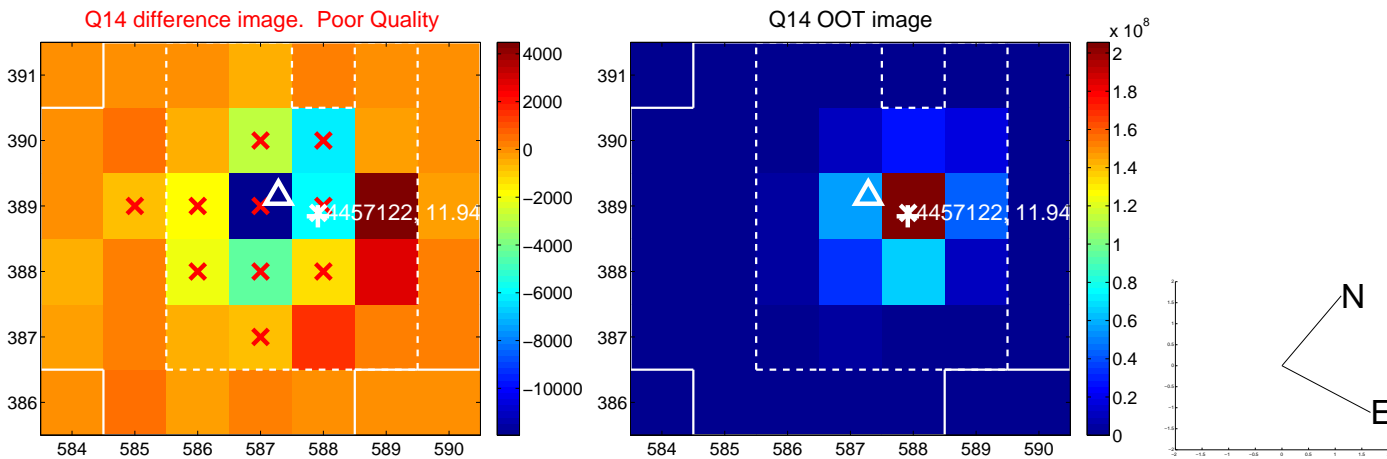
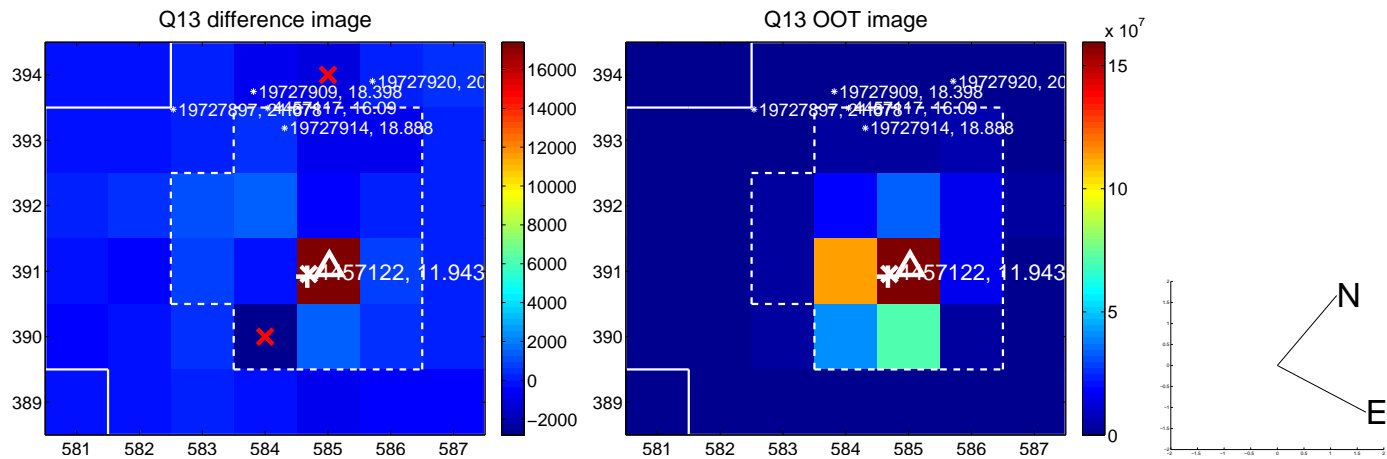
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



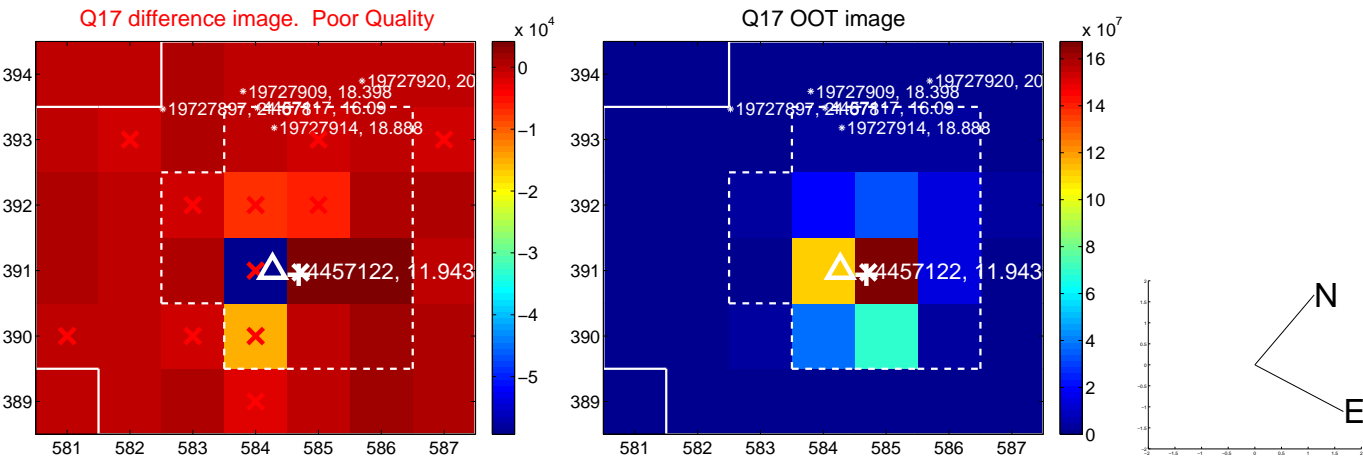
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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folded centroid time series figure for this object.

UKIRT Image

