

KIC 008457330

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})
008457330-01	OBS	No	0.542735	131.790104	89.6	1.940	9.6	9.7	2.45	5301	2.76	25576.79

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008457330-01	OBS	FP	0.00	1	0	0	0	LPP_DV

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

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

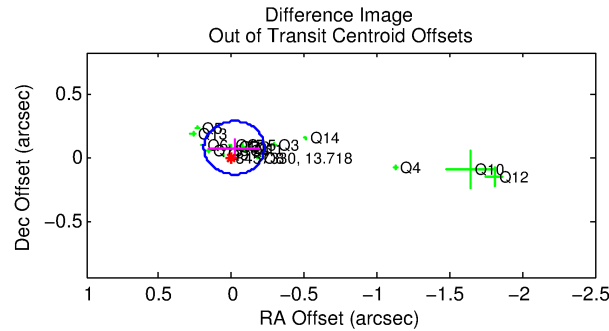
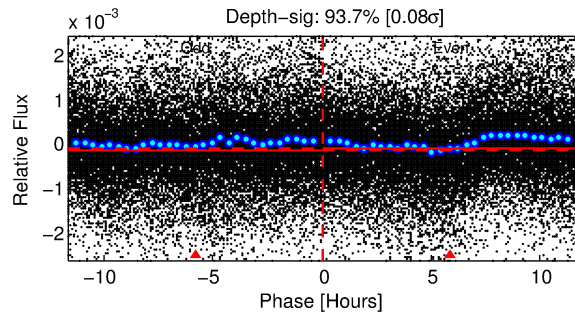
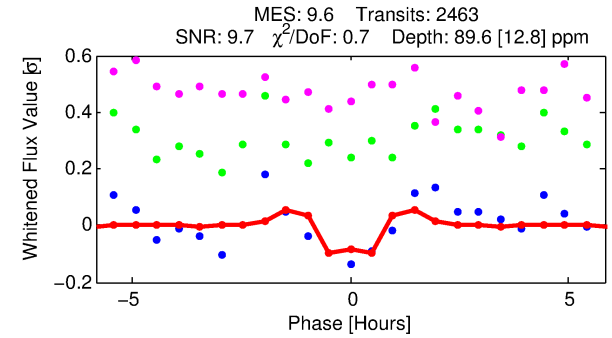
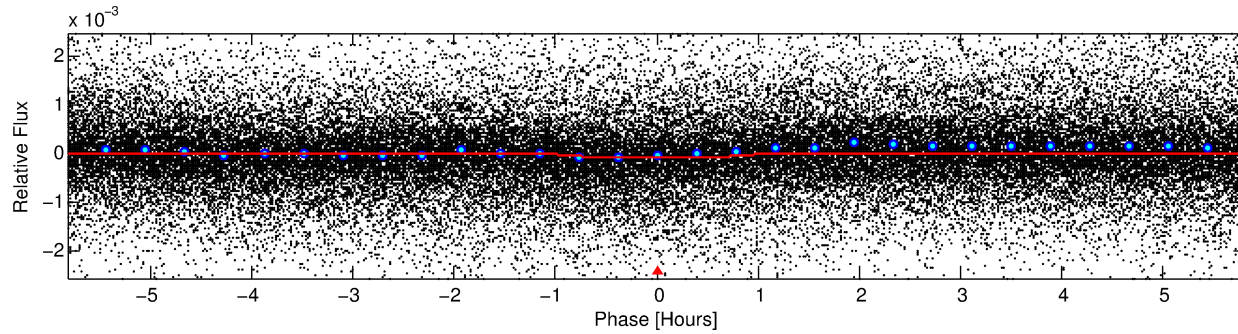
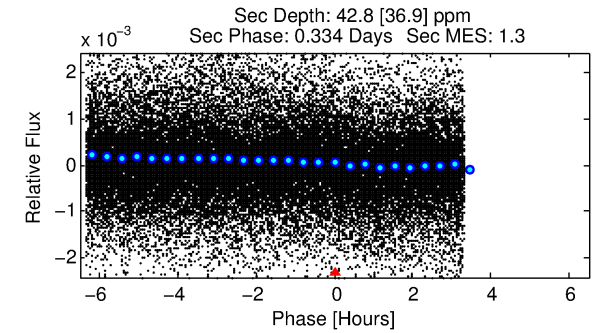
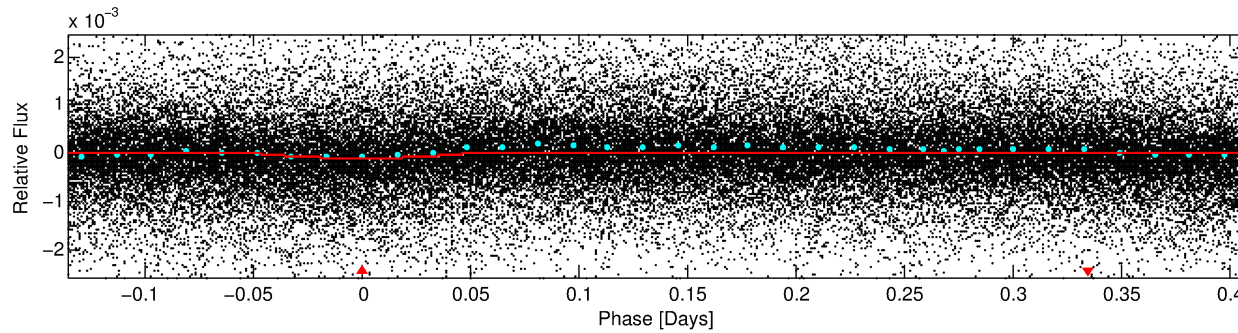
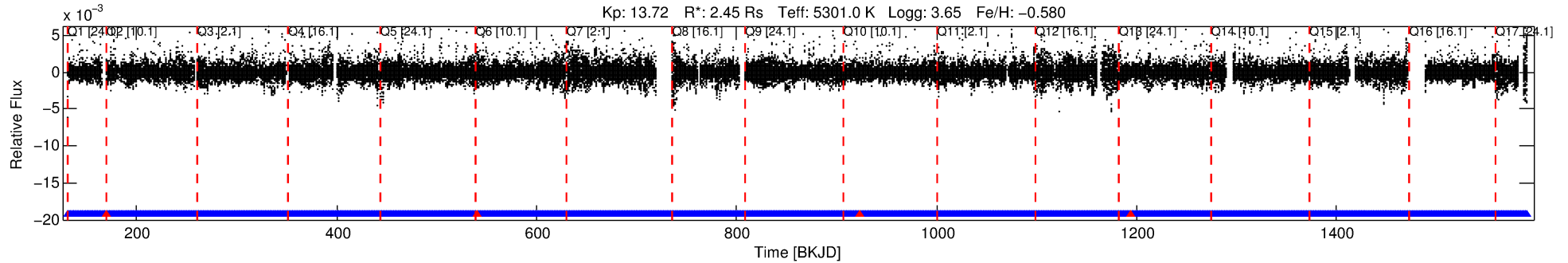
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008457330-01

No Significant Match Found

DV One-Page Summary

KIC: 8457330 Candidate: 1 of 1 Period: 0.543 d



DV Fit Results:

Period = 0.54274 [0.00001] d
Epoch = 131.7901 [0.0013] BKJD
Rp/R* = 0.0103 [0.0040]
a/R* = 1.37 [1.13]
b = 0.90 [0.40]
Seff = 25576.79 [38745.78]
Teq = 3225 [1221] K
Rp = 2.76 [2.16] Re
a = 0.0129 [0.0109] AU
Ag = 0.51 [0.98] [-0.50σ]
Teffp = 4219 [1235] K [0.57σ]

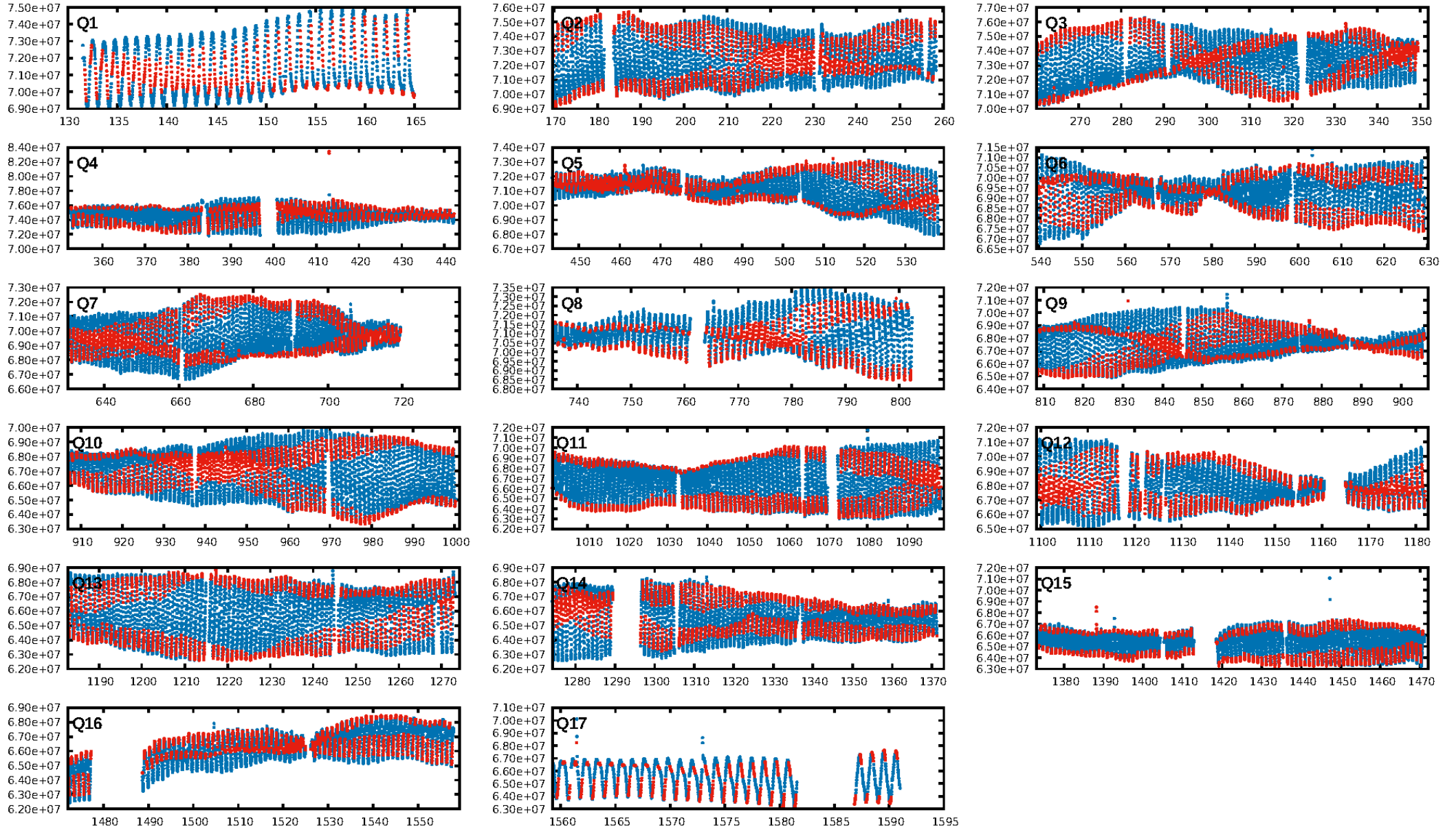
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 4.49e-20
RollingBand-fgt: 1.00 [2348/2352]
GhostDiagnostic-chr: 0.7538
Centroid-sig: 15.1%
Centroid-so: 0.497 arcsec [1.23σ]
OotOffset-rm: 0.083 arcsec [1.20σ]
KicOffset-rm: 0.206 arcsec [1.26σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.53 [9/17]
DiffImageOverlap-fno: 1.00 [17/17]

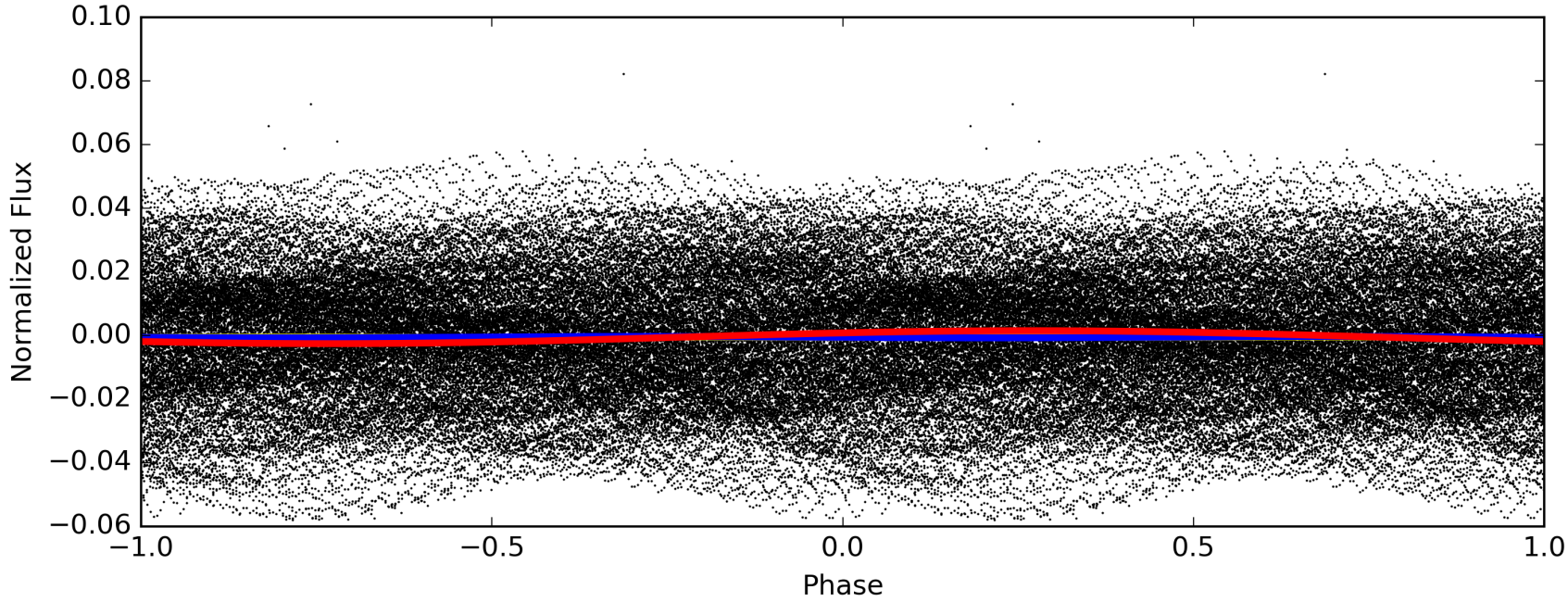
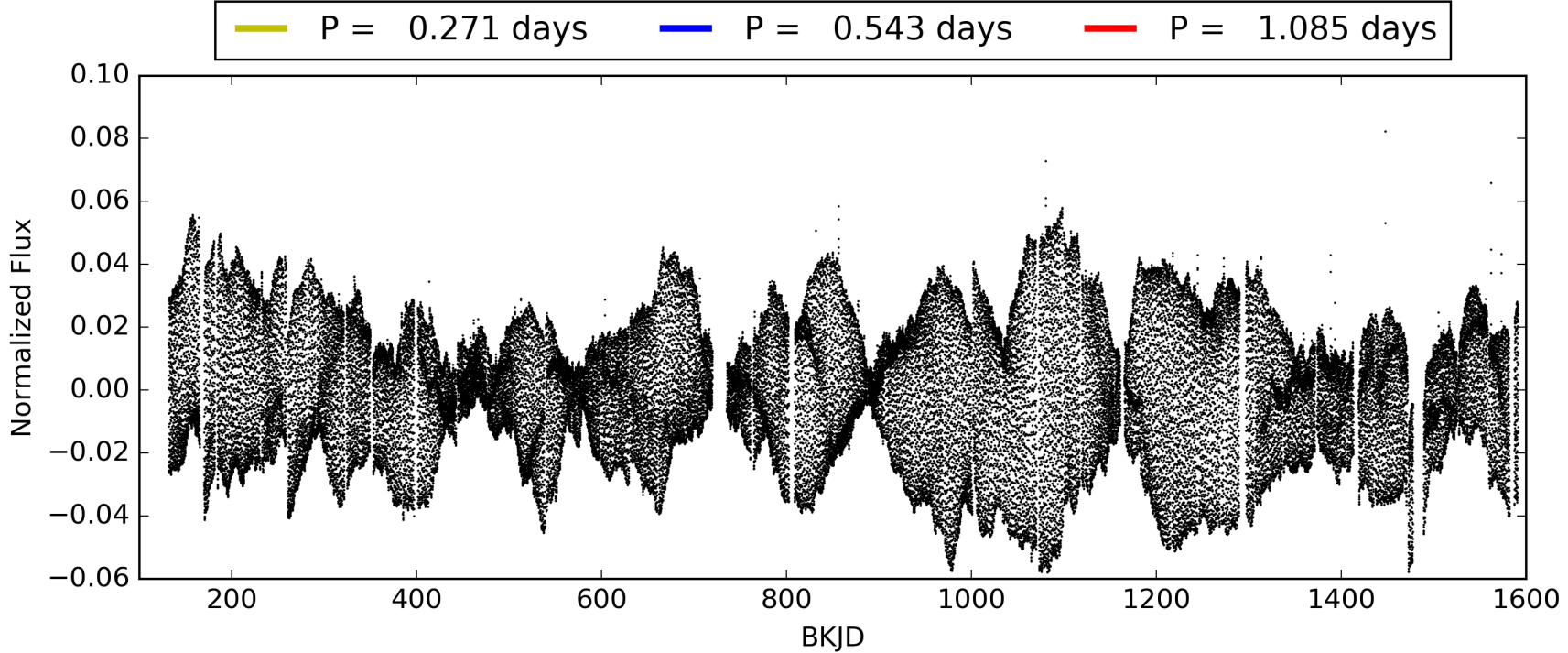
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 02:12:22 Z

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

TCE 008457330-01, PDC Light Curves

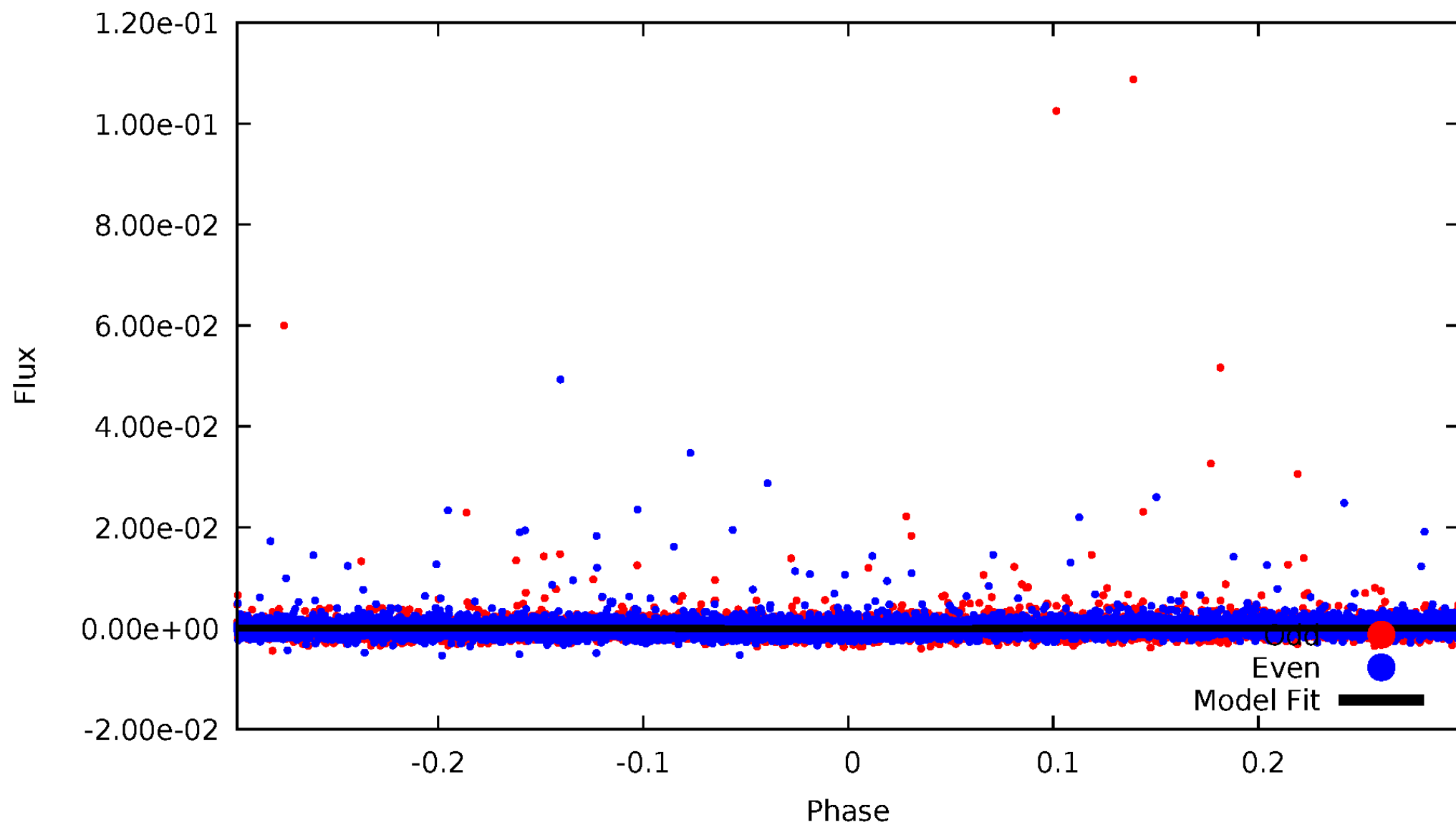


TCE 008457330-01



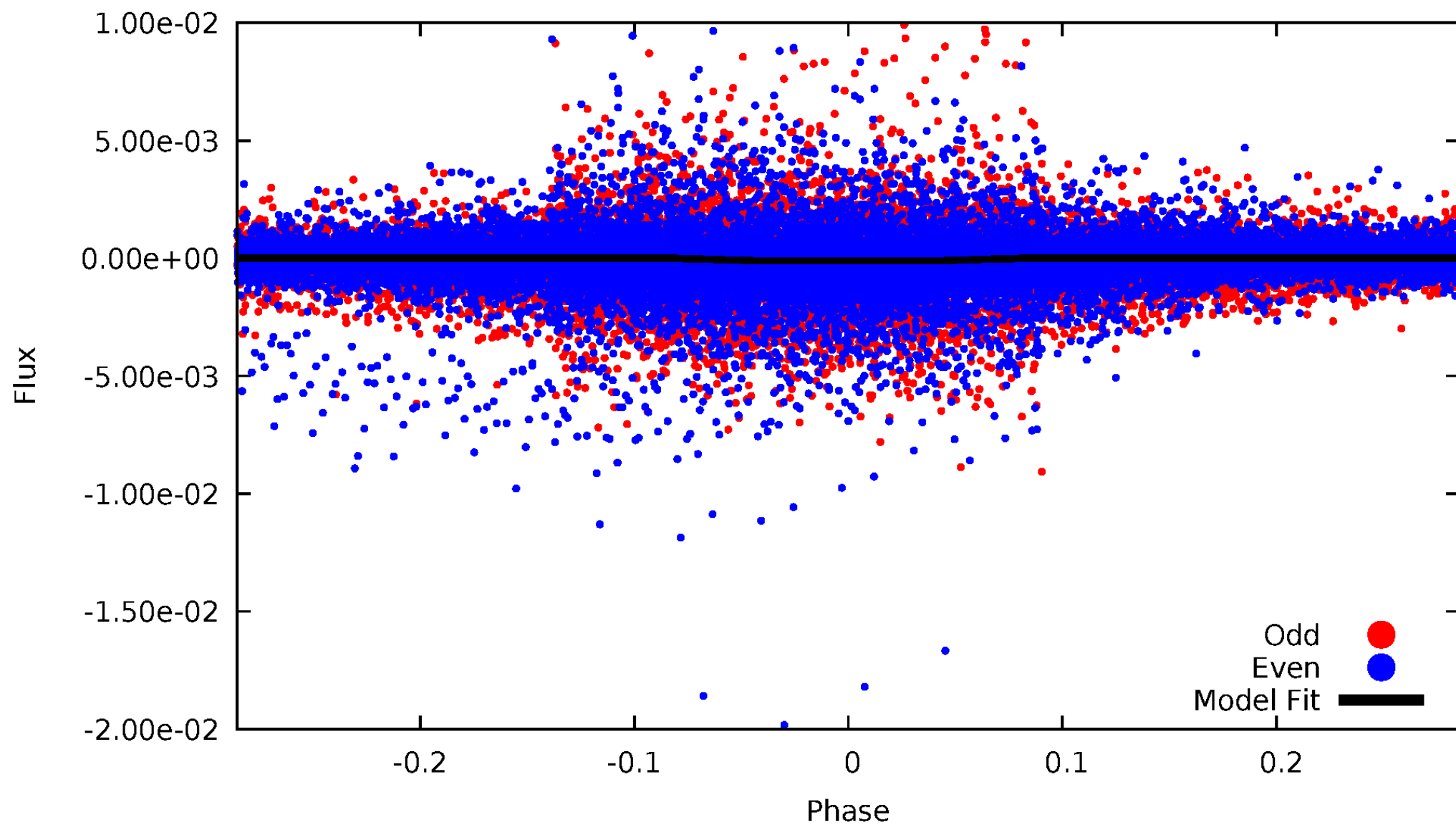
DV Odd/Even

TCE 008457330-01



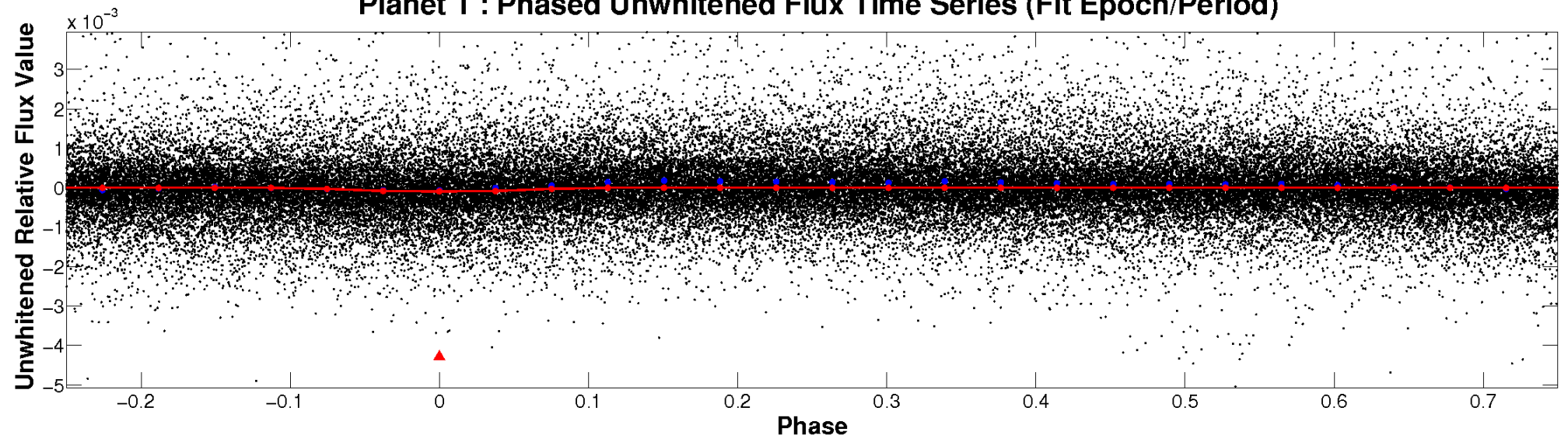
ALT Odd/Even

TCE 008457330-01

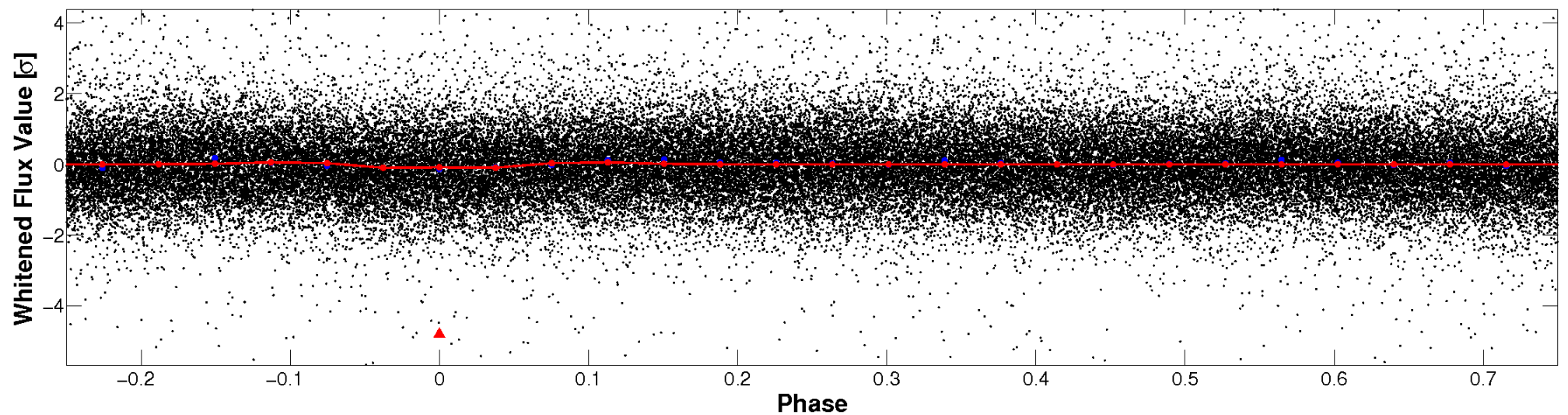


Non-Whitened Vs. Whitened Light Curve

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

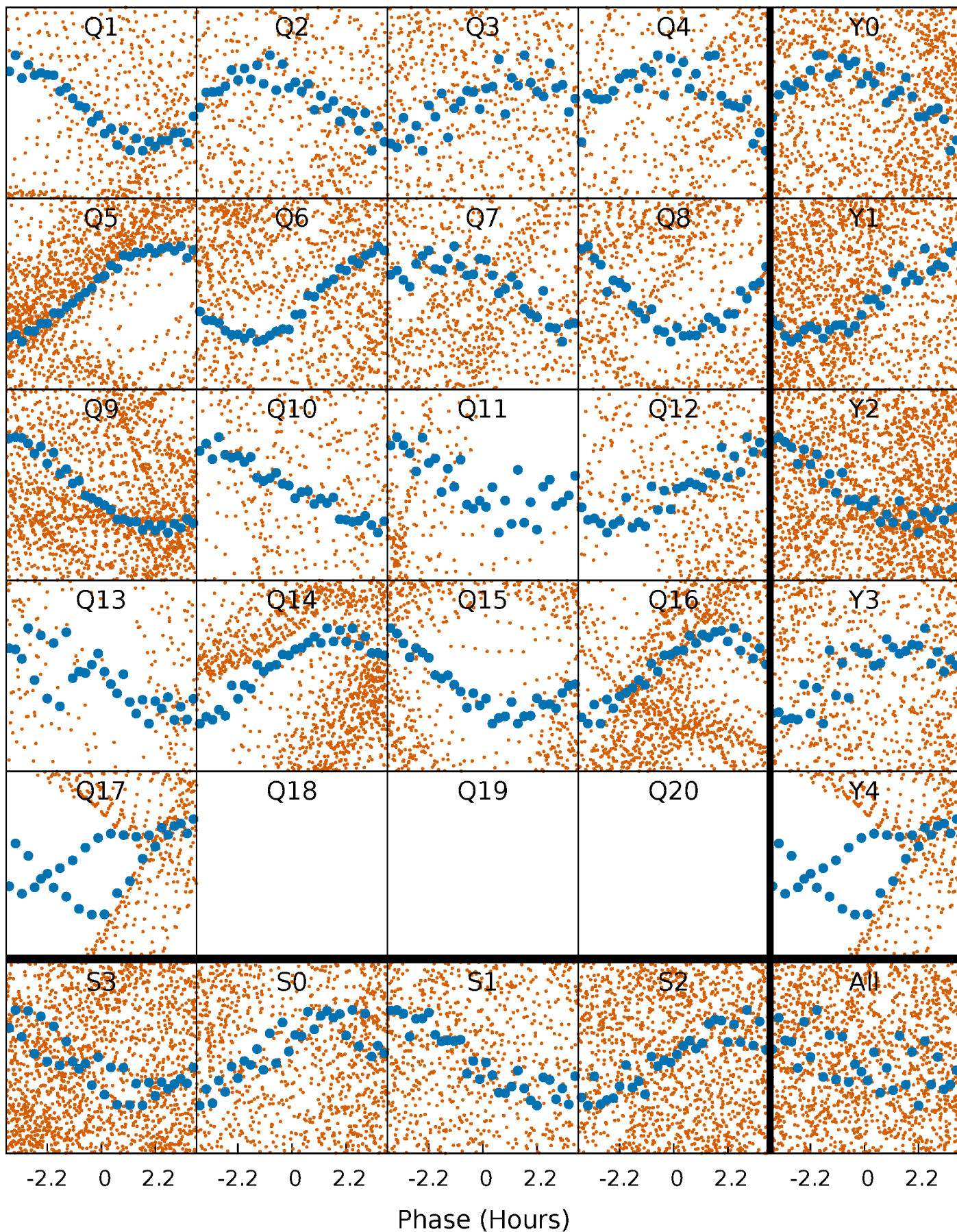


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



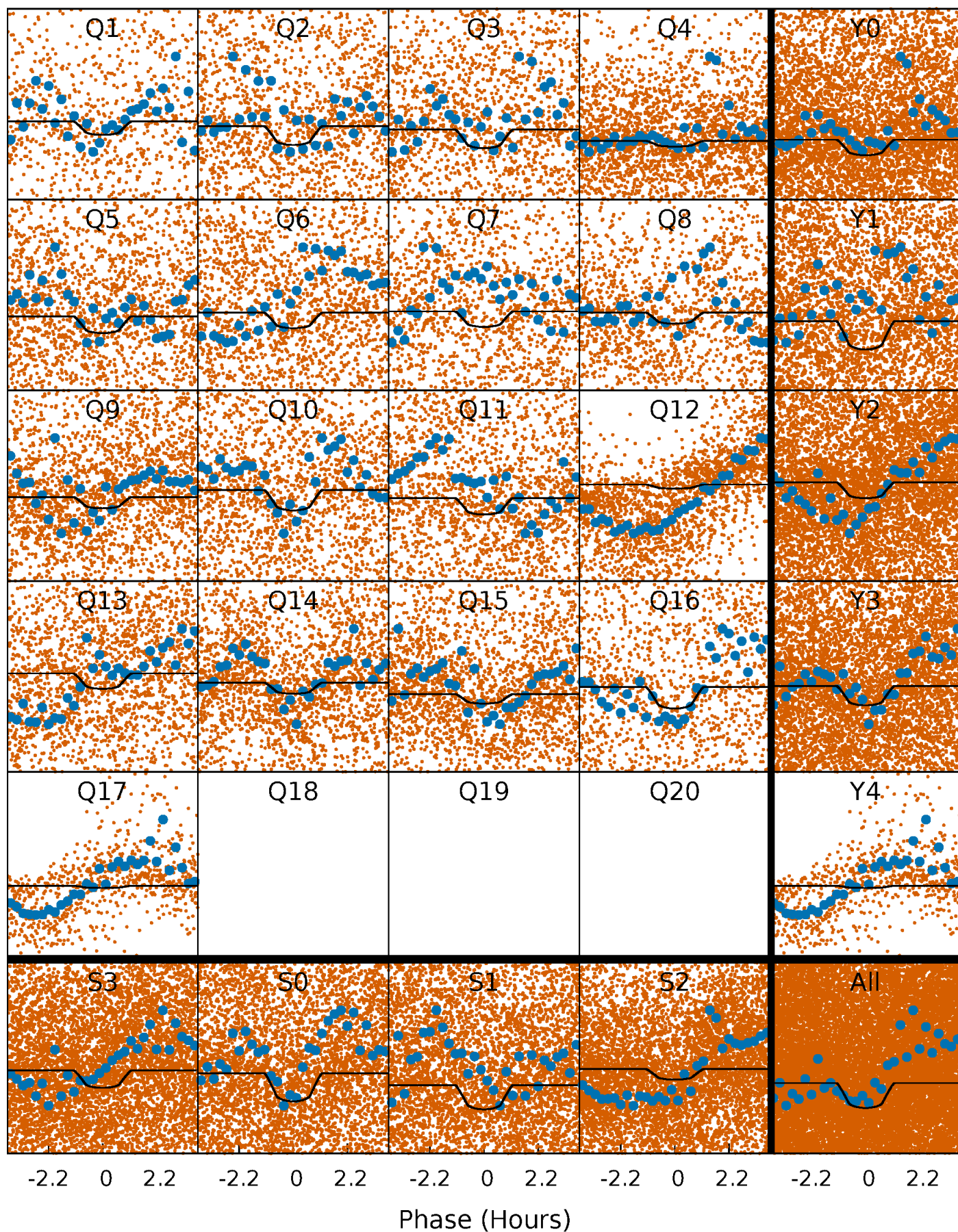
PDC Quarter-Phased Transit Curves

TCE 008457330-01 P= 0.542735 Days $T_0=131.790105$ (BKJD)



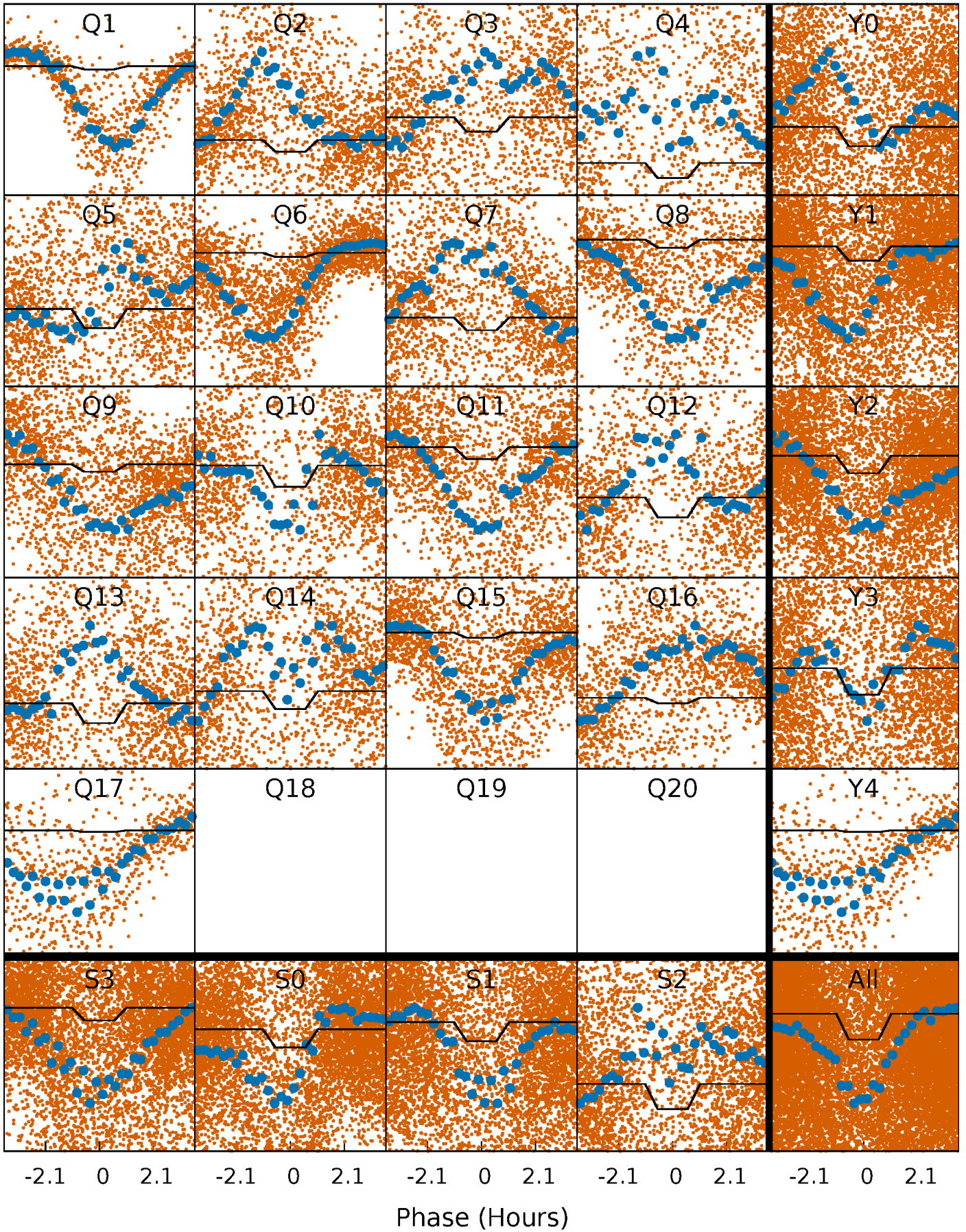
DV Quarter-Phased Transit Curves

TCE 008457330-01 P= 0.542735 Days $T_0=131.790105$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

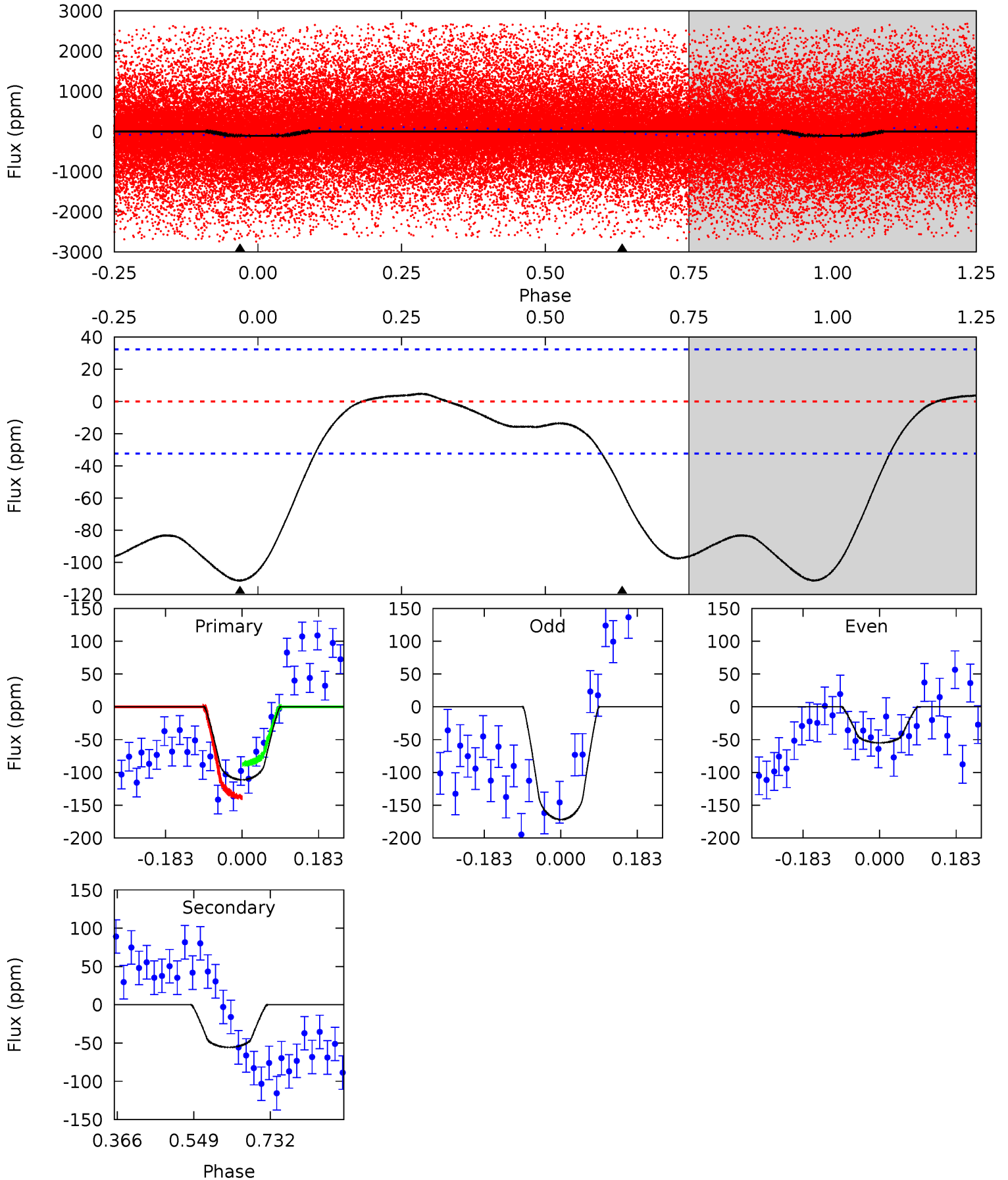
TCE 008457330-01 P= 0.542736 Days $T_0=131.790596$ (BKJD)



DV Model-Shift Uniqueness Test

008457330-01, P = 0.542735 Days, E = 131.247370 Days

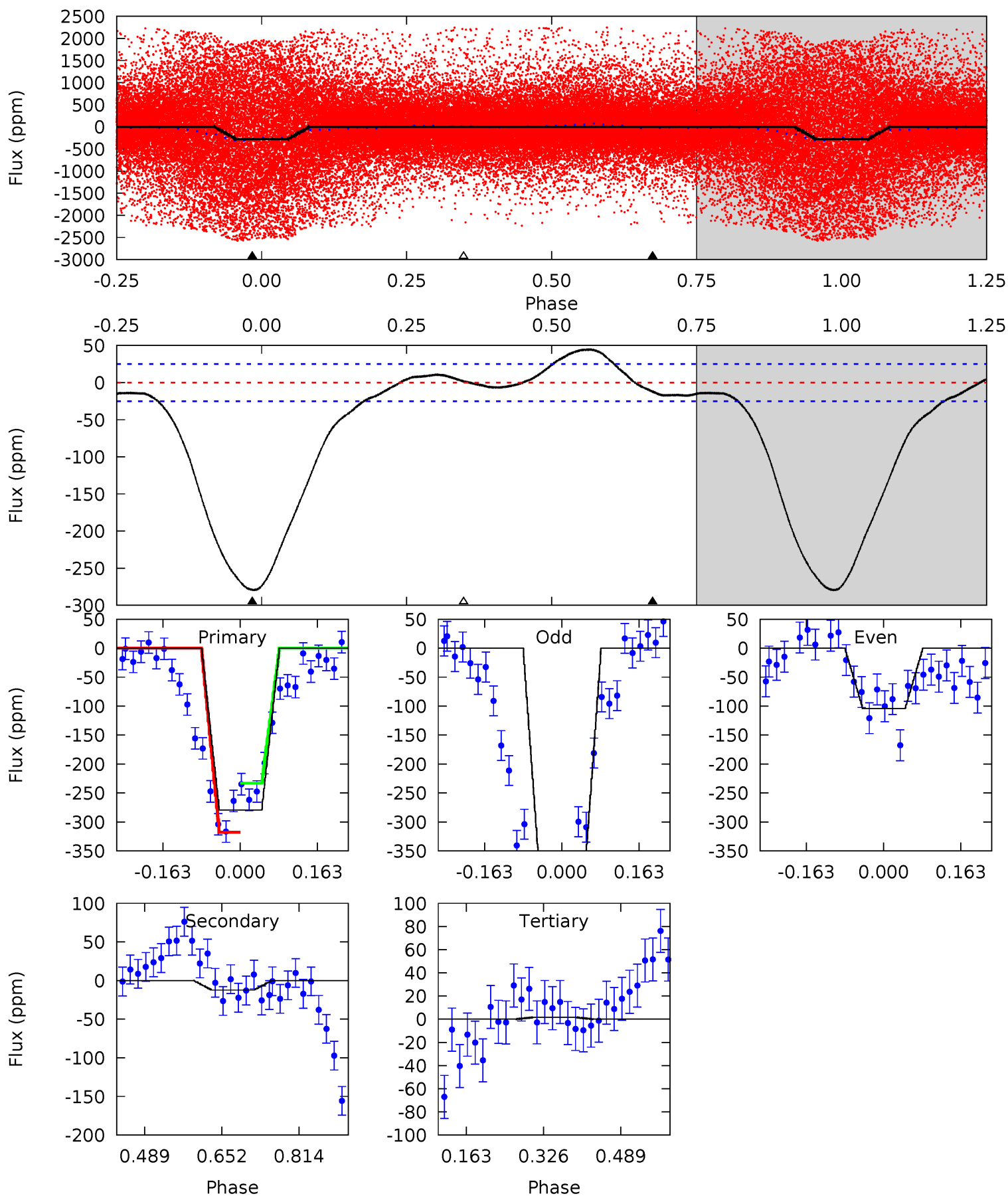
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
15.2	7.62	0	0	4.44	1.33	0.87	15.2	15.2	7.62	7.62	8.07	0.47	0.04	3.62



Alt Model-Shift Uniqueness Test

008457330-01, P = 0.542736 Days, E = 131.247860 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
49.7	2.19	-0.28	0	4.46	1.40	2.48	50.0	49.7	2.47	2.19	27.7	1.00	0.14	7.37



Stellar Parameters For KIC 008457330

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5301^{+176}_{-144}	$3.645^{+0.938}_{-0.312}$	$-0.580^{+0.350}_{-0.250}$	$2.446^{+1.356}_{-1.657}$	$0.962^{+0.256}_{-0.210}$	$0.093^{+2.335}_{-0.056}$
	+3%/-3%	+26%/-9%	+60%/-43%	+55%/-68%	+27%/-22%	+2520%/-61%
Source	PHO1	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 008457330-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-56 ± 7	$2.50^{+1.50}_{-1.23}$	4417^{+693}_{-945}	4186^{+1272}_{-1429}	$0.830^{+2.245}_{-0.507}$
Alt.	-12 ± 6	$2.35^{+1.50}_{-1.19}$	4414^{+657}_{-880}	-3216^{+7059}_{-795}	$0.186^{+0.624}_{-0.131}$

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

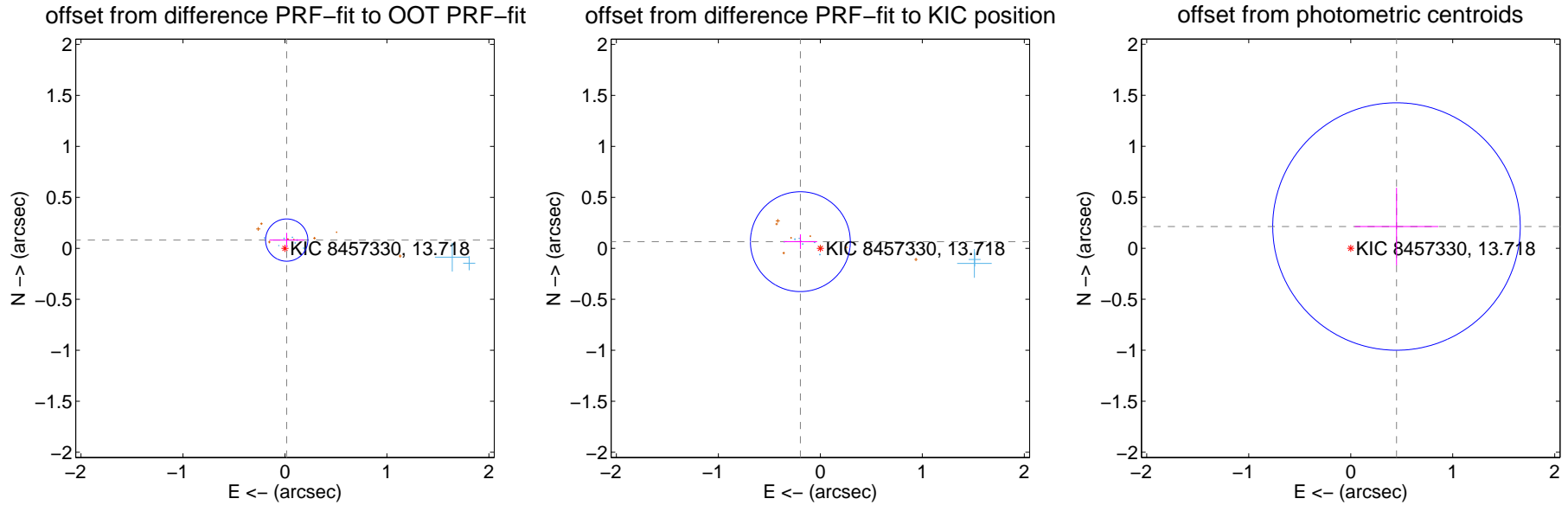
DV Centroid Data

Supplemental centroid analysis for 008457330-01. Kepler magnitude: 13.72. Transit SNR 9.72

There are 9 quarters with good PRF difference image offsets

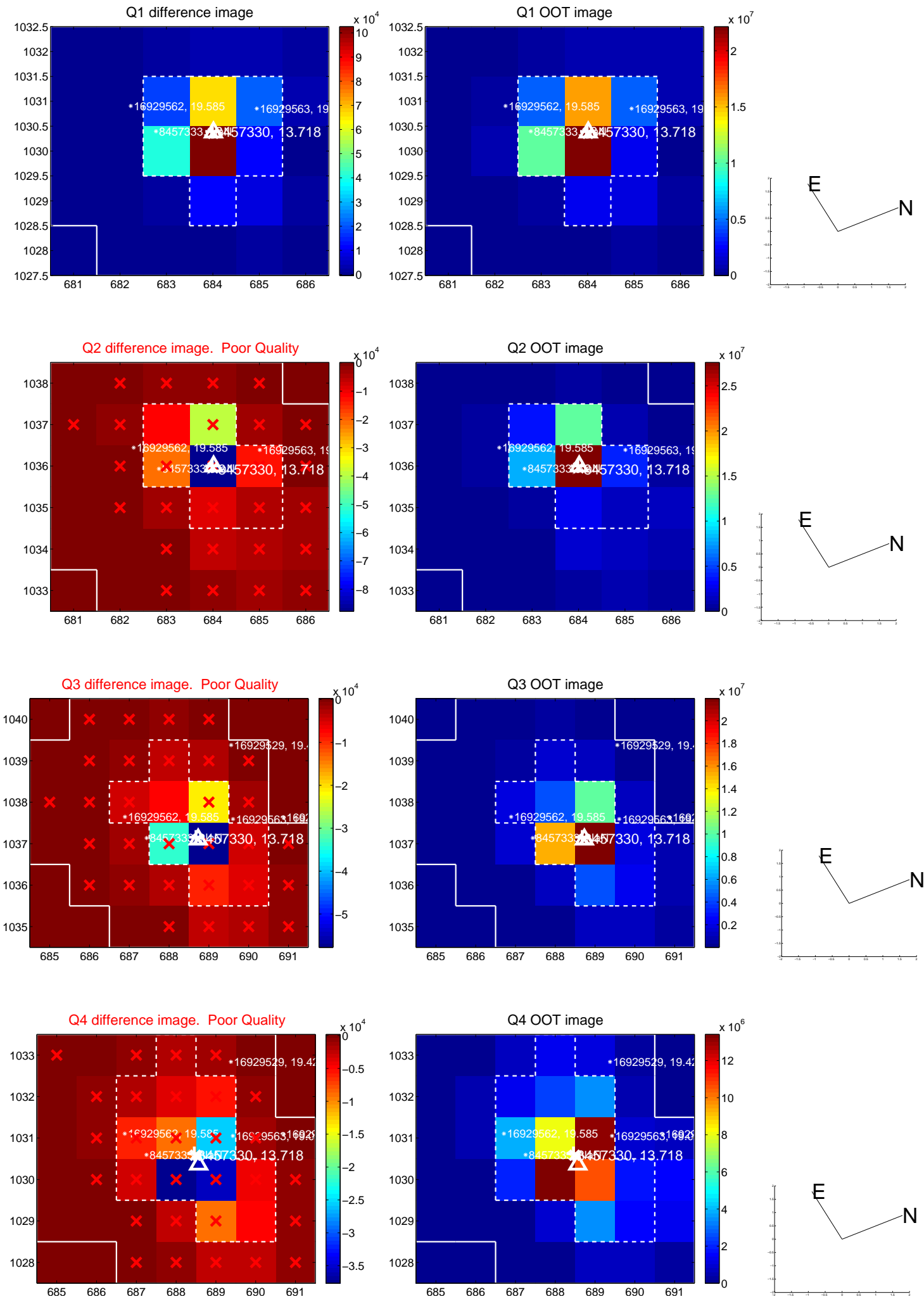
The direct PRF centroid is offset from the target star catalog position by about 0.17 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.083 ± 0.069	1.20	-0.017 ± 0.169	0.081 ± 0.071
PRF-fit source offset from KIC position	0.206 ± 0.163	1.26	0.196 ± 0.164	0.065 ± 0.072
photometric centroid source offset	0.50 ± 0.40	1.23	-0.45 ± 0.41	0.21 ± 0.38

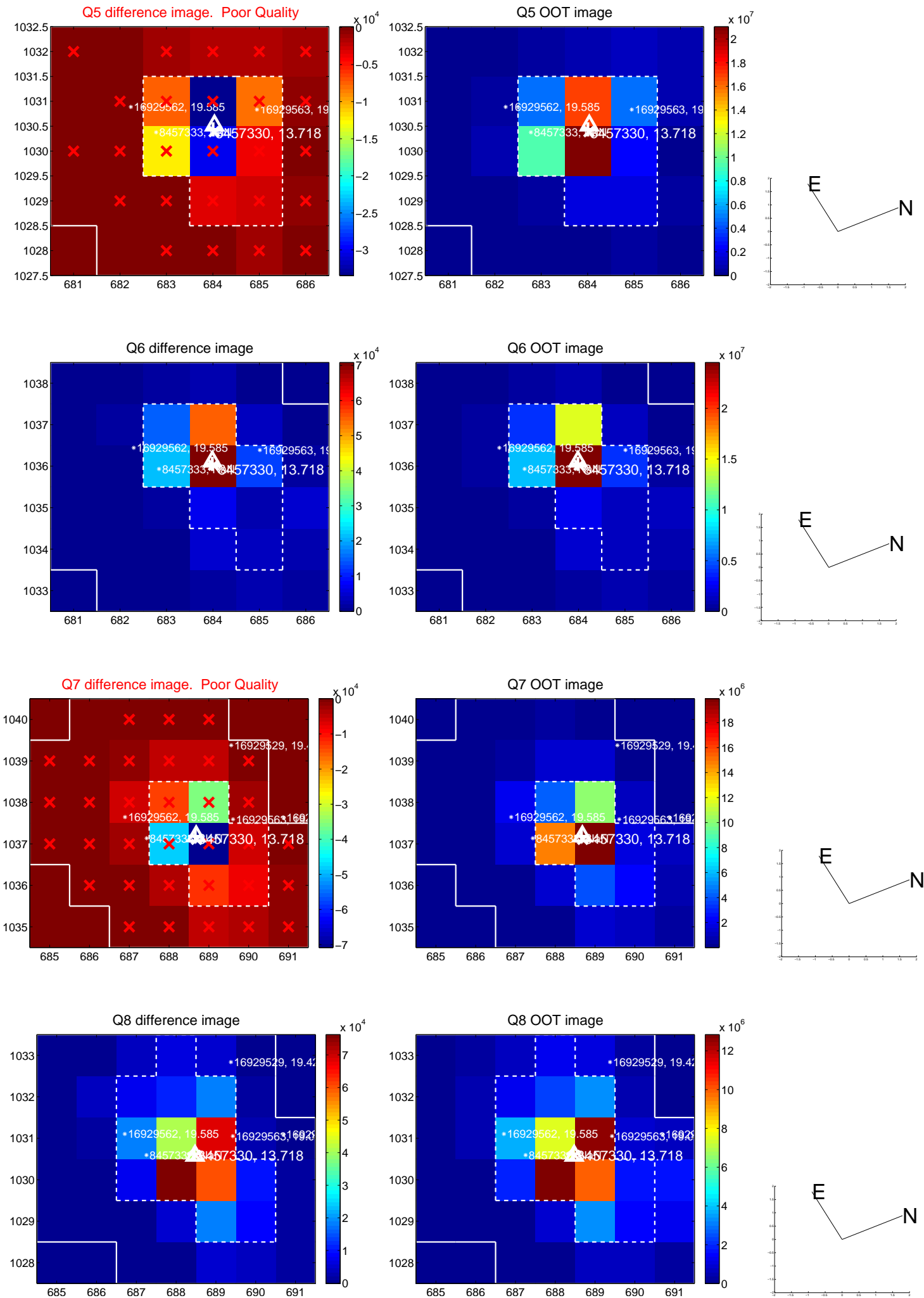


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

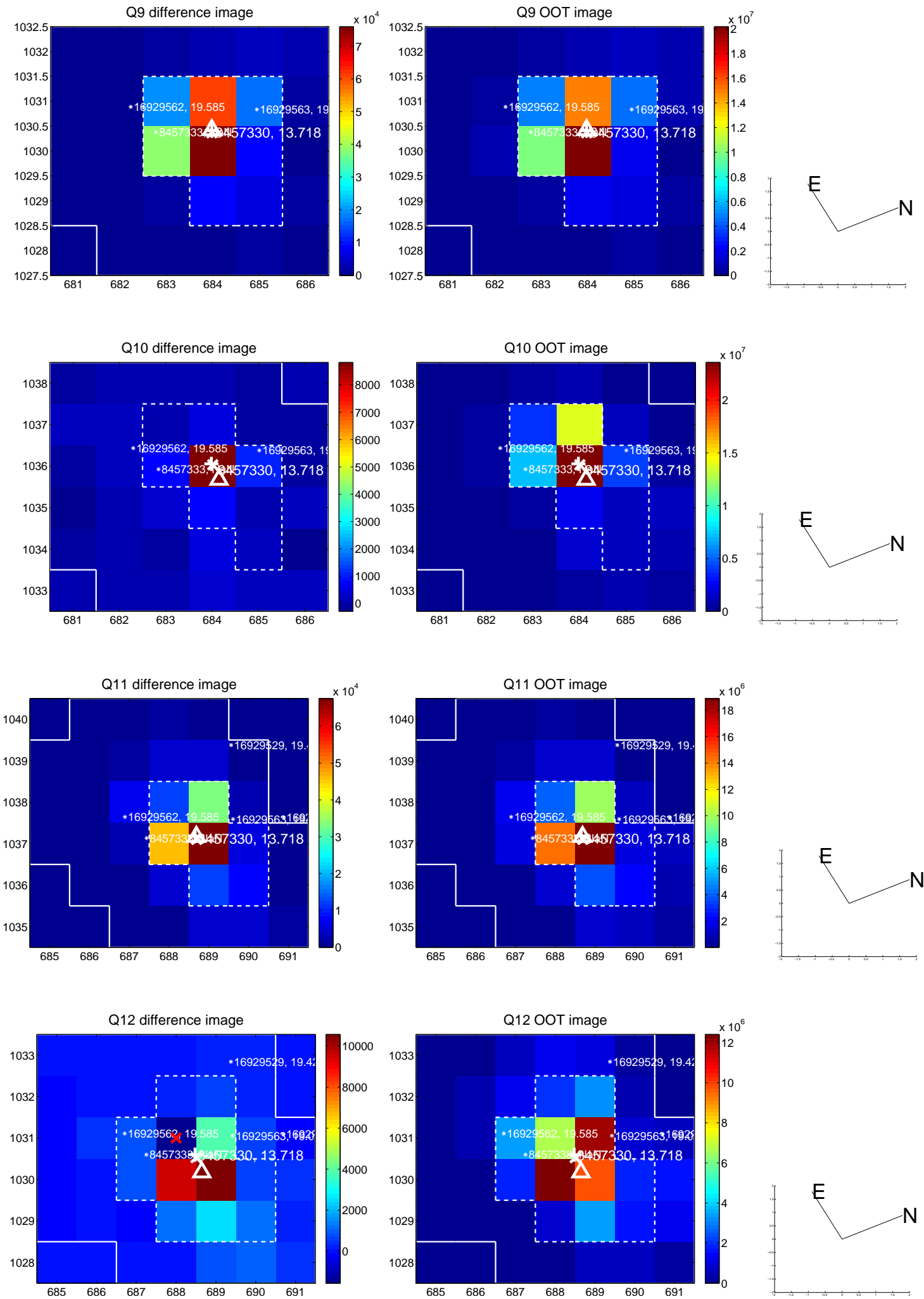
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



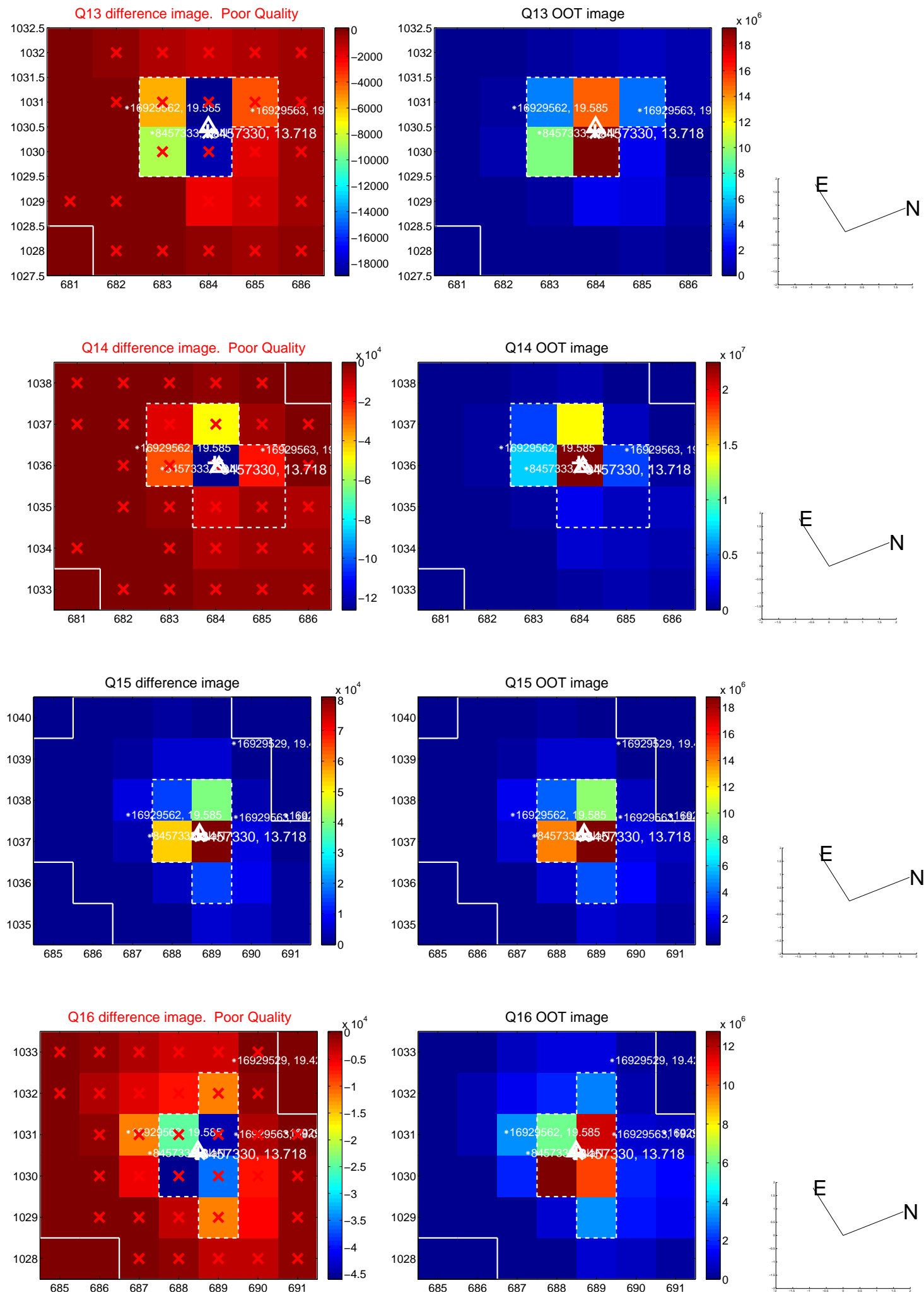
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



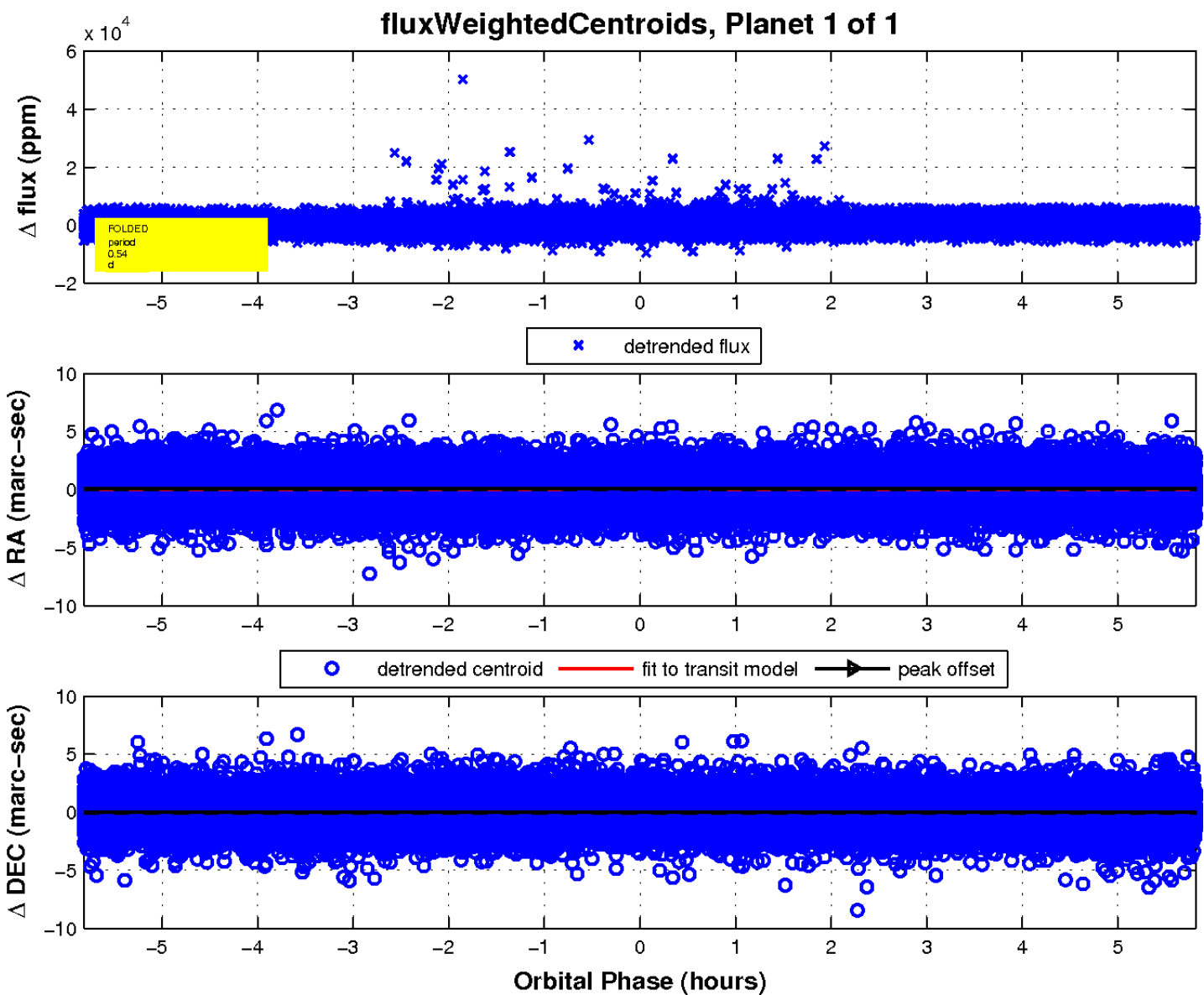
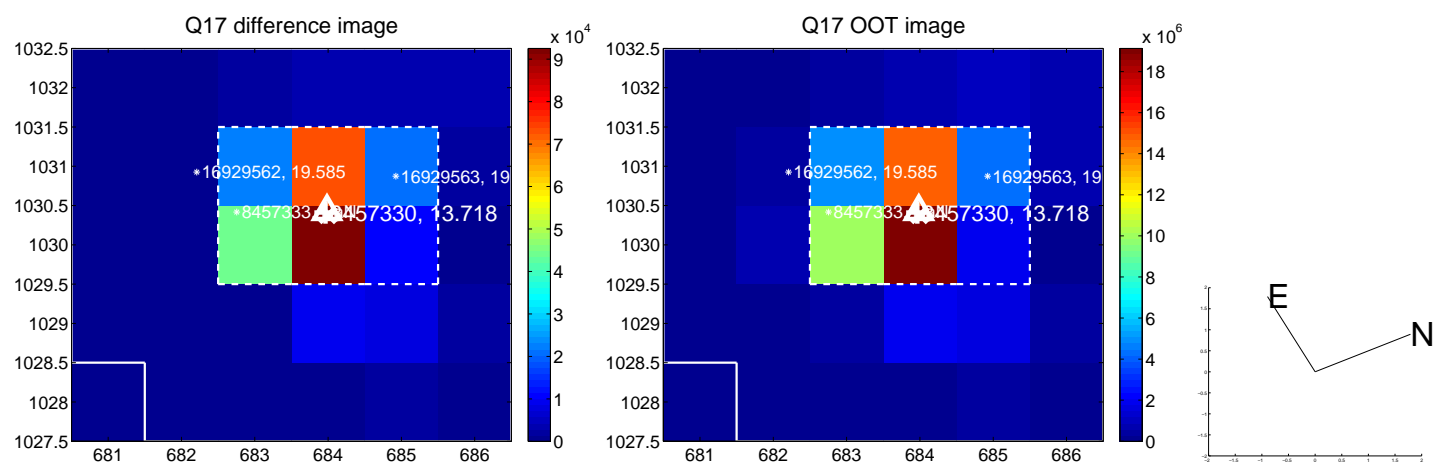
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

