

KIC 012217281

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})
012217281-01	OBS	No	1.730138	131.732072	12.9	5.813	9.3	9.1	2.85	7336	1.06	19558.94

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
012217281-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV—CENT_SATURATED

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

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

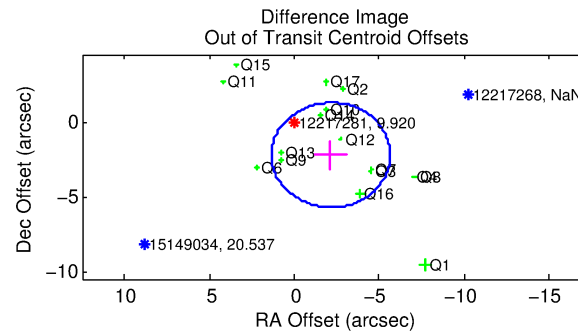
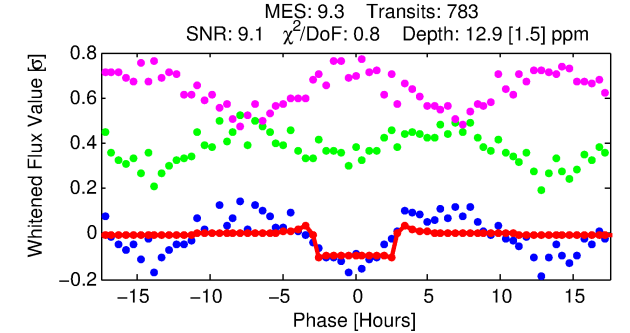
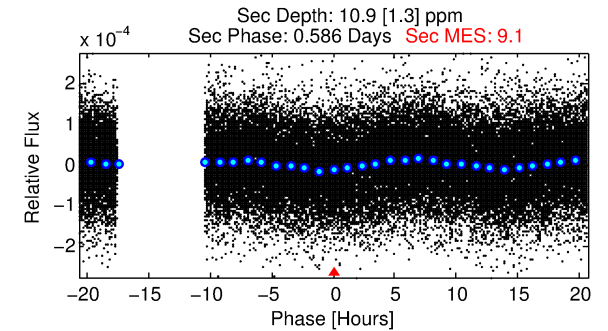
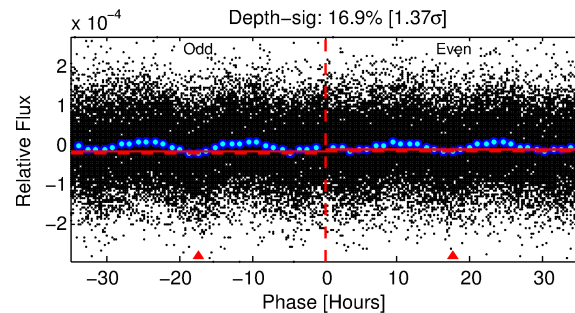
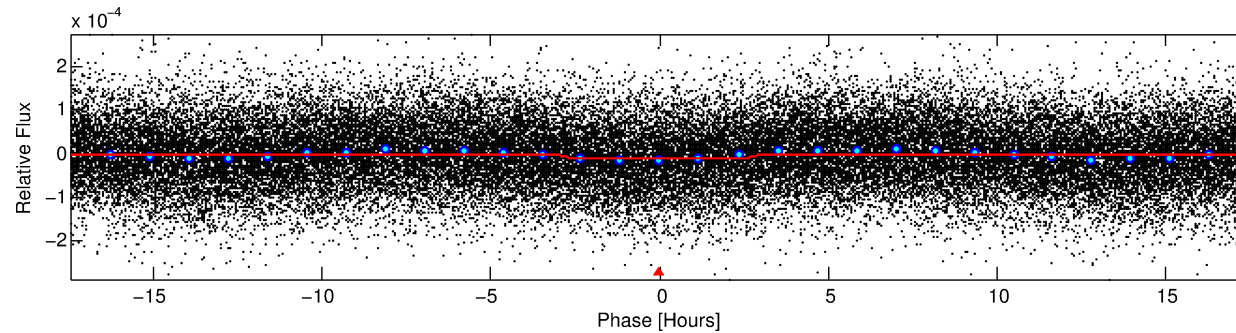
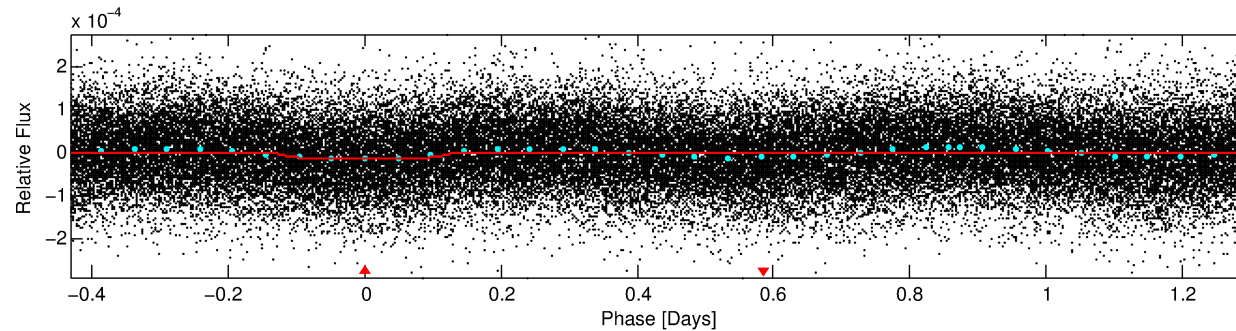
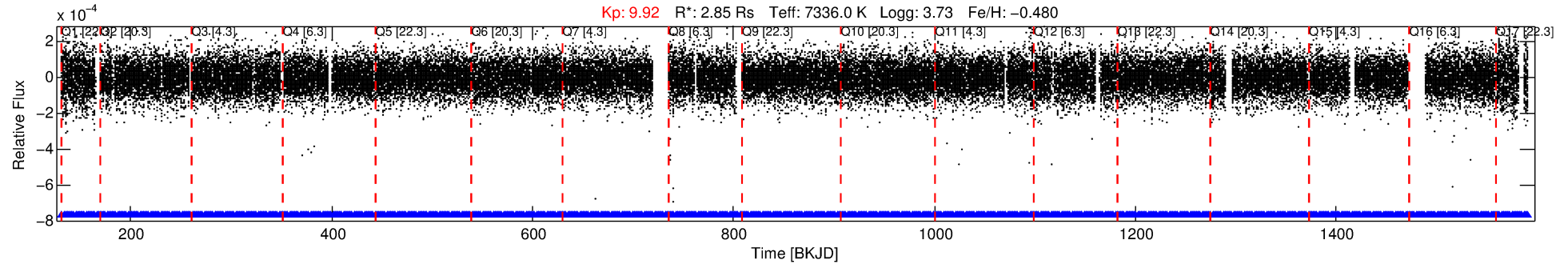
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 012217281-01

No Significant Match Found

DV One-Page Summary

KIC: 12217281 Candidate: 1 of 1 Period: 1.730 d



DV Fit Results:

Period = 1.73014 [0.00002] d
Epoch = 131.7321 [0.0036] BKJD
 $R_p/R^* = 0.0034$ [0.0004]
 $a/R^* = 2.07$ [1.07]
 $b = 0.53$ [0.93]
 $\text{Seff} = 19558.94$ [17207.51]
 $T_{\text{eq}} = 3016$ [663] K
 $R_p = 1.06$ [0.54] R_e
 $a = 0.0328$ [0.0170] AU
 $A_g = 5.69$ [5.18] [0.90 σ]
 $T_{\text{eff}} = 7201$ [580] K [4.75 σ]

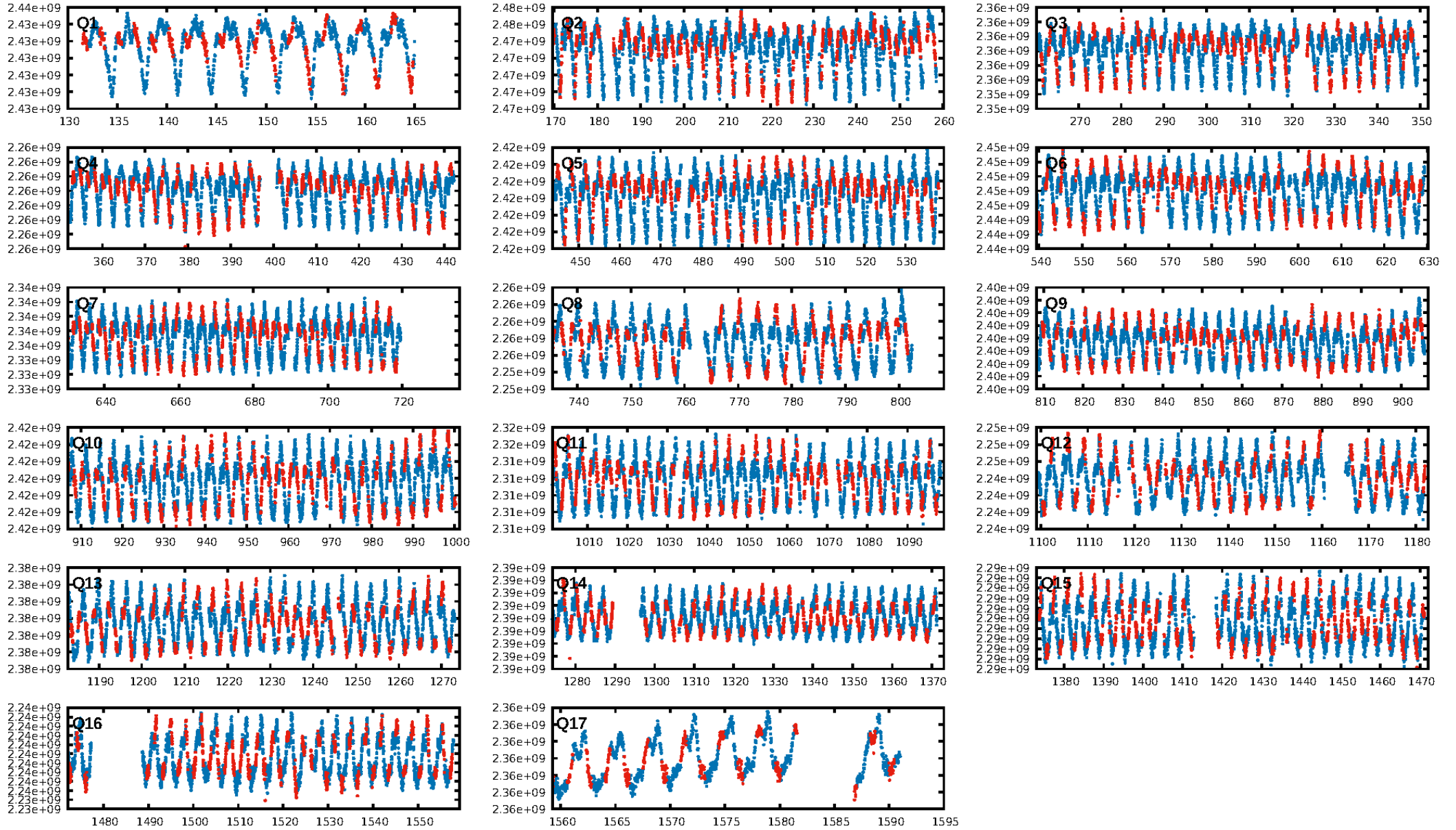
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 5.20e-13
RollingBand-fgt: 1.00 [747/747]
GhostDiagnostic-chr: N/A
Centroid-sig: 17.0%
Centroid-so: 0.772 arcsec [0.89 σ]
OotOffset-rm: 3.104 arcsec [2.66 σ]
KicOffset-rm: 2.626 arcsec [2.57 σ]
OotOffset-st: 4/4/4/4 [16]
KicOffset-st: 4/4/4/4 [16]
DiffImageQuality-fgm: 0.25 [4/16]
DiffImageOverlap-fno: 1.00 [17/17]

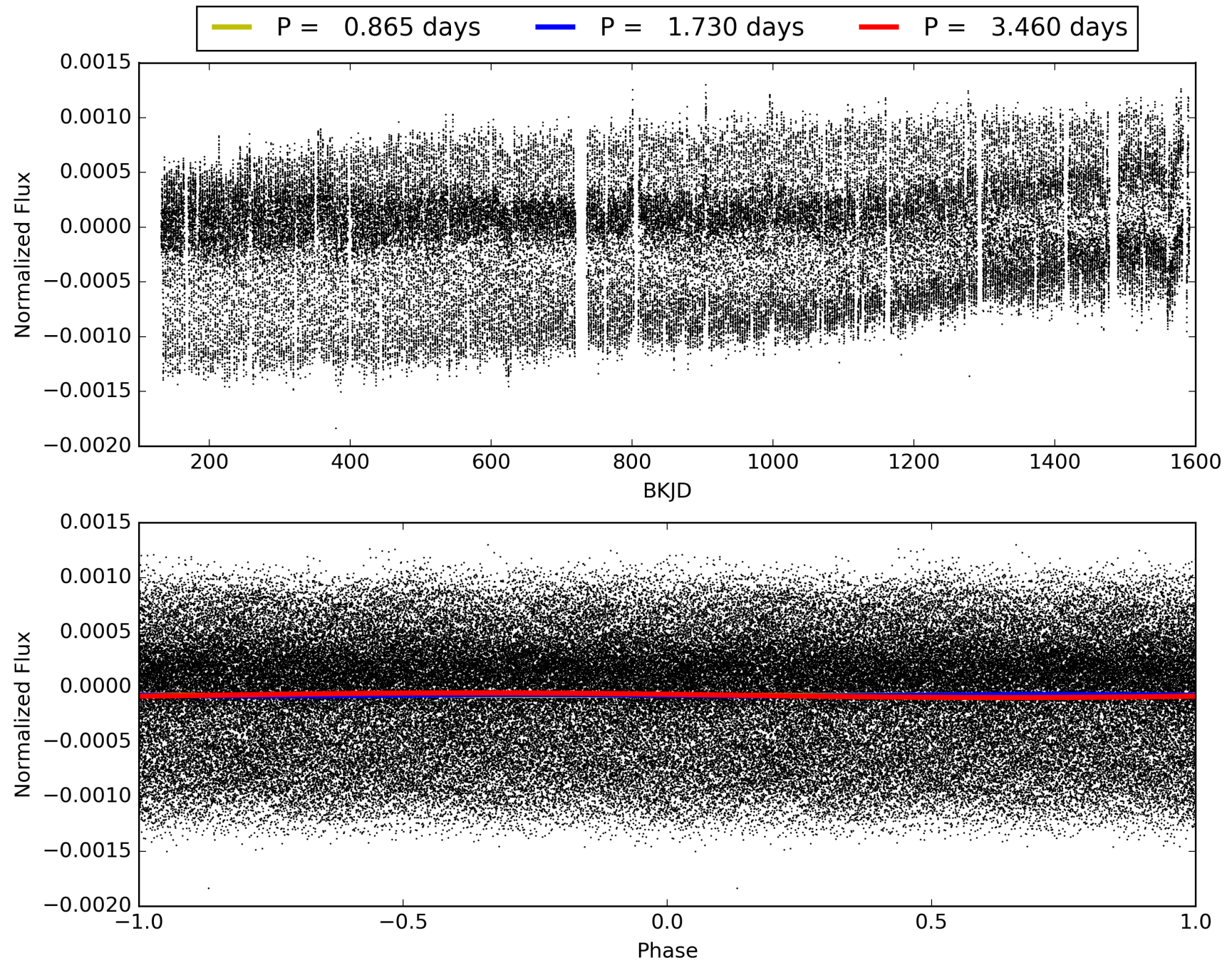
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 09:14:57 Z

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

TCE 012217281-01, PDC Light Curves

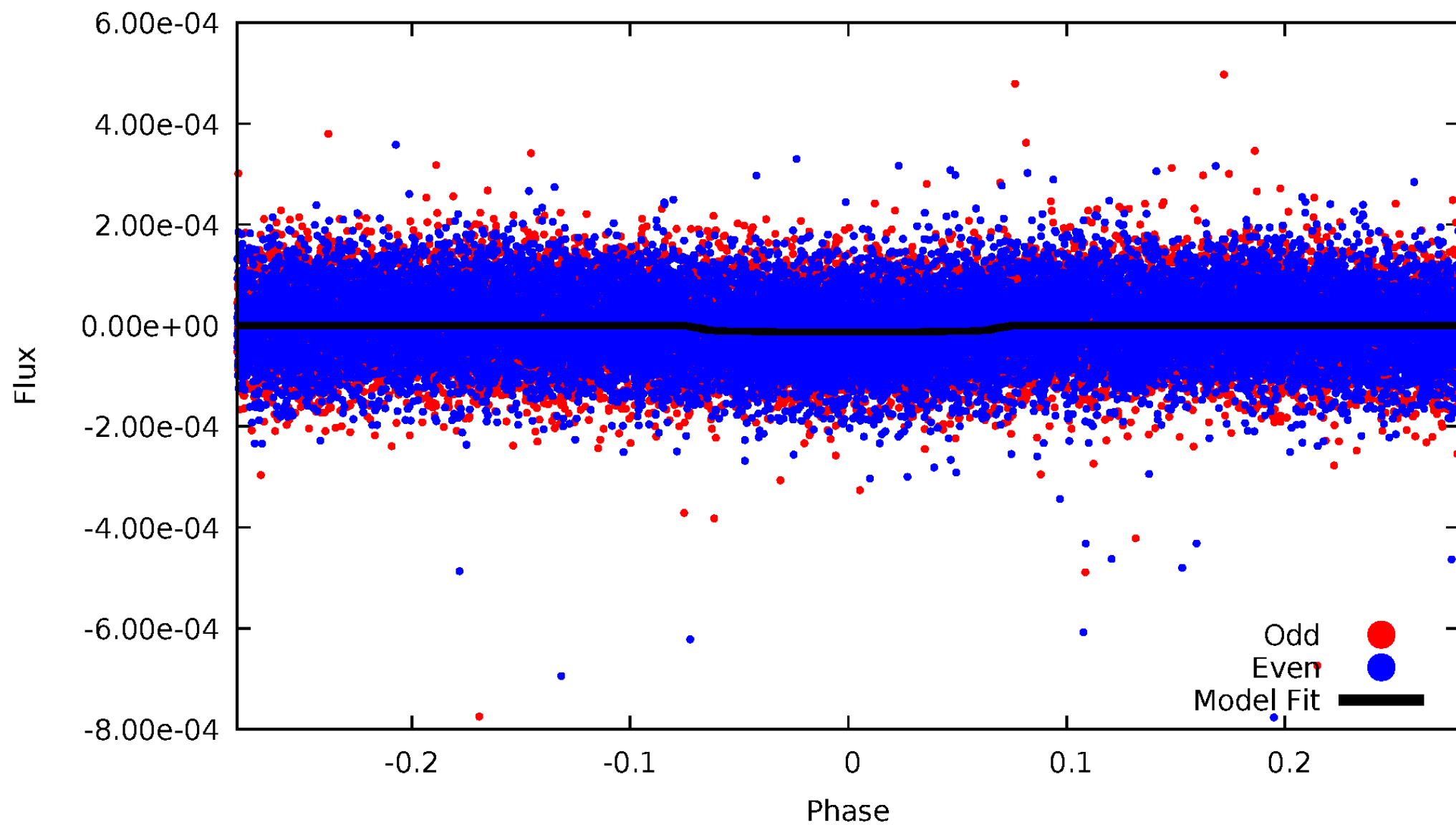


TCE 012217281-01



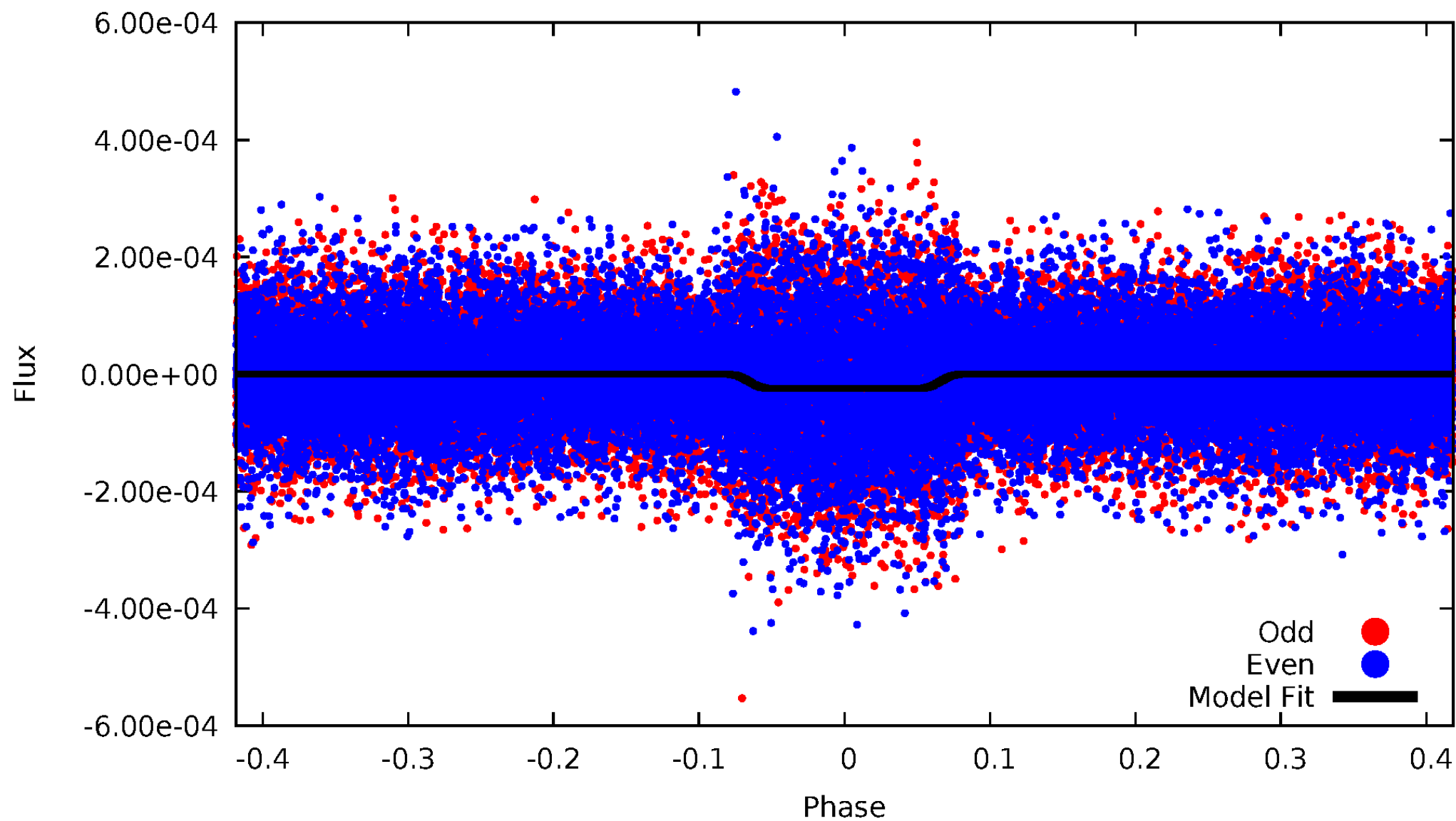
DV Odd/Even

TCE 012217281-01



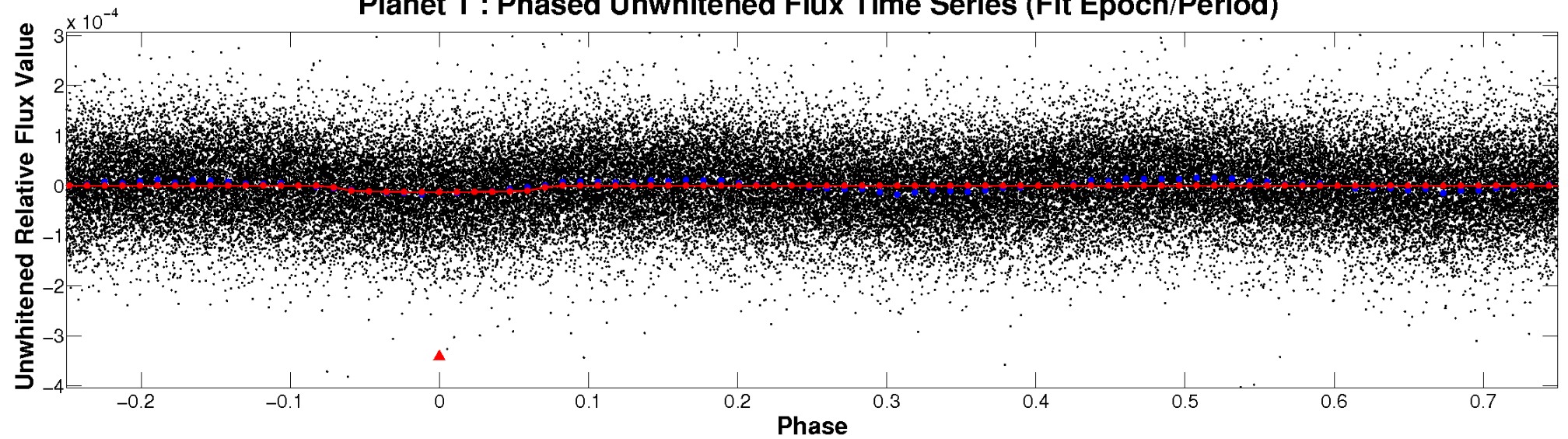
ALT Odd/Even

TCE 012217281-01

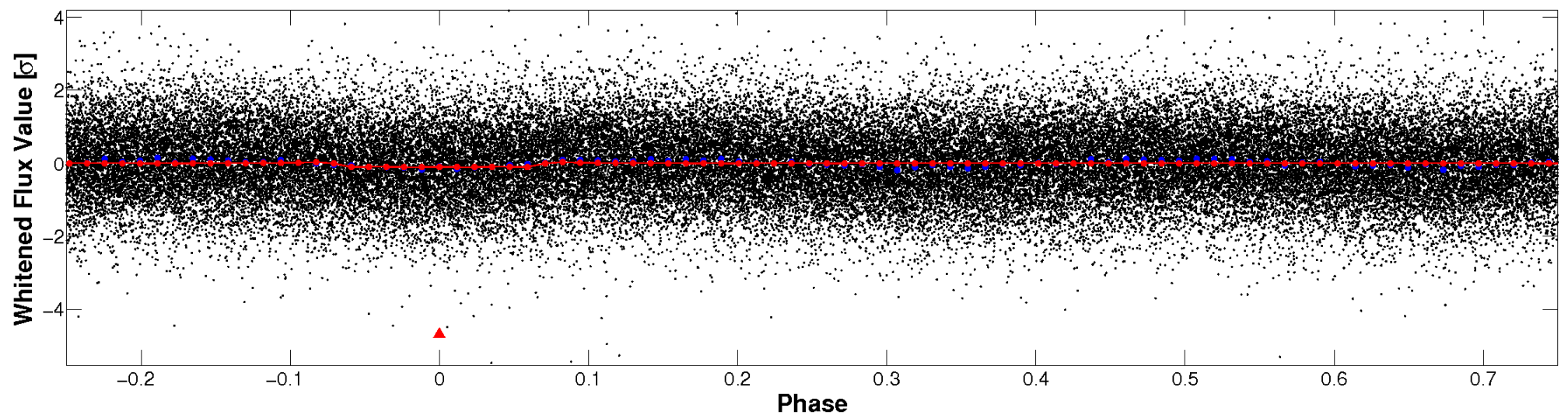


Non-Whitened Vs. Whitened Light Curve

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

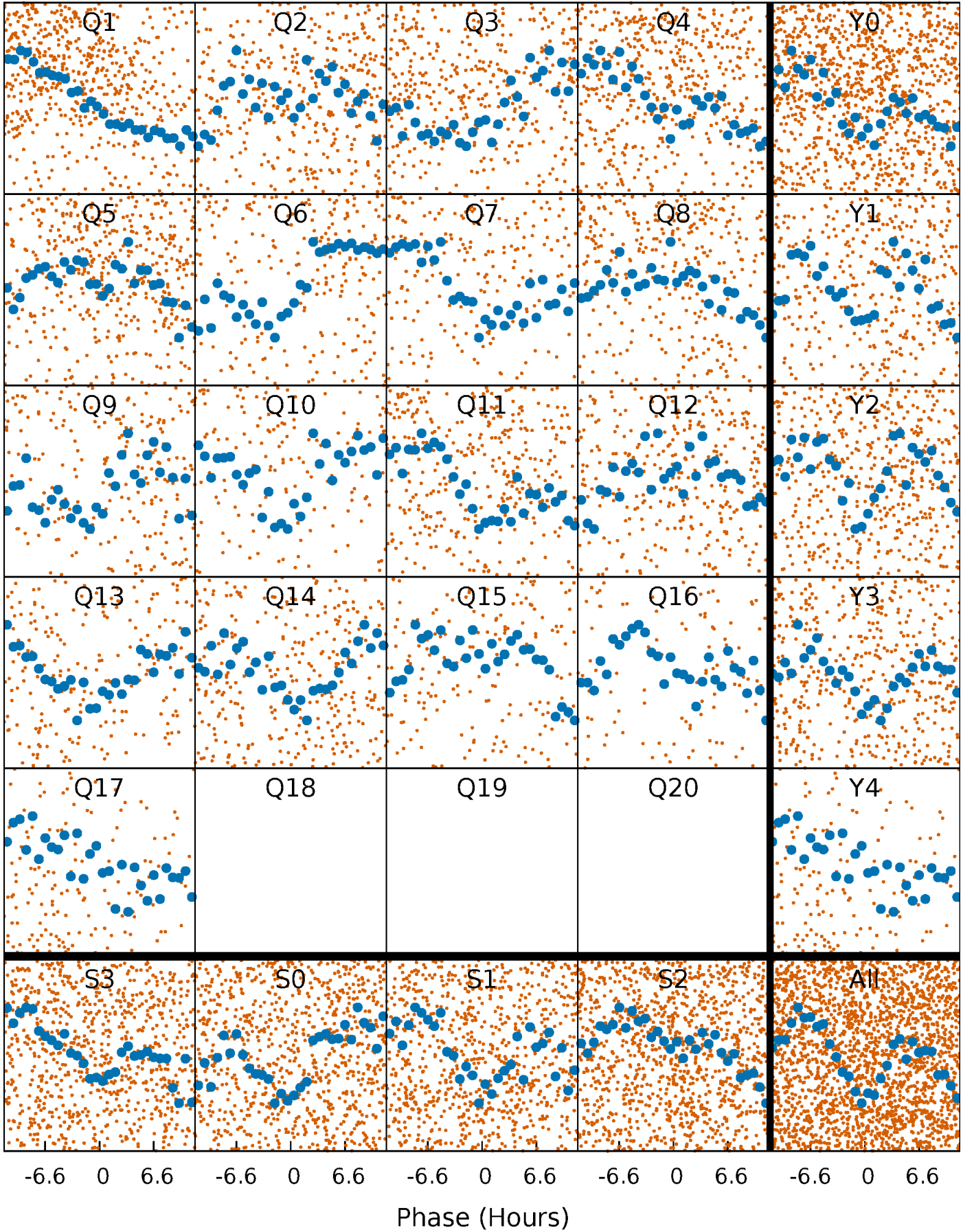


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



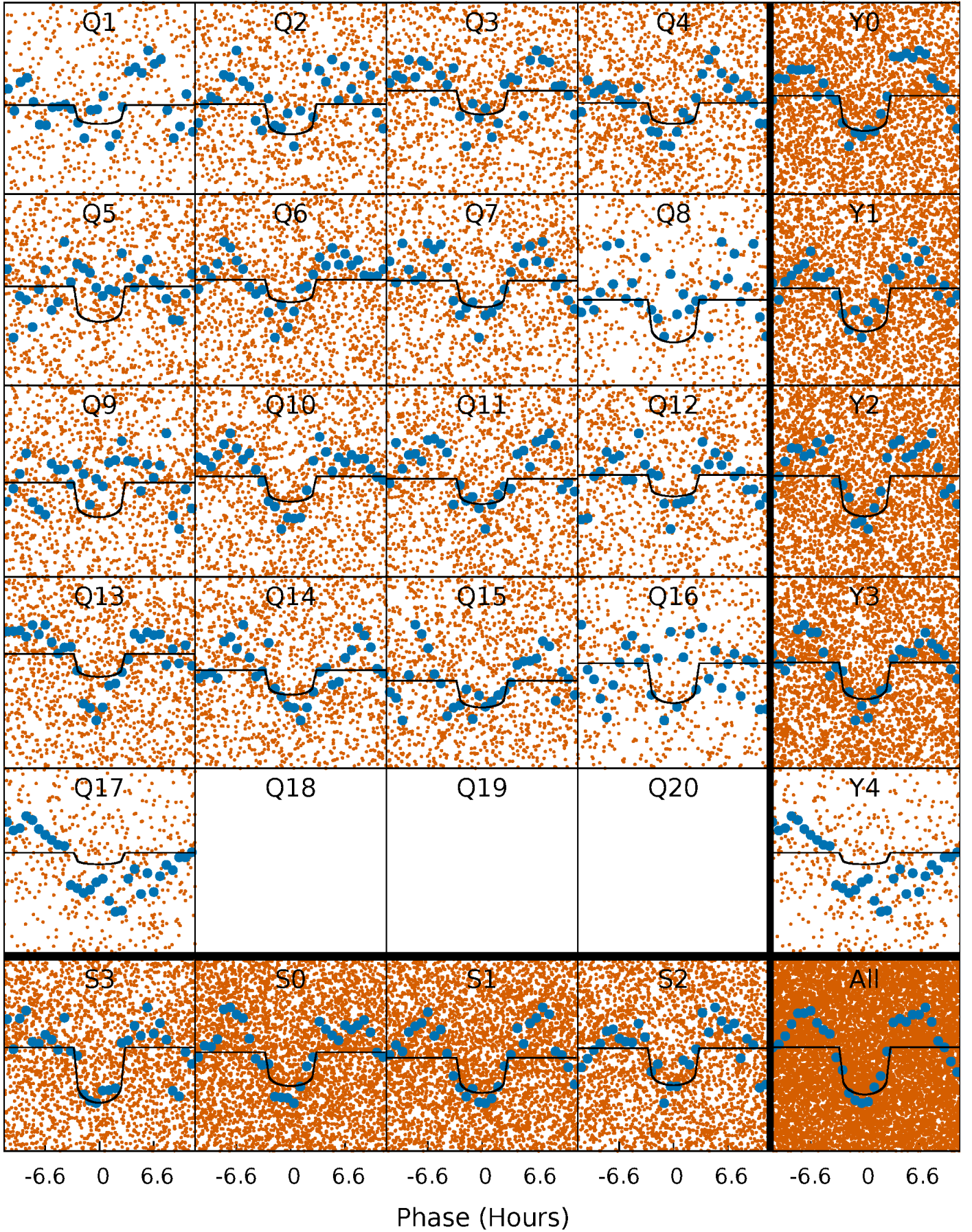
PDC Quarter-Phased Transit Curves

TCE 012217281-01 P= 1.730138 Days $T_0=131.732072$ (BKJD)



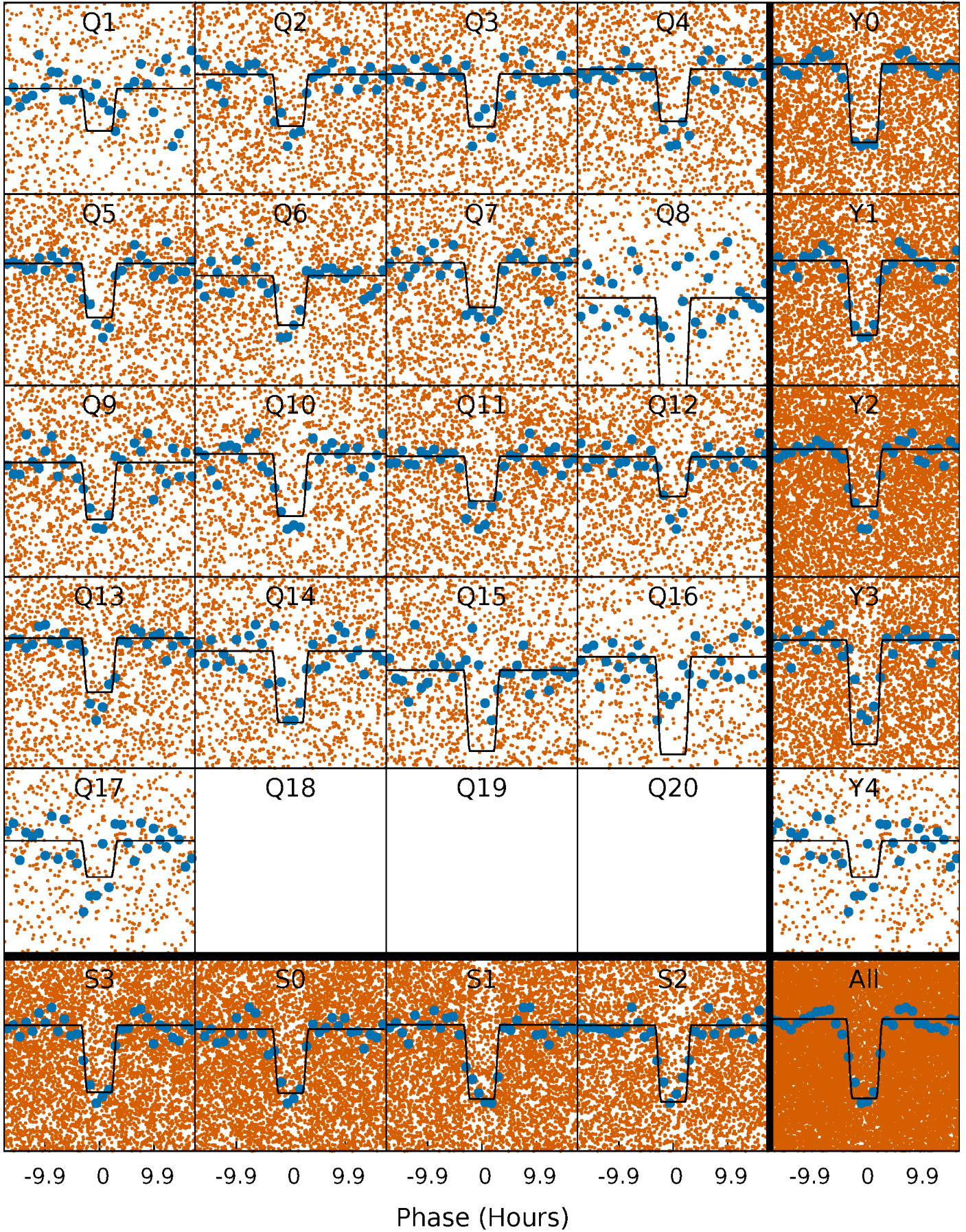
DV Quarter-Phased Transit Curves

TCE 012217281-01 P= 1.730138 Days $T_0=131.732072$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

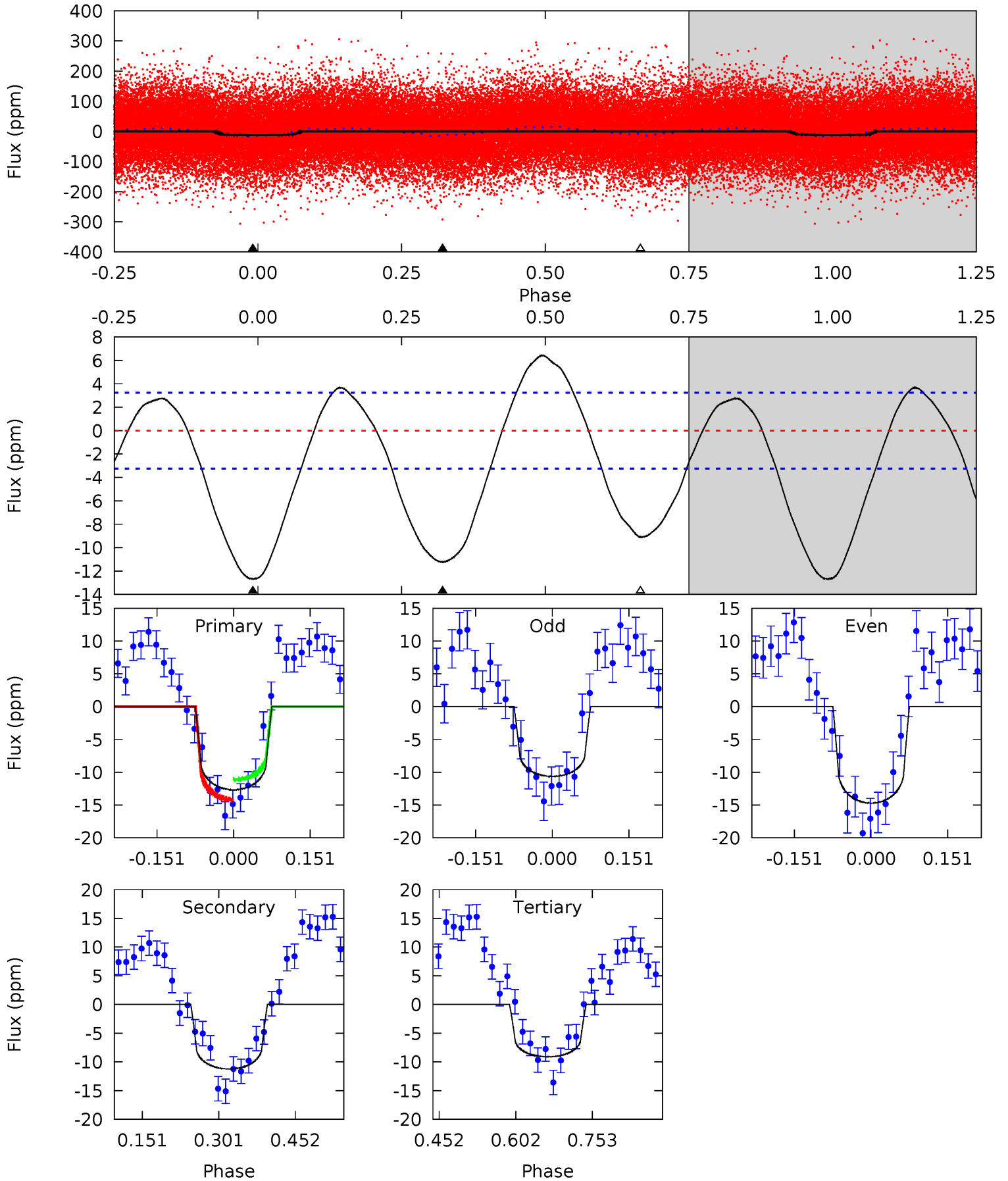
TCE 012217281-01 P= 1.730191 Days $T_0=131.696900$ (BKJD)



DV Model-Shift Uniqueness Test

012217281-01, P = 1.730138 Days, E = 130.001934 Days

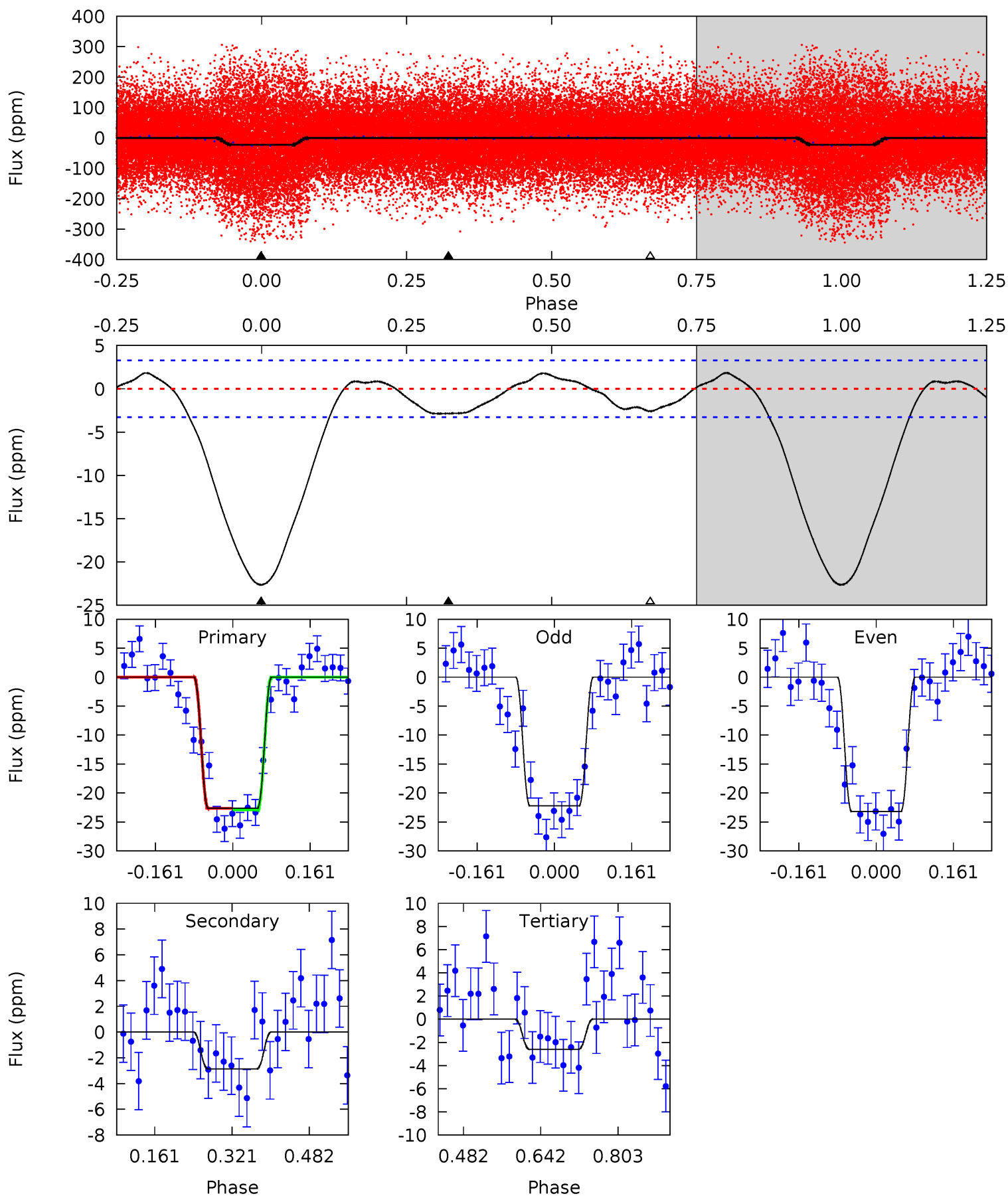
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
17.5	15.5	12.6	0	4.48	1.44	7.13	4.93	17.5	2.94	15.5	2.82	0.96	0.34	2.11



Alt Model-Shift Uniqueness Test

012217281-01, P = 1.730191 Days, E = 129.966709 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
30.8	3.88	3.53	0	4.46	1.40	2.00	27.2	30.8	0.34	3.88	0.66	1.01	0.08	0.18



Stellar Parameters For KIC 012217281

	$T_{\text{eff}} (K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7336^{+233}_{-285}	$3.725^{+0.522}_{-0.087}$	$-0.480^{+0.300}_{-0.300}$	$2.845^{+0.374}_{-1.401}$	$1.566^{+0.202}_{-0.375}$	$0.096^{+0.541}_{-0.025}$
	+3%/-4%	+14%/-2%	+62%/-62%	+13%/-49%	+13%/-24%	+564%/-26%
Source	KIC0	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 012217281-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-11 ± 1	$0.97^{+0.23}_{-0.26}$	4043^{+318}_{-507}	7127^{+682}_{-520}	$7.226^{+5.387}_{-2.387}$
Alt.	-3 ± 1	$1.46^{+0.25}_{-0.37}$	4083^{+293}_{-518}	4048^{+362}_{-400}	$0.816^{+0.589}_{-0.270}$

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 $A_{obs} \gg 1.0$

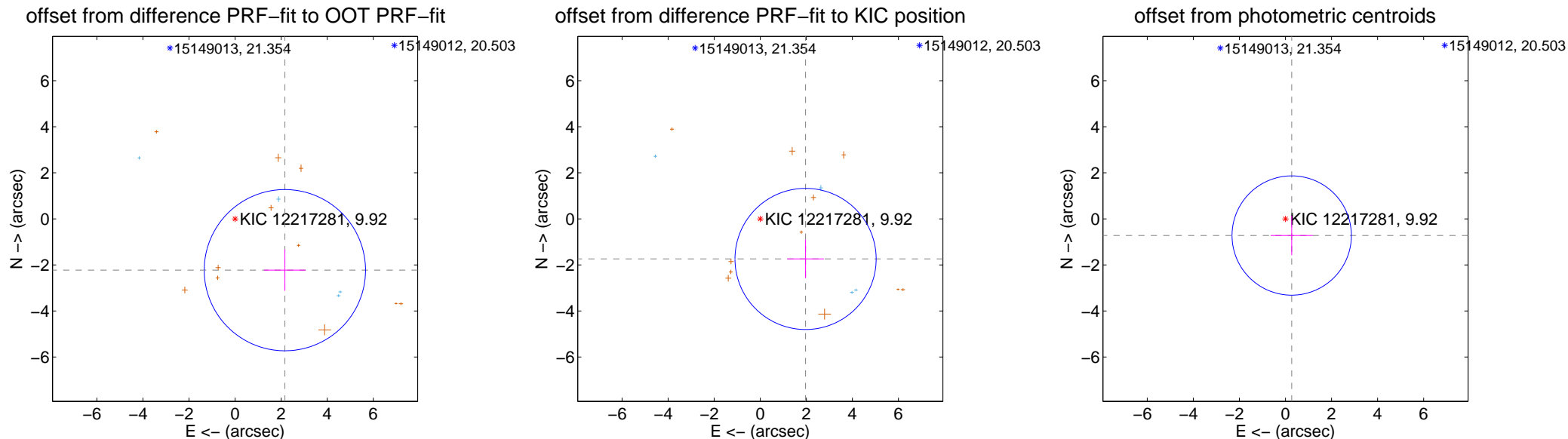
DV Centroid Data

Supplemental centroid analysis for 012217281-01. **Kepler magnitude: 9.92.** Transit SNR 9.07

There are 4 quarters with good PRF difference image offsets

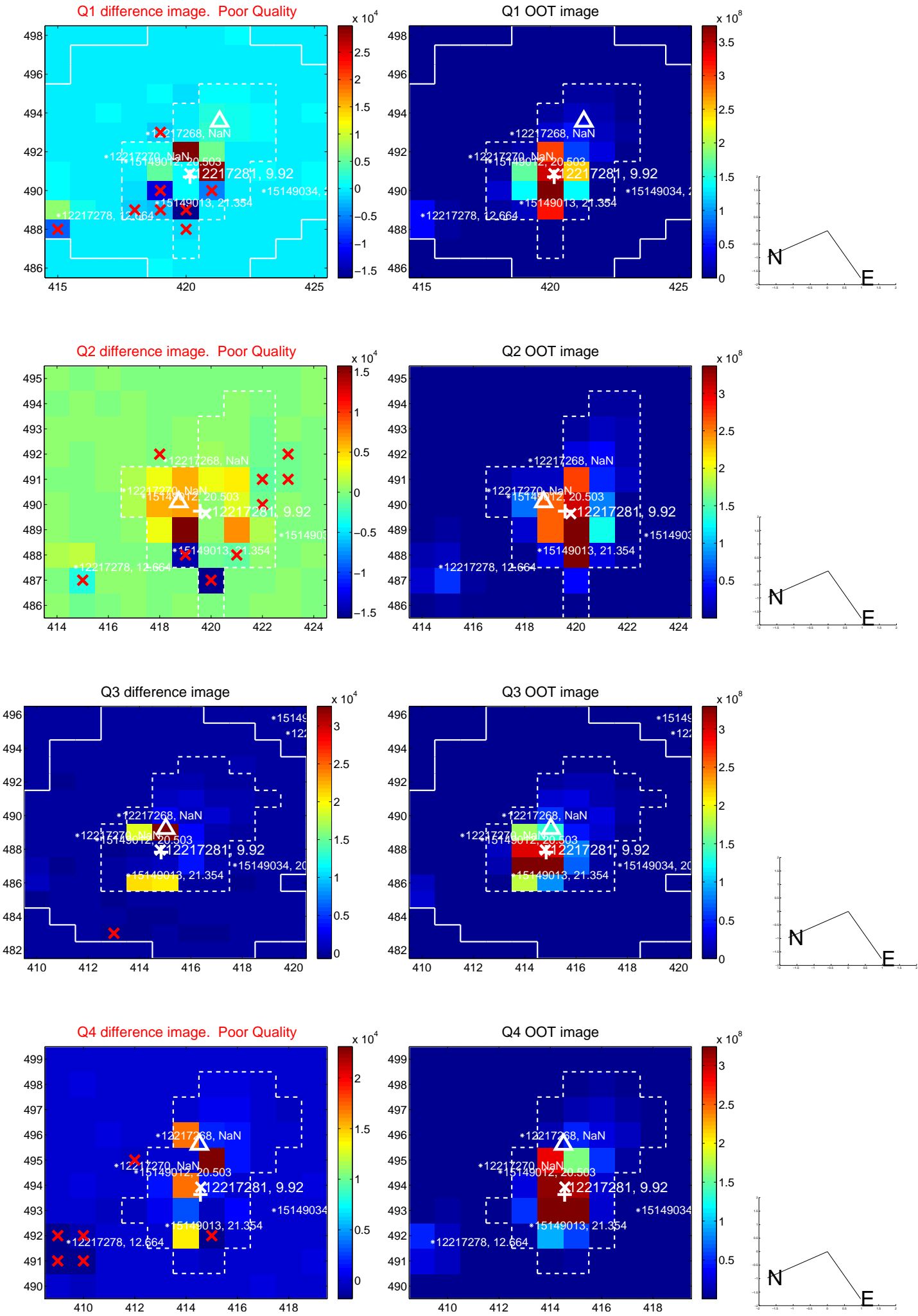
The direct PRF centroid is offset from the target star catalog position by about 0.57 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	3.104 ± 1.167	2.66	-2.162 ± 0.901	-2.228 ± 0.900
PRF-fit source offset from KIC position	2.626 ± 1.021	2.57	-1.967 ± 0.797	-1.740 ± 0.836
photometric centroid source offset	0.77 ± 0.86	0.89	-0.27 ± 0.91	-0.72 ± 0.86

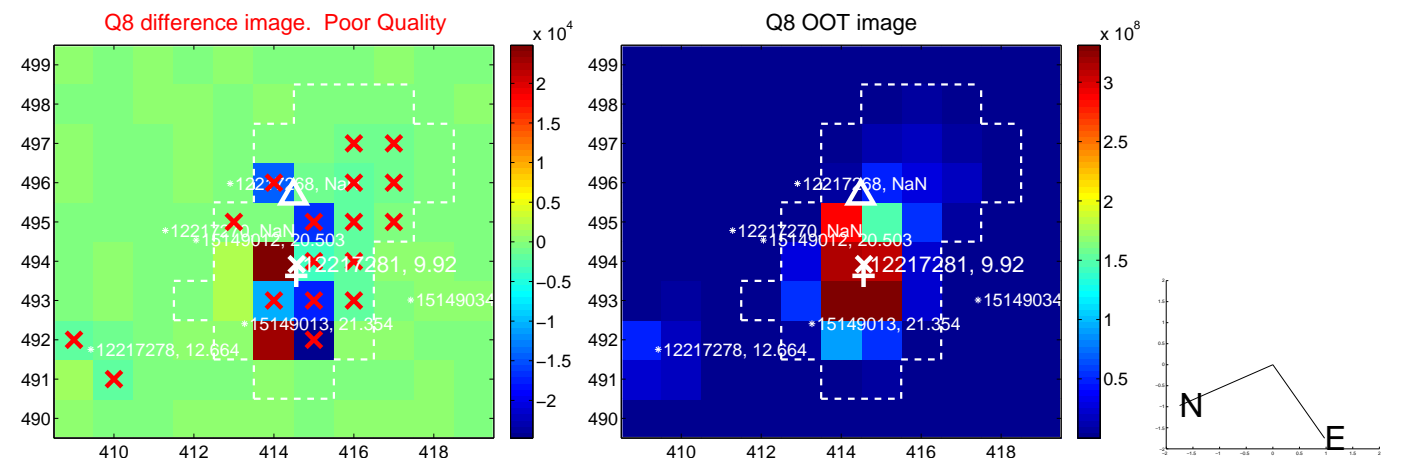
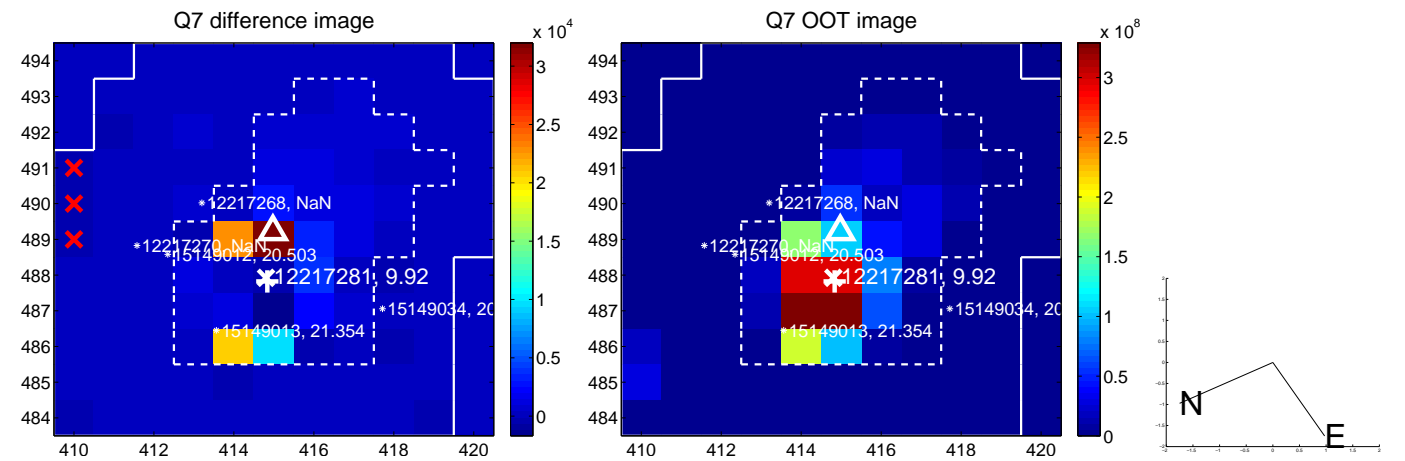
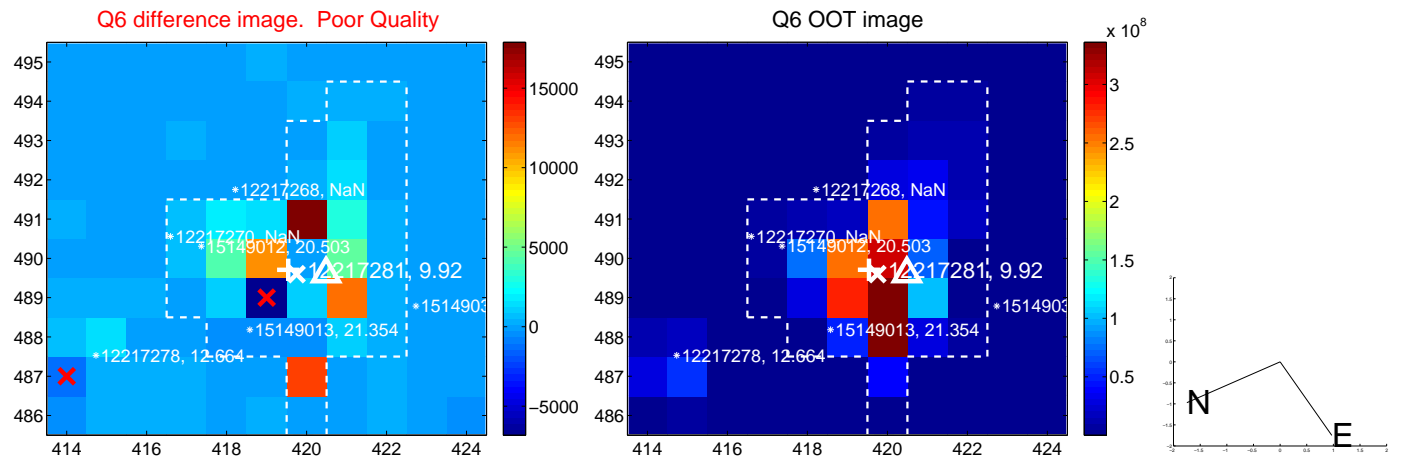
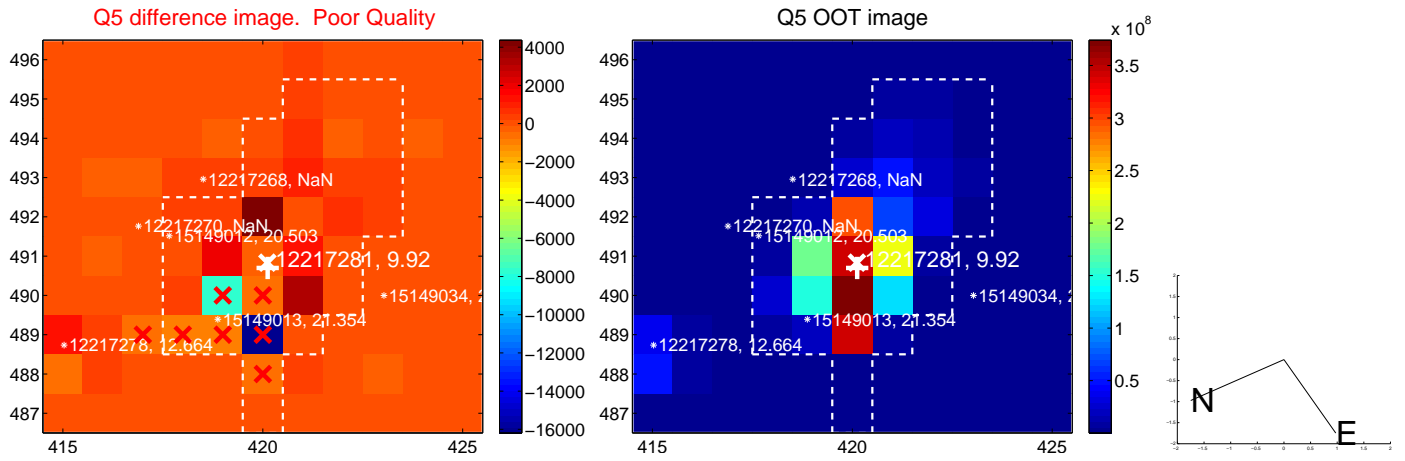


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

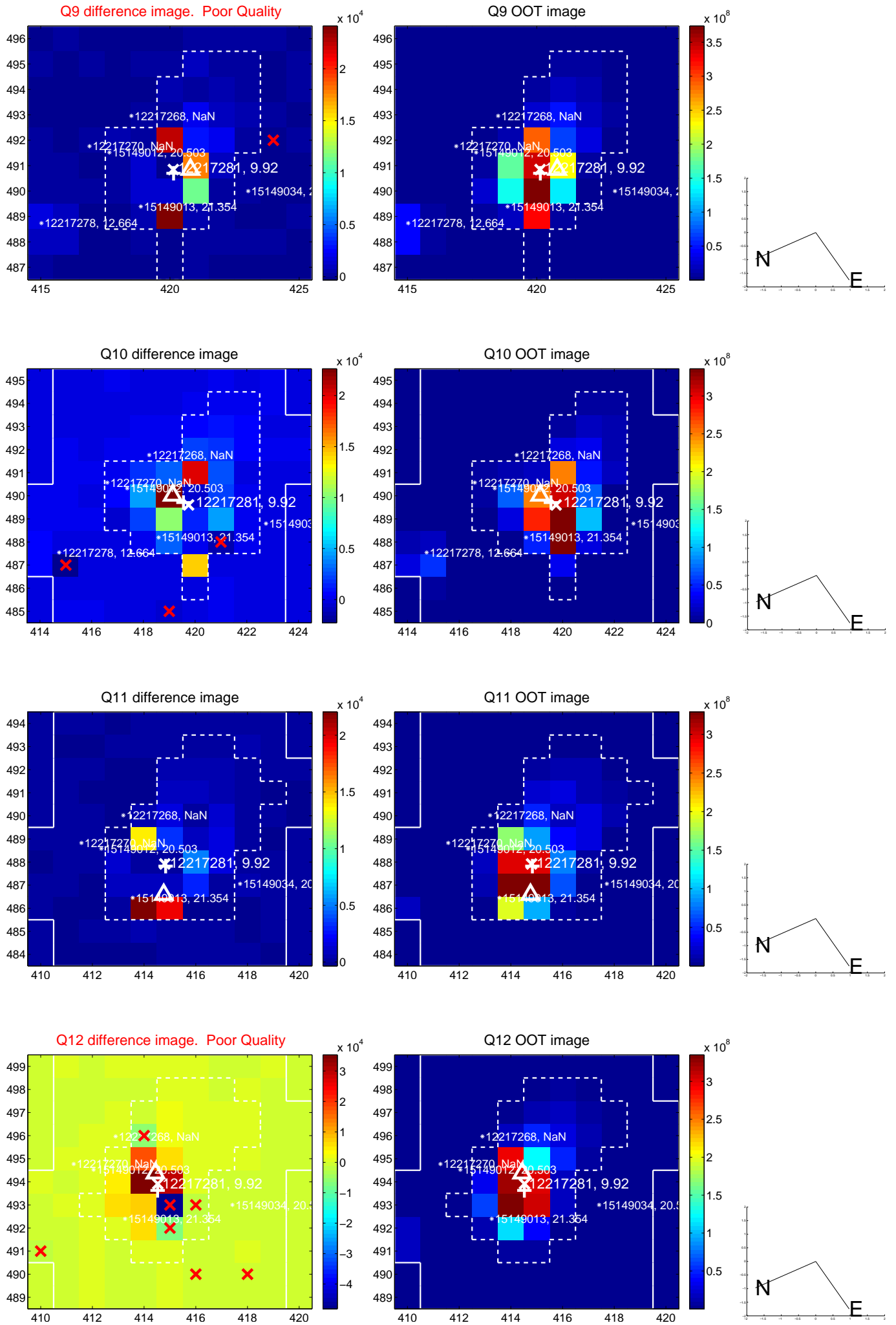
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



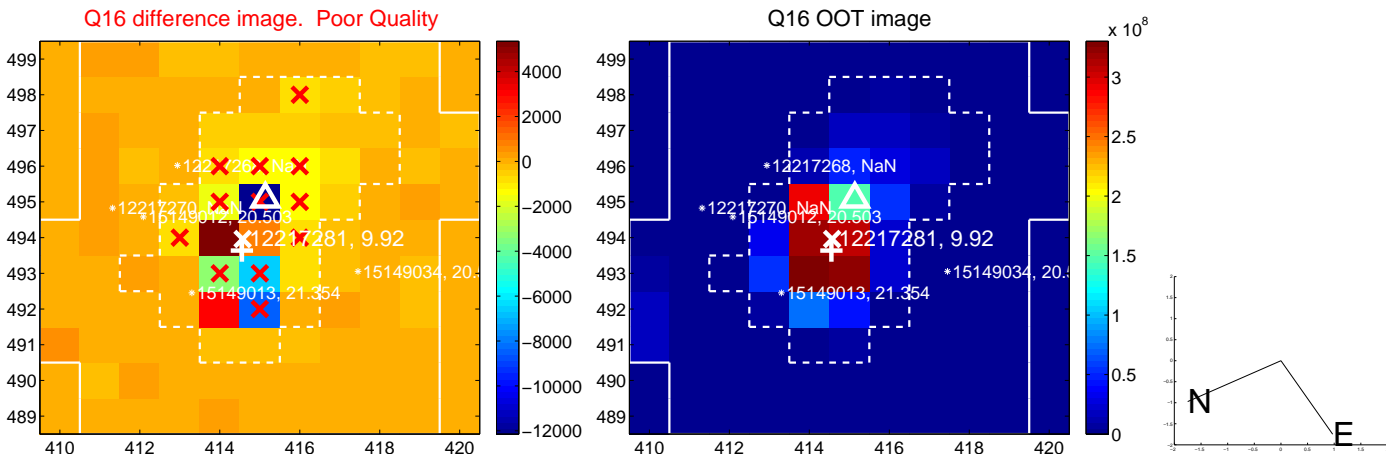
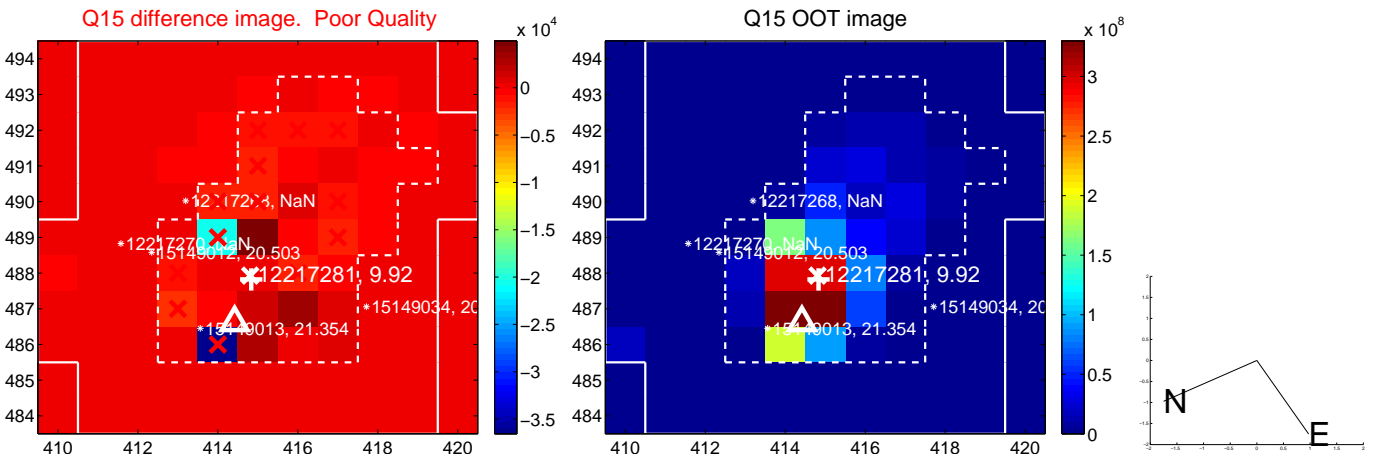
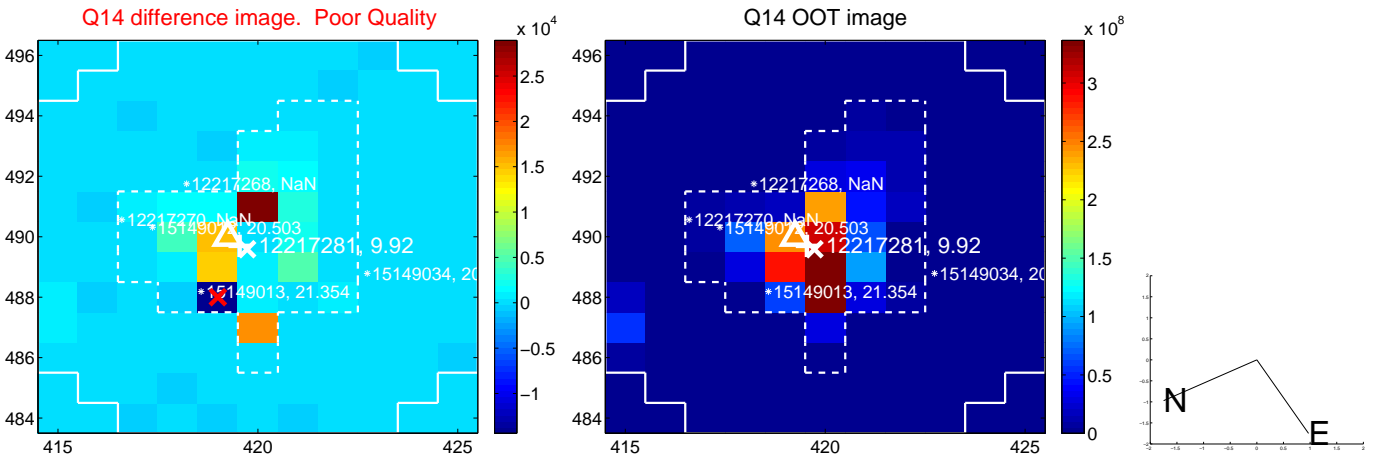
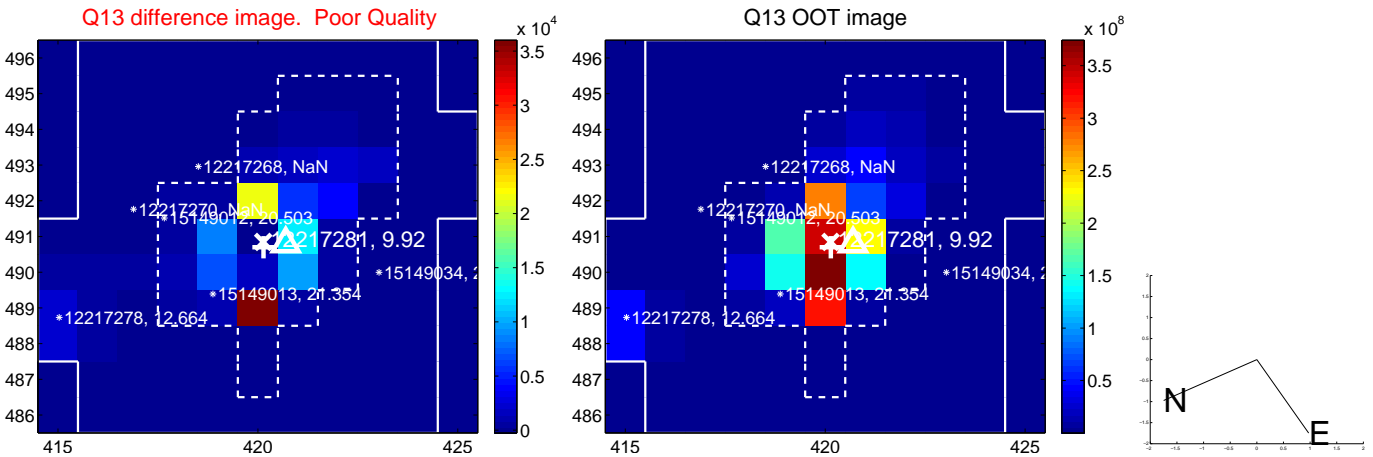
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



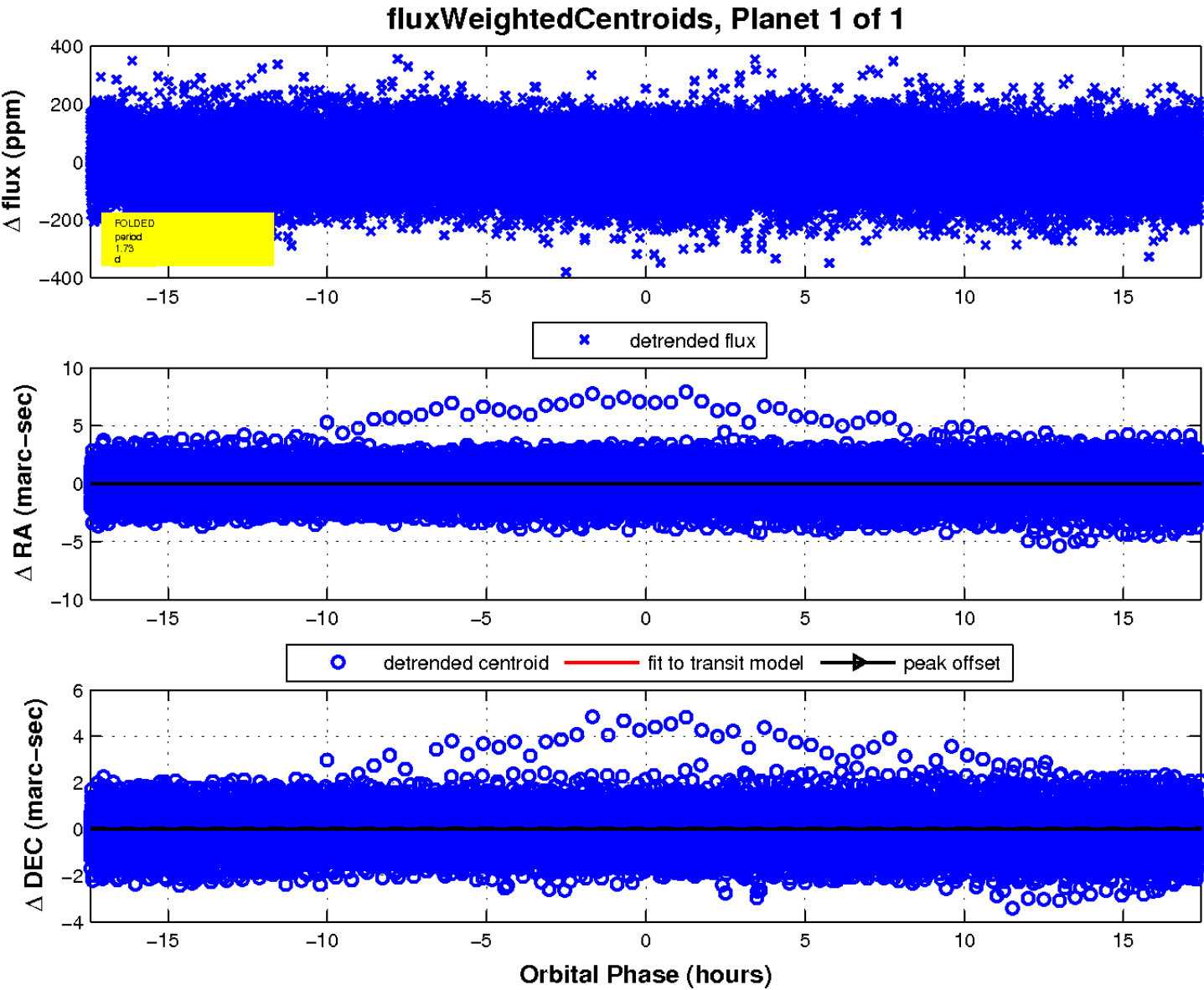
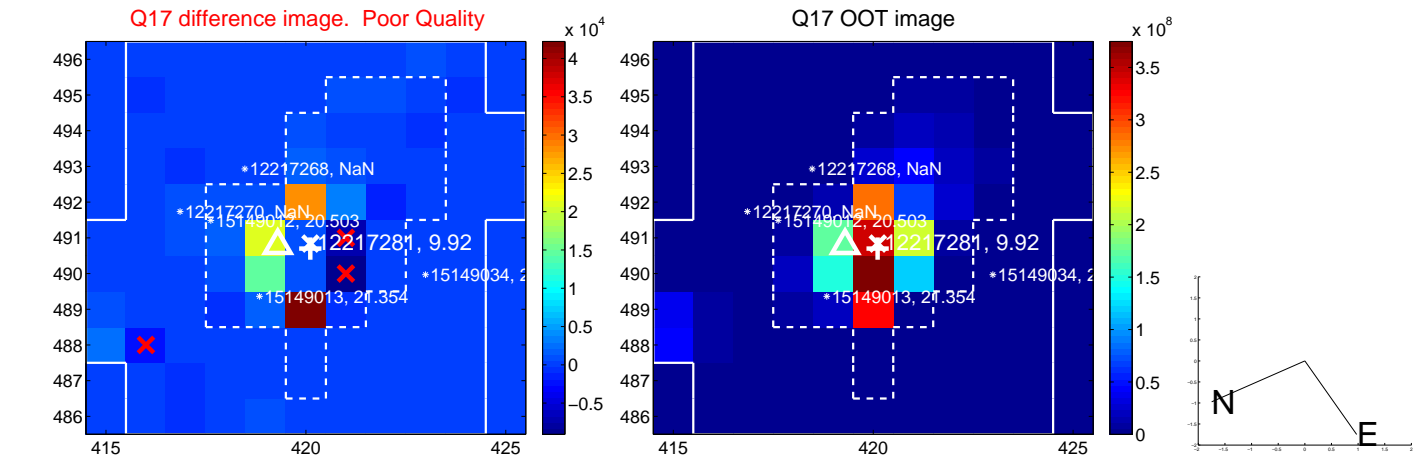
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UKIRT Image

