

KIC 007976435

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})
007976435-01	OBS	6946.01	3.332833	133.448033	31.7	11.659	17.3	20.0	2.42	8435	2.69	8515.59
007976435-02	OBS	No	485.001944	564.089851	109.0	24.253	8.8	7.0	2.42	8435	2.74	11.12

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007976435-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV
007976435-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS

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

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

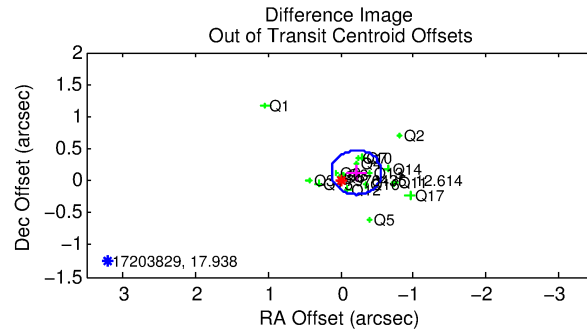
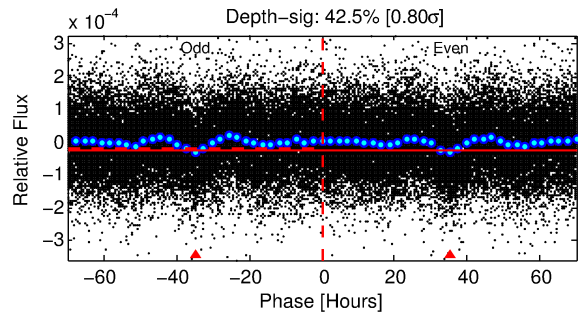
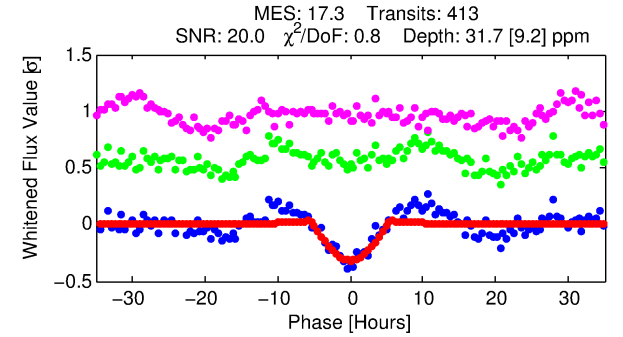
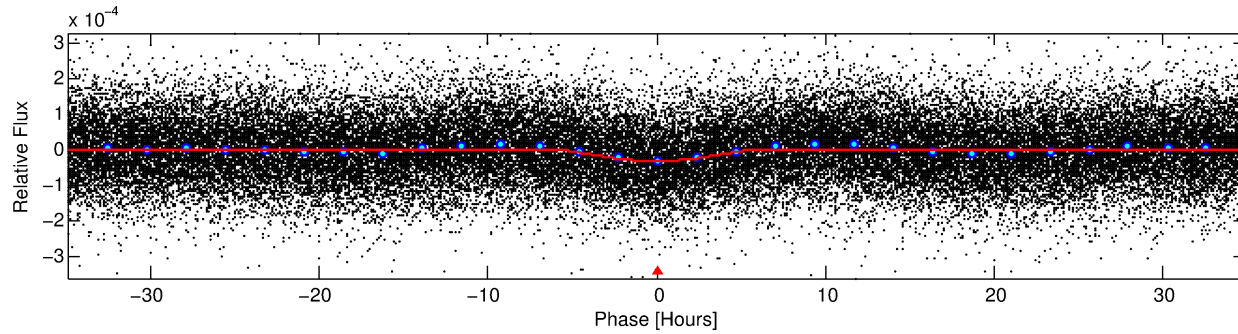
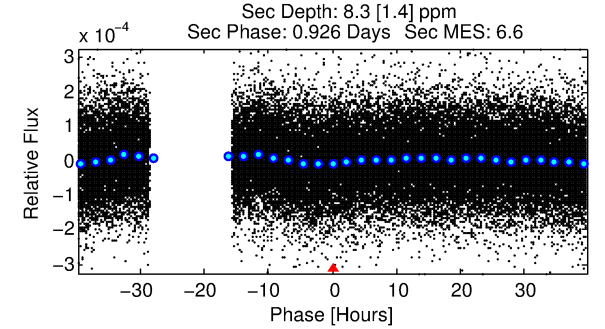
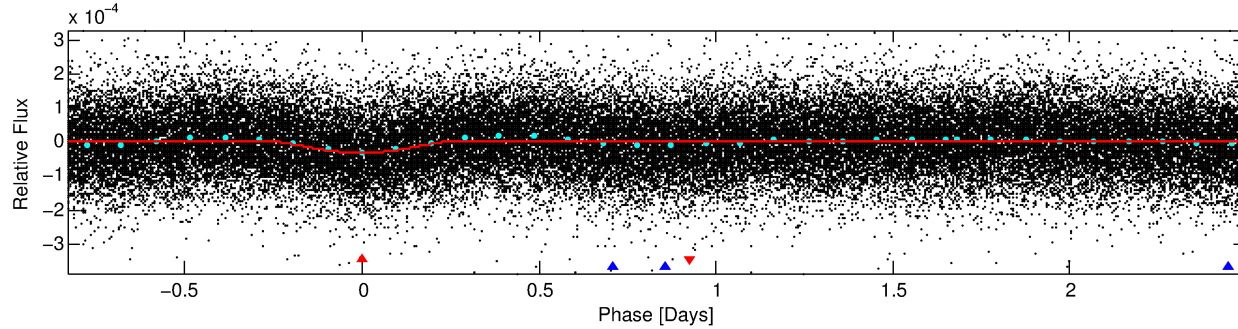
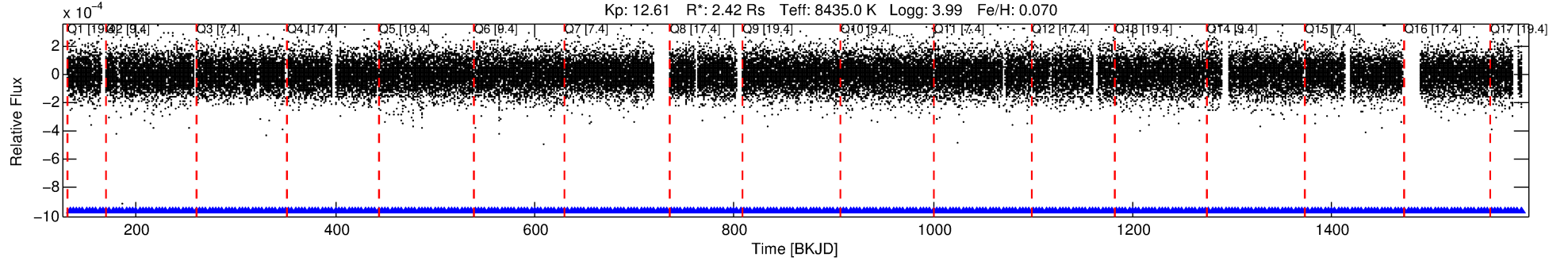
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007976435-01

No Significant Match Found

DV One-Page Summary

KIC: 7976435 Candidate: 1 of 2 Period: 3.333 d
KOI: K06946.01 Corr: 0.782



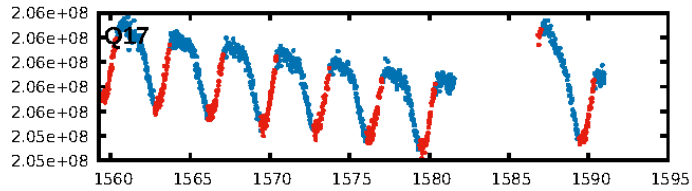
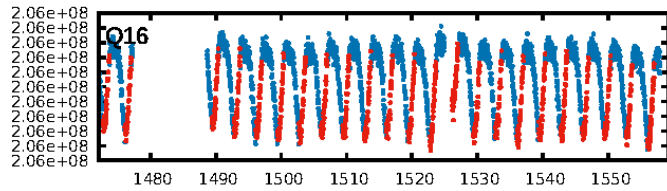
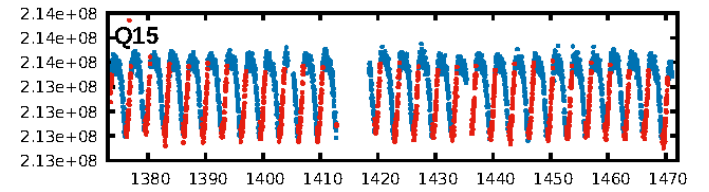
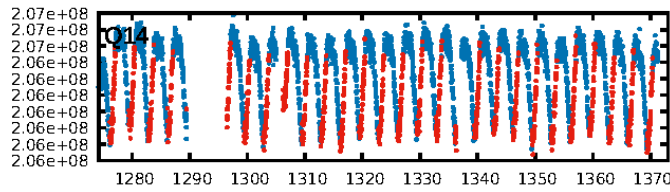
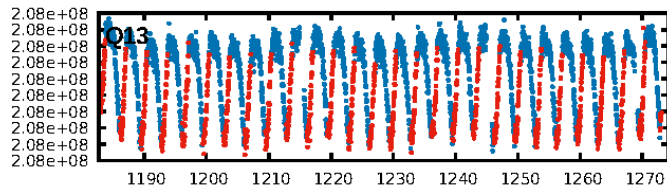
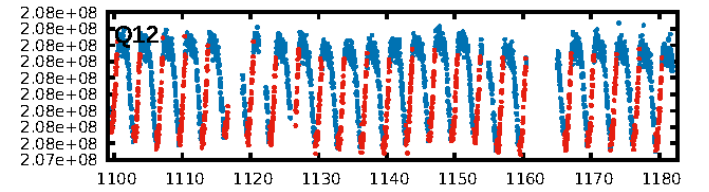
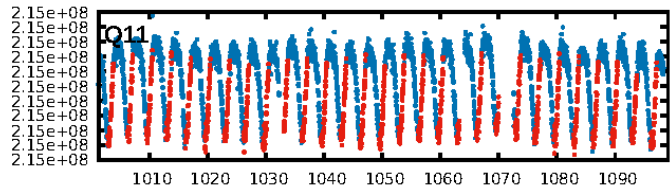
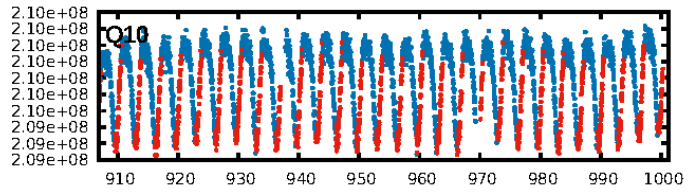
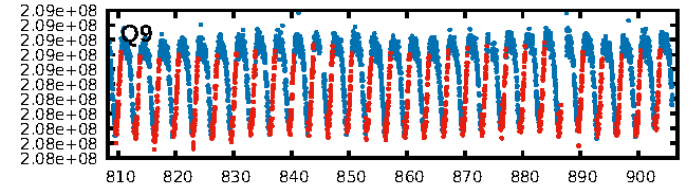
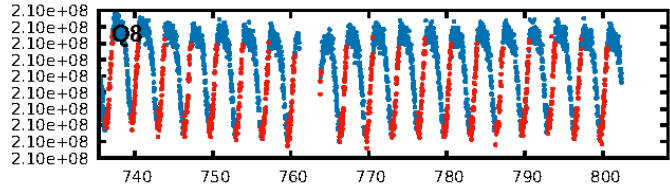
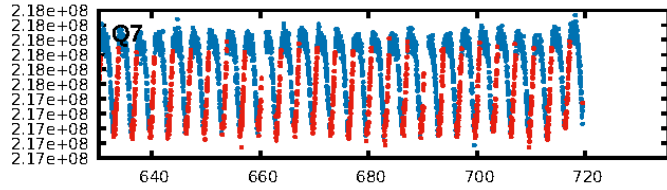
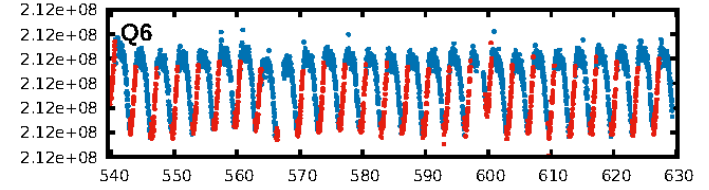
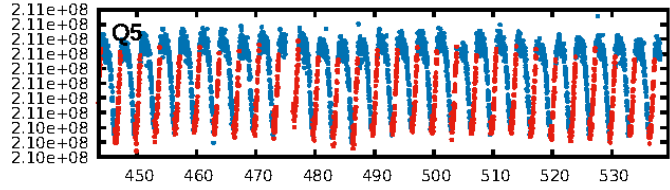
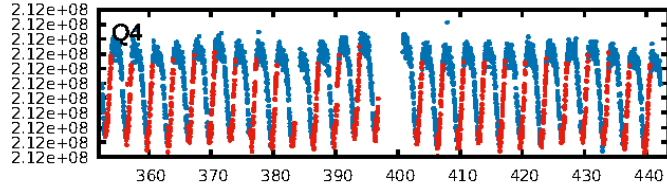
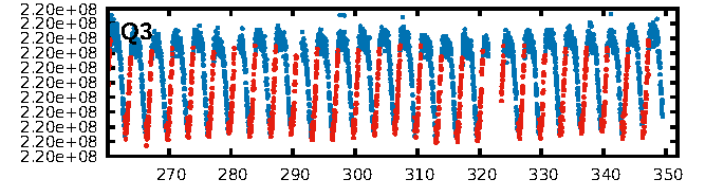
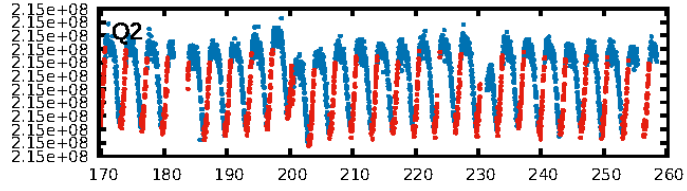
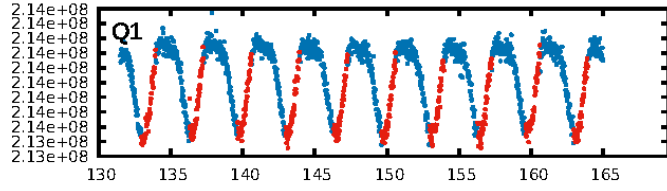
DV Fit Results:

Period = 3.33283 [0.00005] d
Epoch = 133.4480 [0.0125] BKJD
Rp/R* = 0.0102 [0.0141]
a/R* = 1.05 [0.02]
b = 1.00 [0.02]
Seff = 8515.59 [3742.05]
Teq = 2450 [269] K
Rp = 2.69 [3.81] Re
a = 0.0558 [0.0148] AU
Ag = 1.96 [5.49] [0.18σ]
Teffp = 4482 [3108] K [0.65σ]

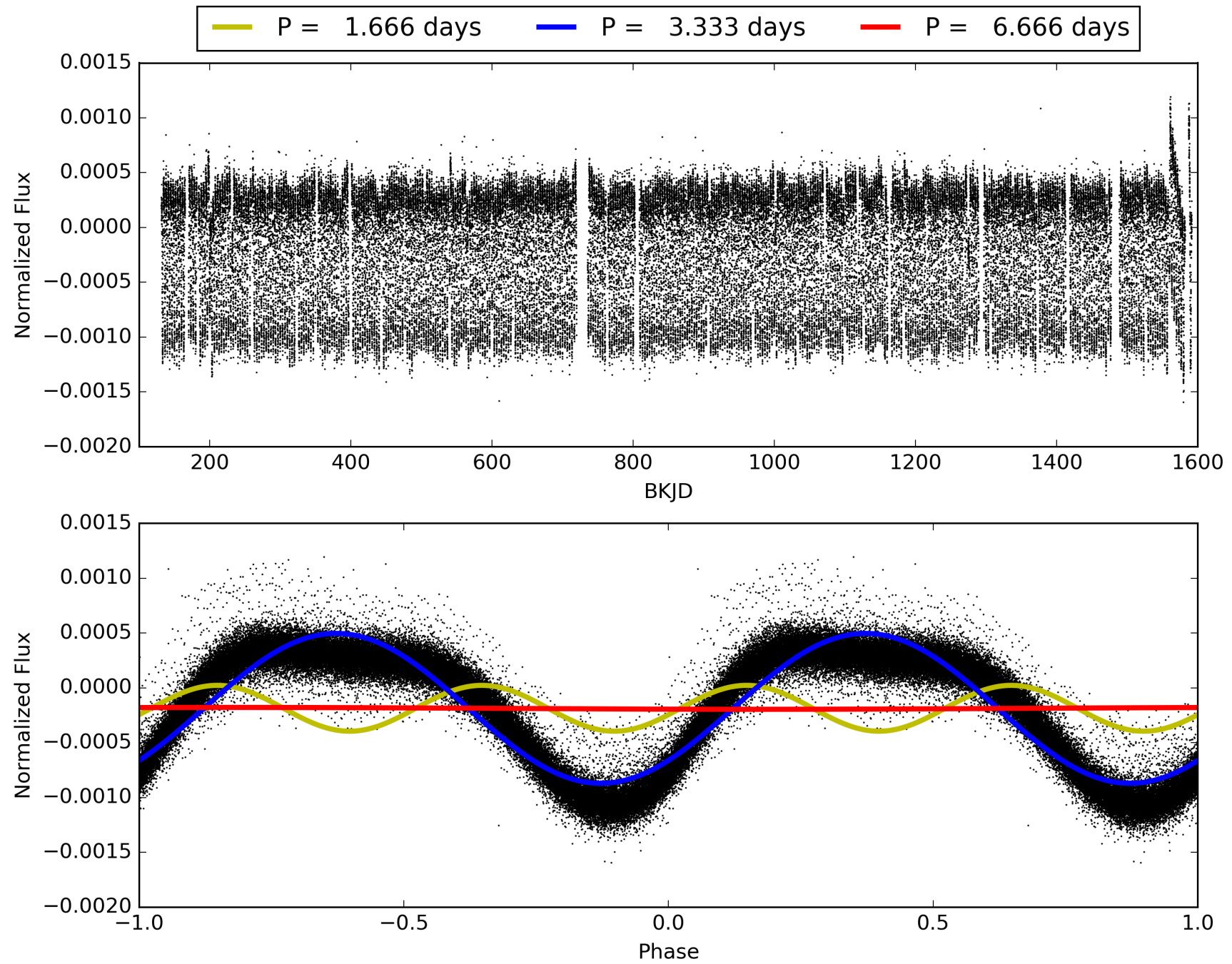
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [429.59σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 5.12e-54
RollingBand-fgt: 1.00 [395/395]
GhostDiagnostic-chr: 1.161
Centroid-sig: 4.2%
Centroid-so: 1.063 arcsec [1.84σ]
OotOffset-rm: 0.252 arcsec [2.19σ]
KicOffset-rm: 0.310 arcsec [2.12σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 1.00 [17/17]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 007976435-01, PDC Light Curves

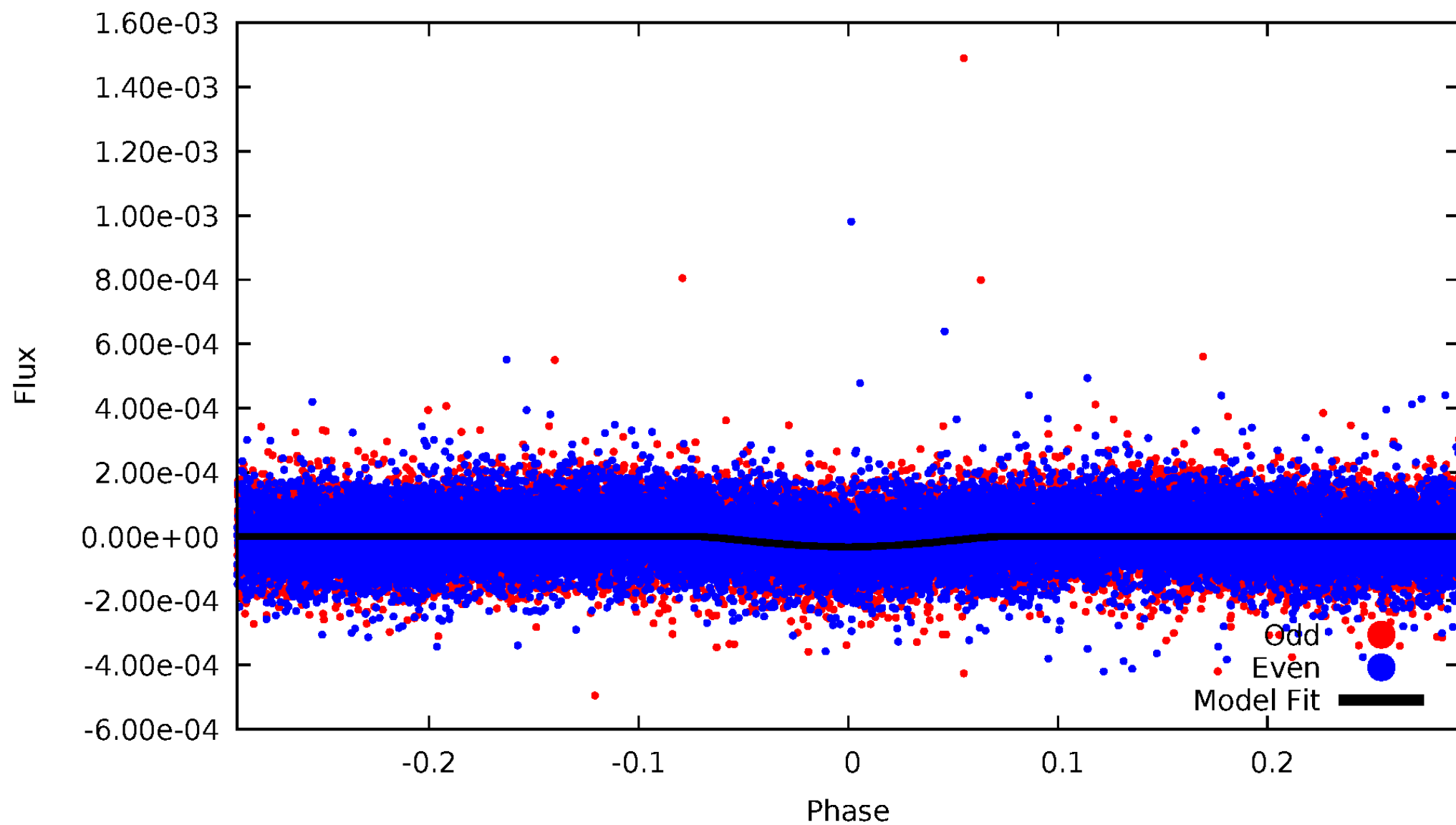


TCE 007976435-01



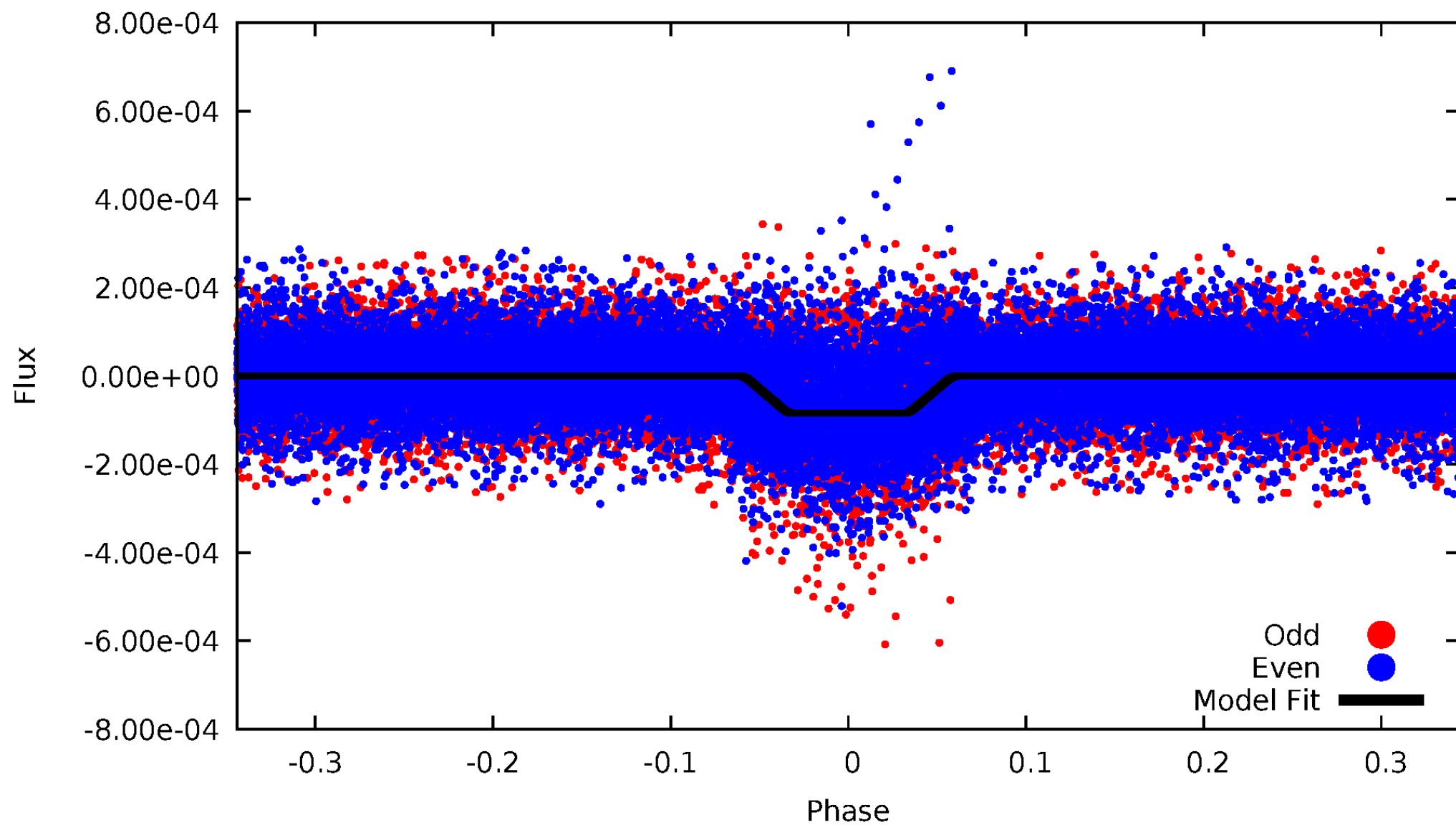
DV Odd/Even

TCE 007976435-01

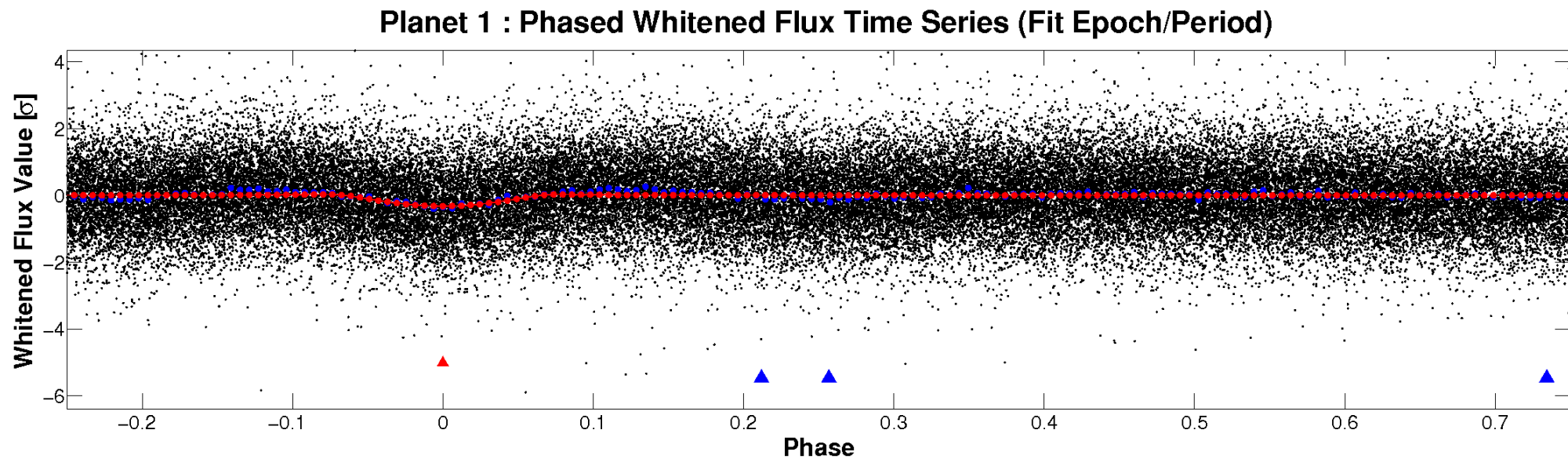
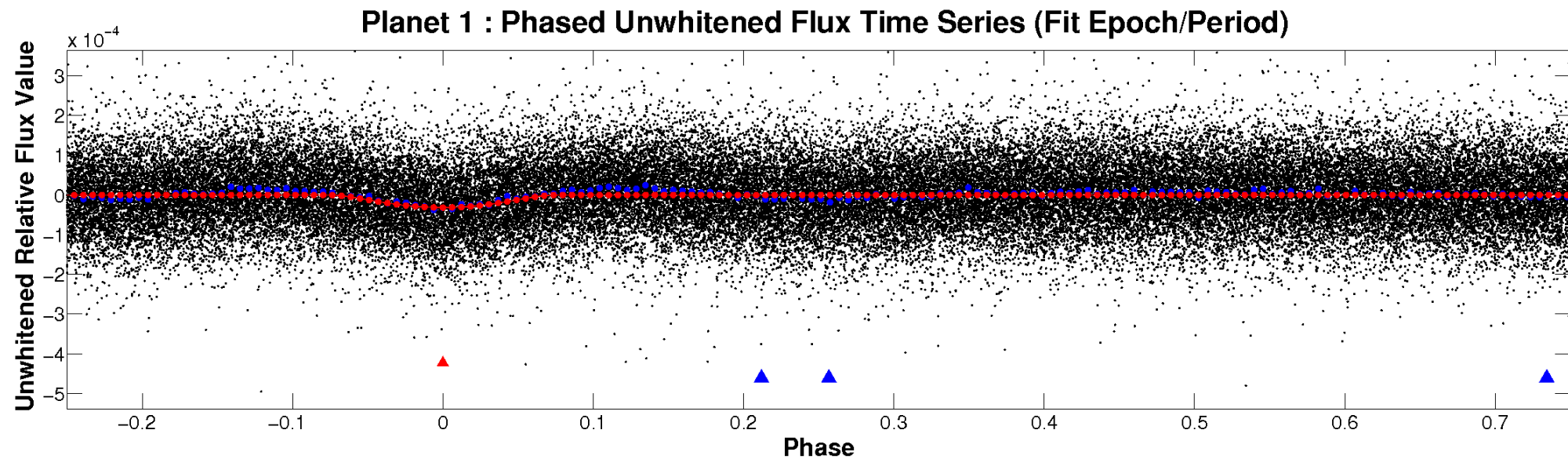


ALT Odd/Even

TCE 007976435-01

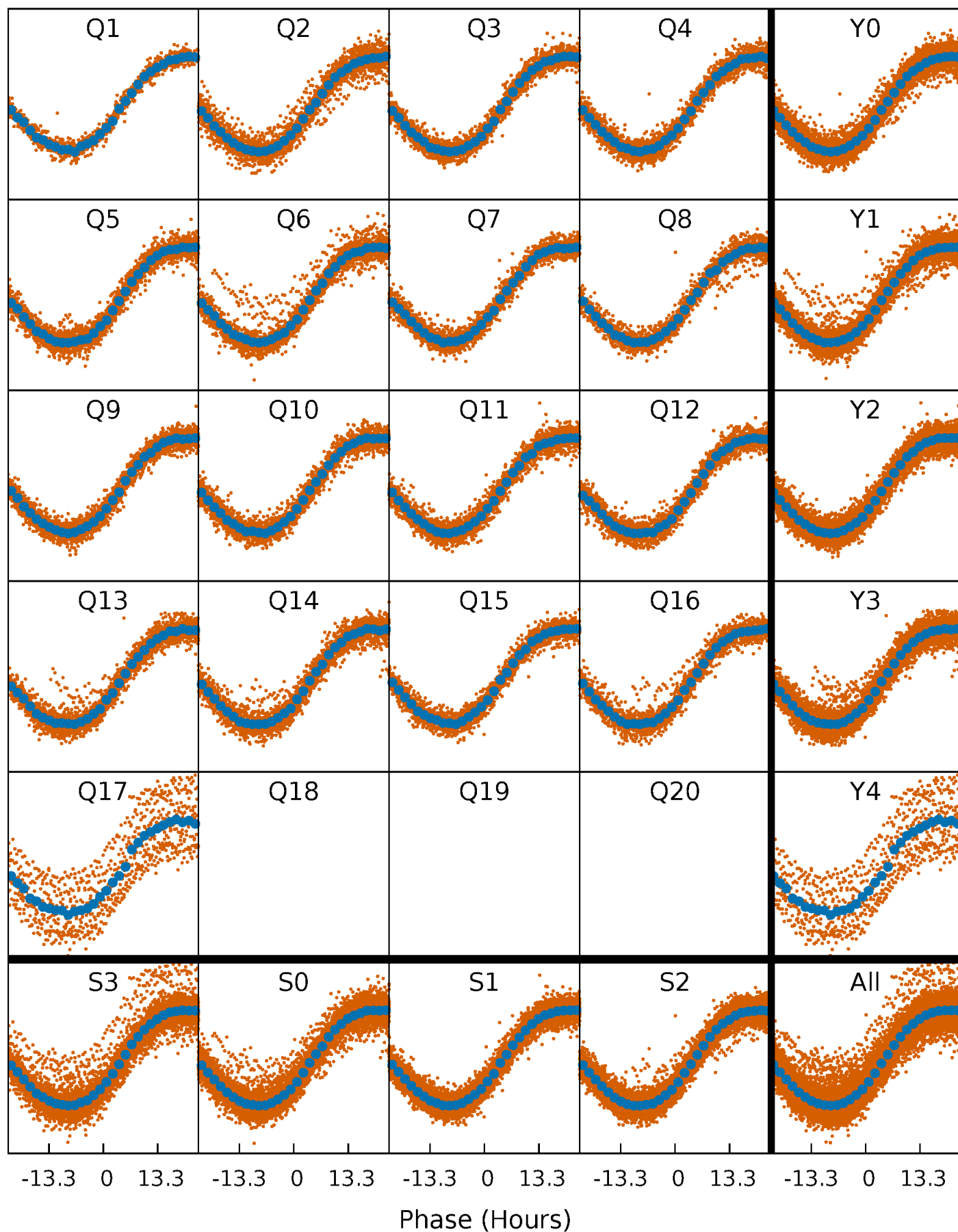


Non-Whitened Vs. Whitened Light Curve



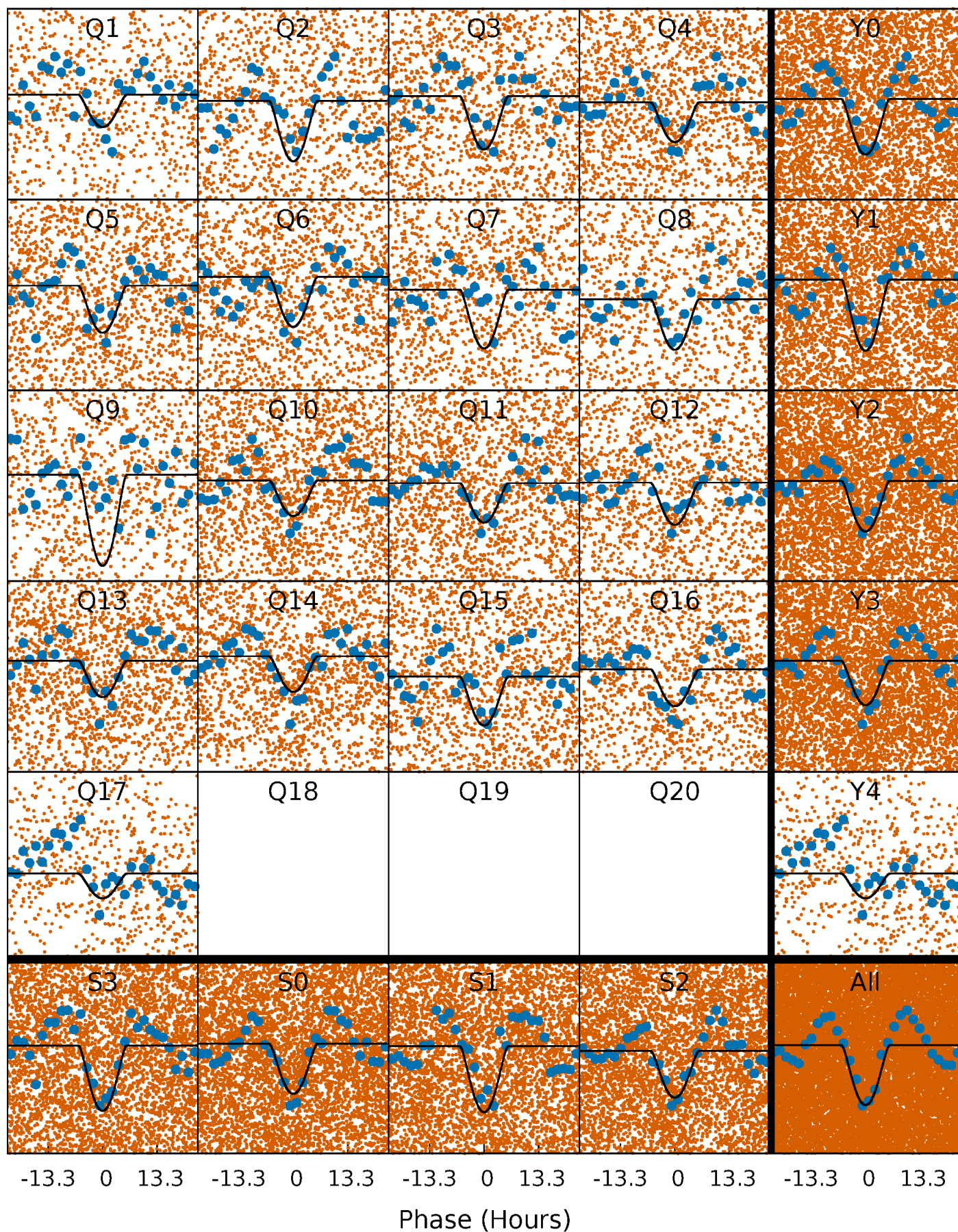
PDC Quarter-Phased Transit Curves

TCE 007976435-01 P= 3.332833 Days $T_0=133.448033$ (BKJD)



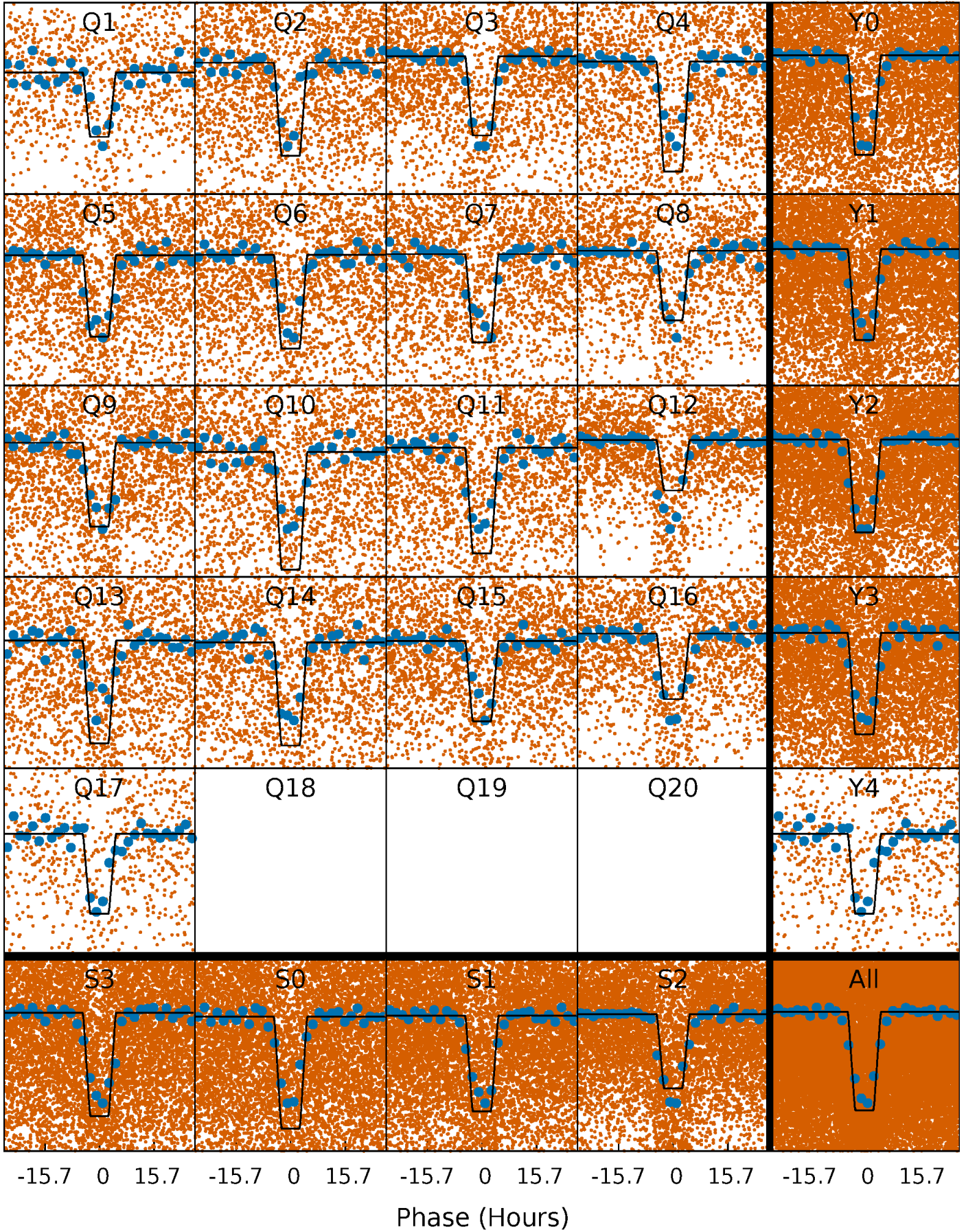
DV Quarter-Phased Transit Curves

TCE 007976435-01 P= 3.332833 Days $T_0=133.448033$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

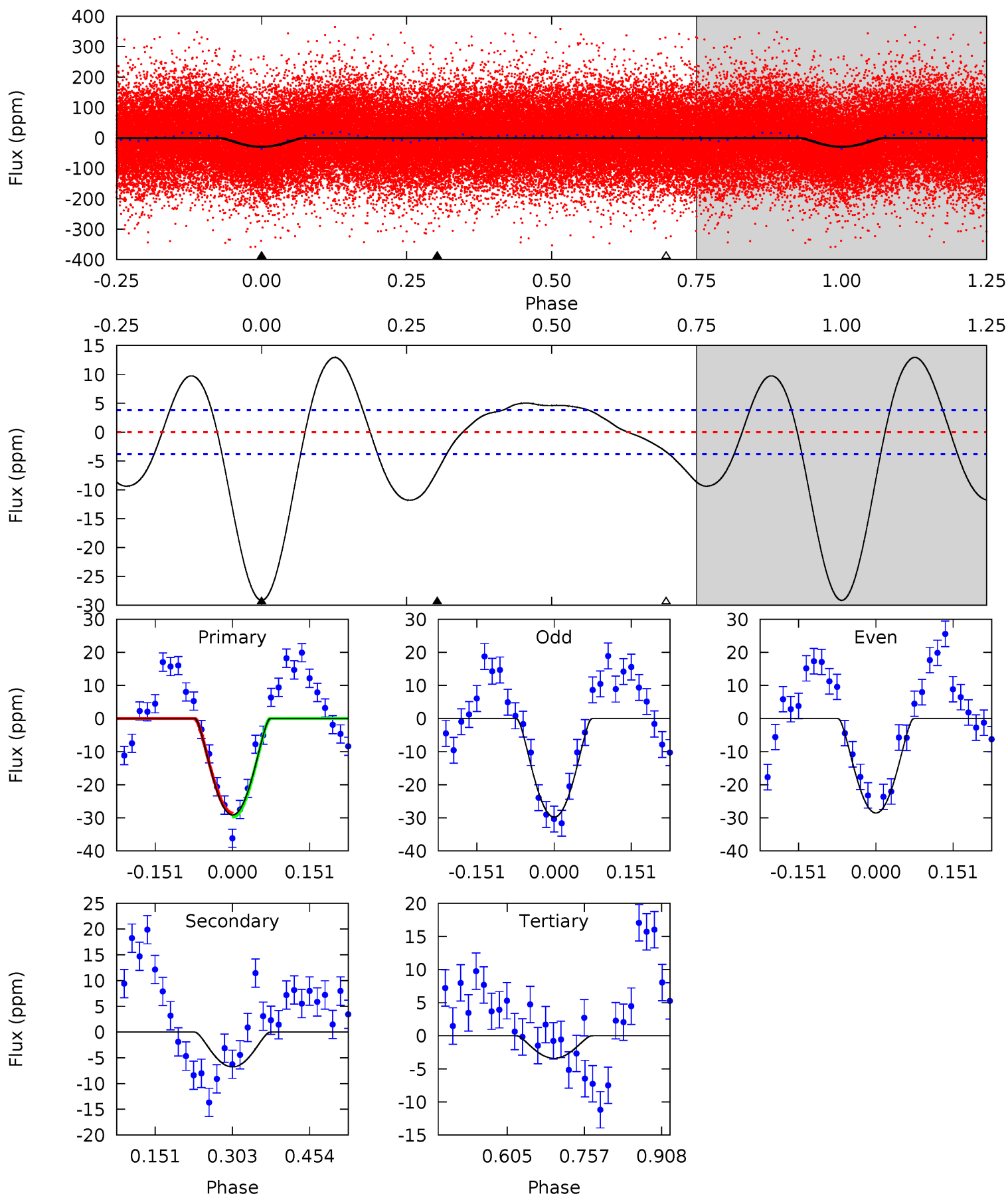
TCE 007976435-01 P= 3.332762 Days $T_0=133.444531$ (BKJD)



DV Model-Shift Uniqueness Test

007976435-01, P = 3.332833 Days, E = 130.115200 Days

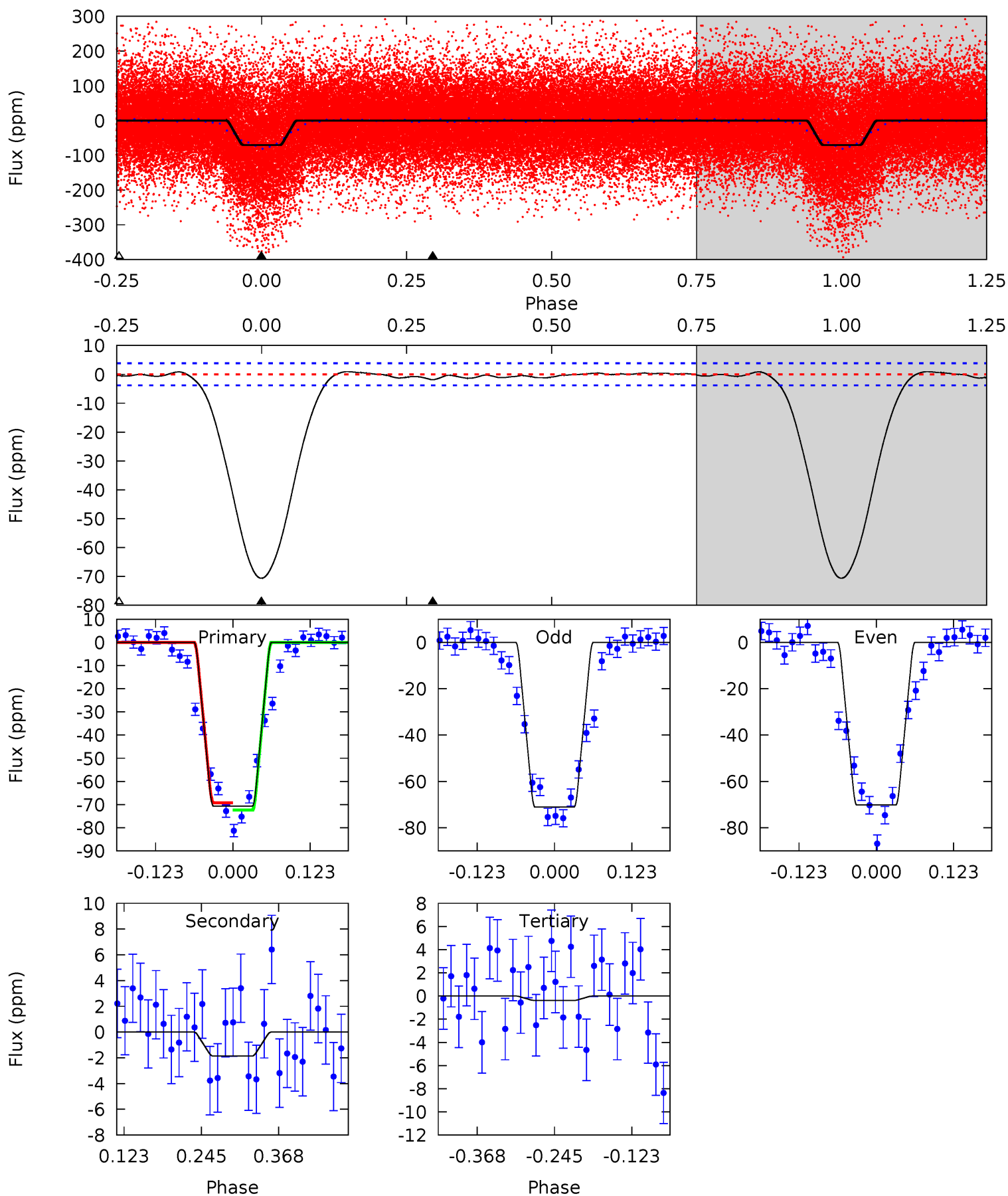
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
34.3	7.98	4.01	0	4.48	1.43	5.71	30.3	34.3	3.97	7.98	0.74	0.82	0.31	0.66



Alt Model-Shift Uniqueness Test

007976435-01, P = 3.332762 Days, E = 130.111769 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
83.6	2.21	0.46	0	4.52	1.54	0.62	83.2	83.6	1.75	2.21	0.54	1.09	0.01	1.84



Stellar Parameters For KIC 007976435

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	8435^{+200}_{-400}	$3.990^{+0.221}_{-0.119}$	$0.070^{+0.150}_{-0.550}$	$2.416^{+0.495}_{-0.743}$	$2.078^{+0.333}_{-0.500}$	$0.207^{+0.286}_{-0.077}$
	+2%/-5%	+6%/-3%	+214%/-786%	+20%/-31%	+16%/-24%	+138%/-37%
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 007976435-01 / KOI 6946.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-7 ± 1	$3.59^{+3.48}_{-2.25}$	3356^{+209}_{-257}	3520^{+2101}_{-6176}	$0.860^{+5.412}_{-0.635}$
Alt.	-2 ± 1	$3.33^{+3.25}_{-2.19}$	3365^{+216}_{-255}	-2528^{+6851}_{-638}	$0.253^{+1.900}_{-0.195}$

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 $A_{\text{obs}} \gg 1.0$

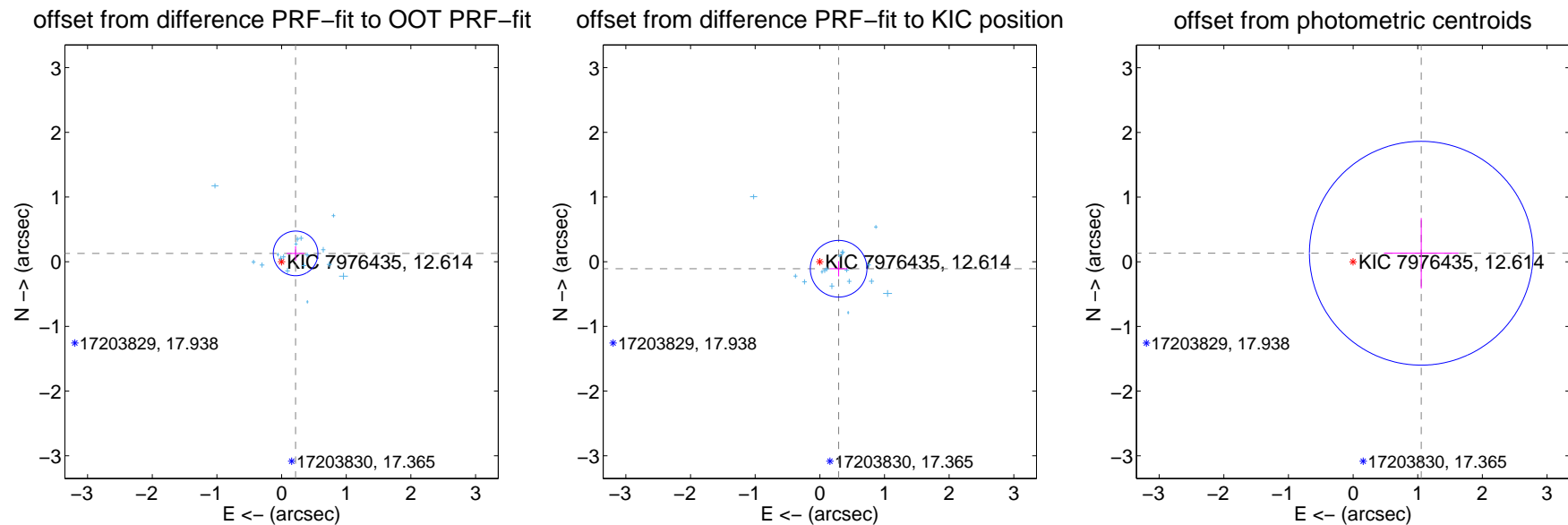
DV Centroid Data

Supplemental centroid analysis for 007976435-01. Kepler magnitude: 12.61. Transit SNR 19.97

There are 17 quarters with good PRF difference image offsets

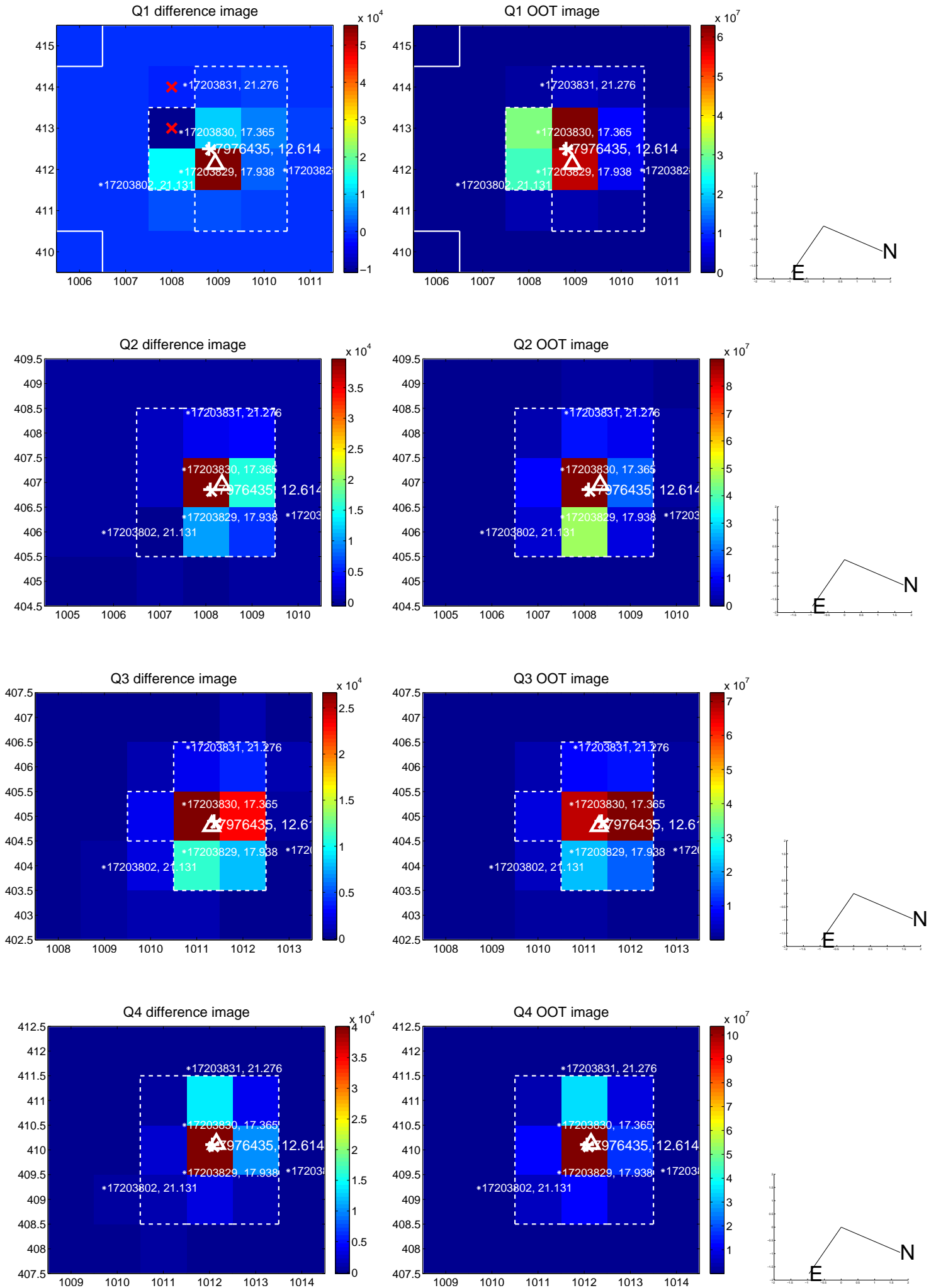
The direct PRF centroid is offset from the target star catalog position by about 0.28 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.252 ± 0.115	2.19	-0.217 ± 0.135	0.128 ± 0.112
PRF-fit source offset from KIC position	0.310 ± 0.146	2.12	-0.290 ± 0.137	-0.109 ± 0.118
photometric centroid source offset	1.06 ± 0.58	1.84	-1.05 ± 0.58	0.13 ± 0.54

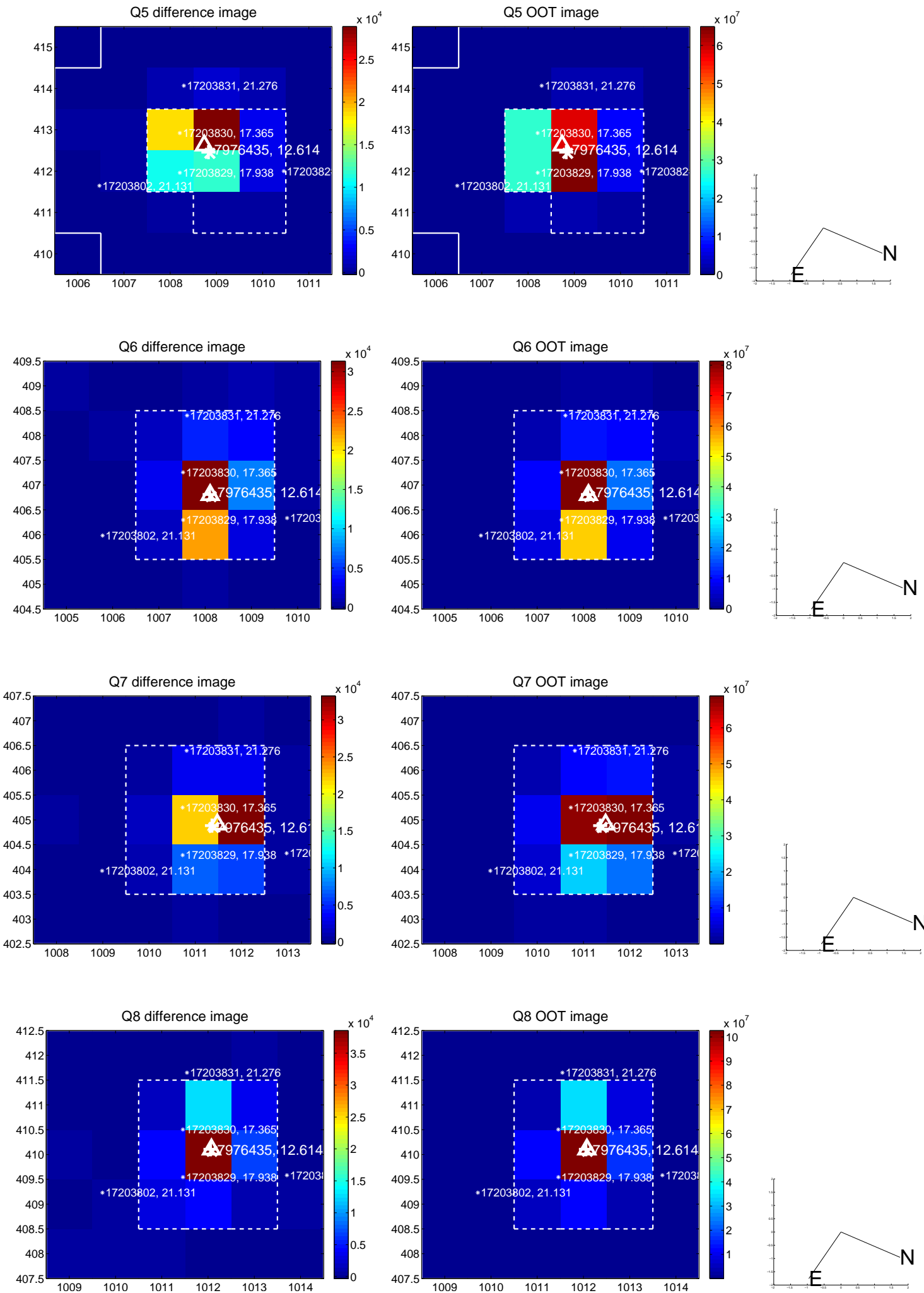


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

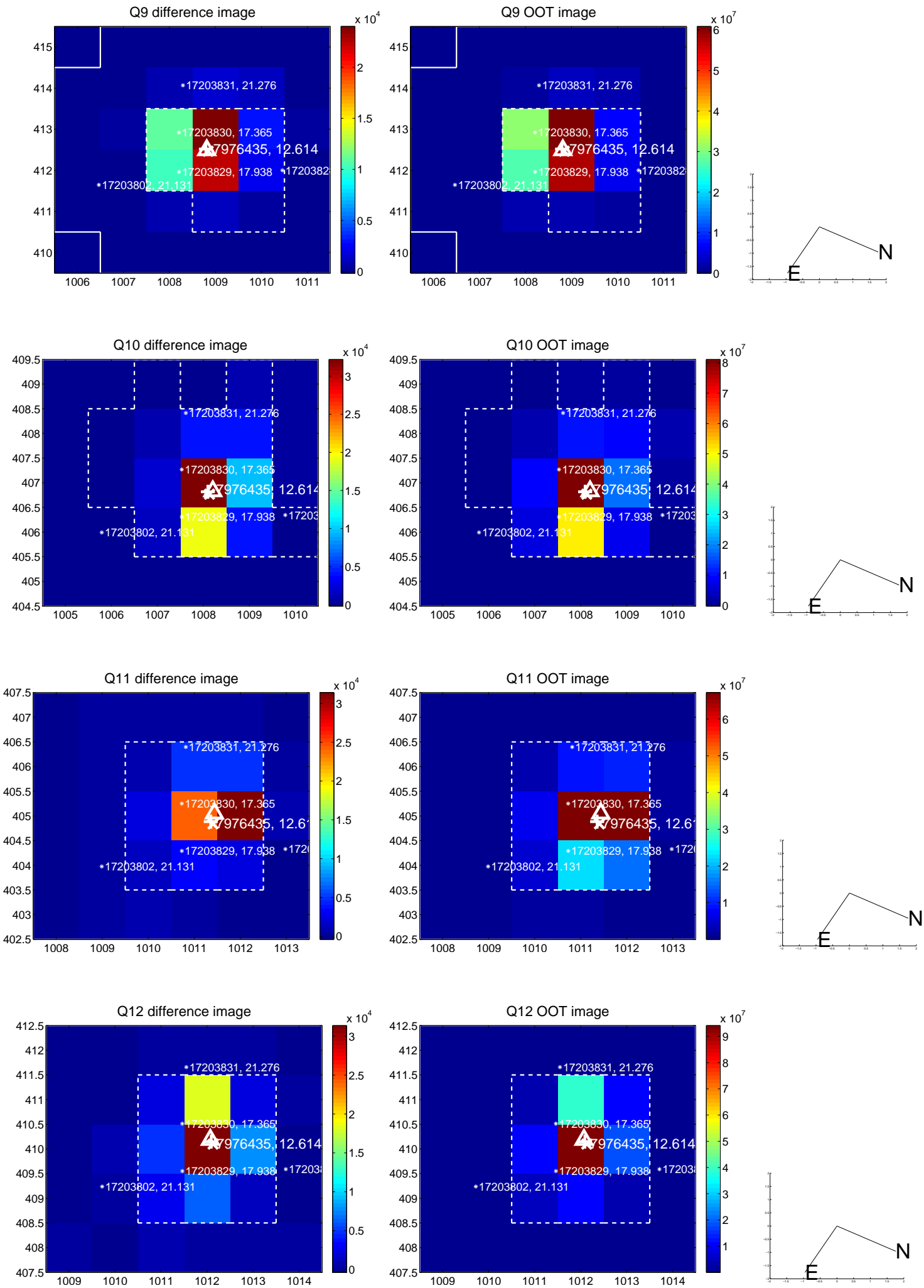
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



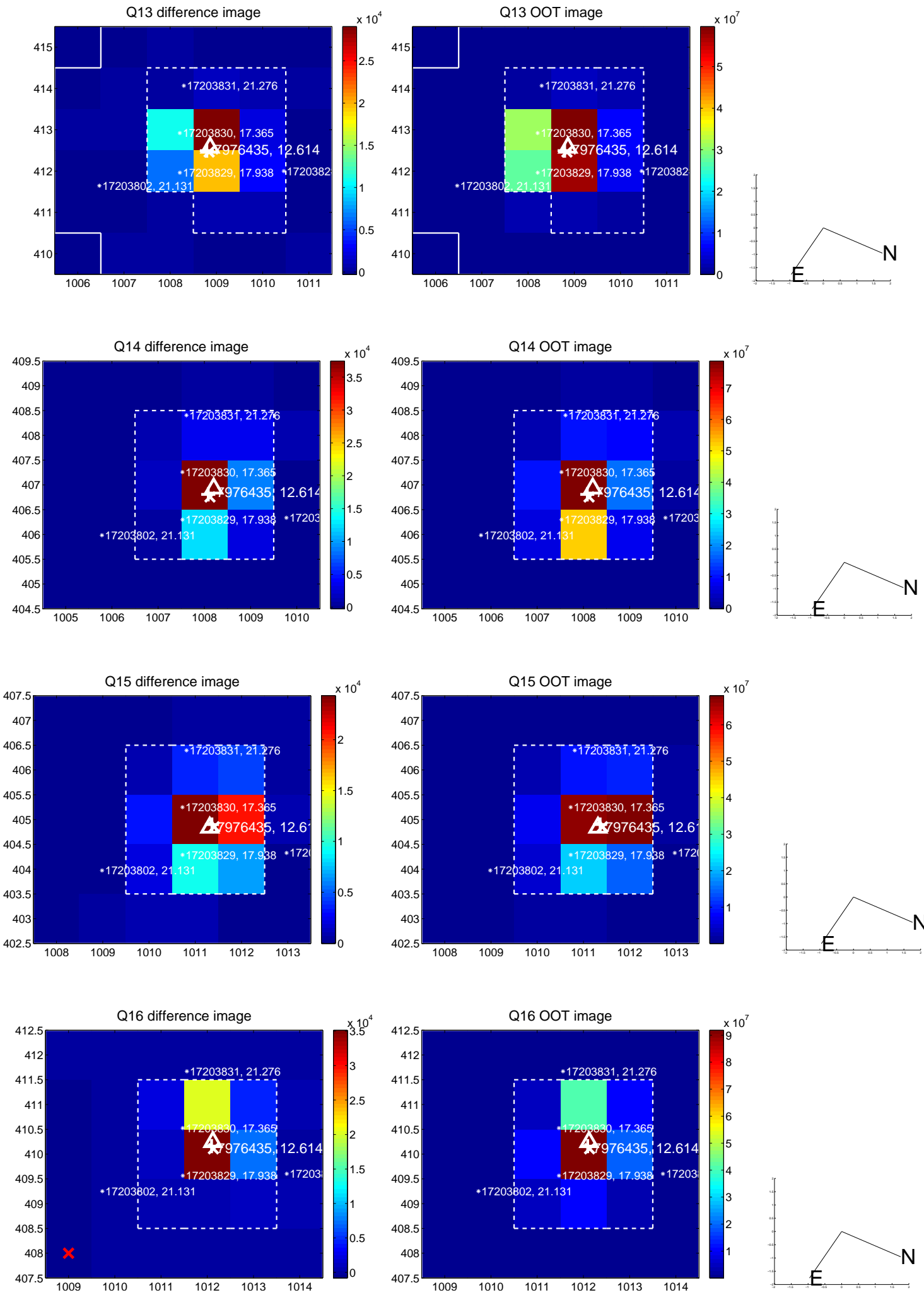
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



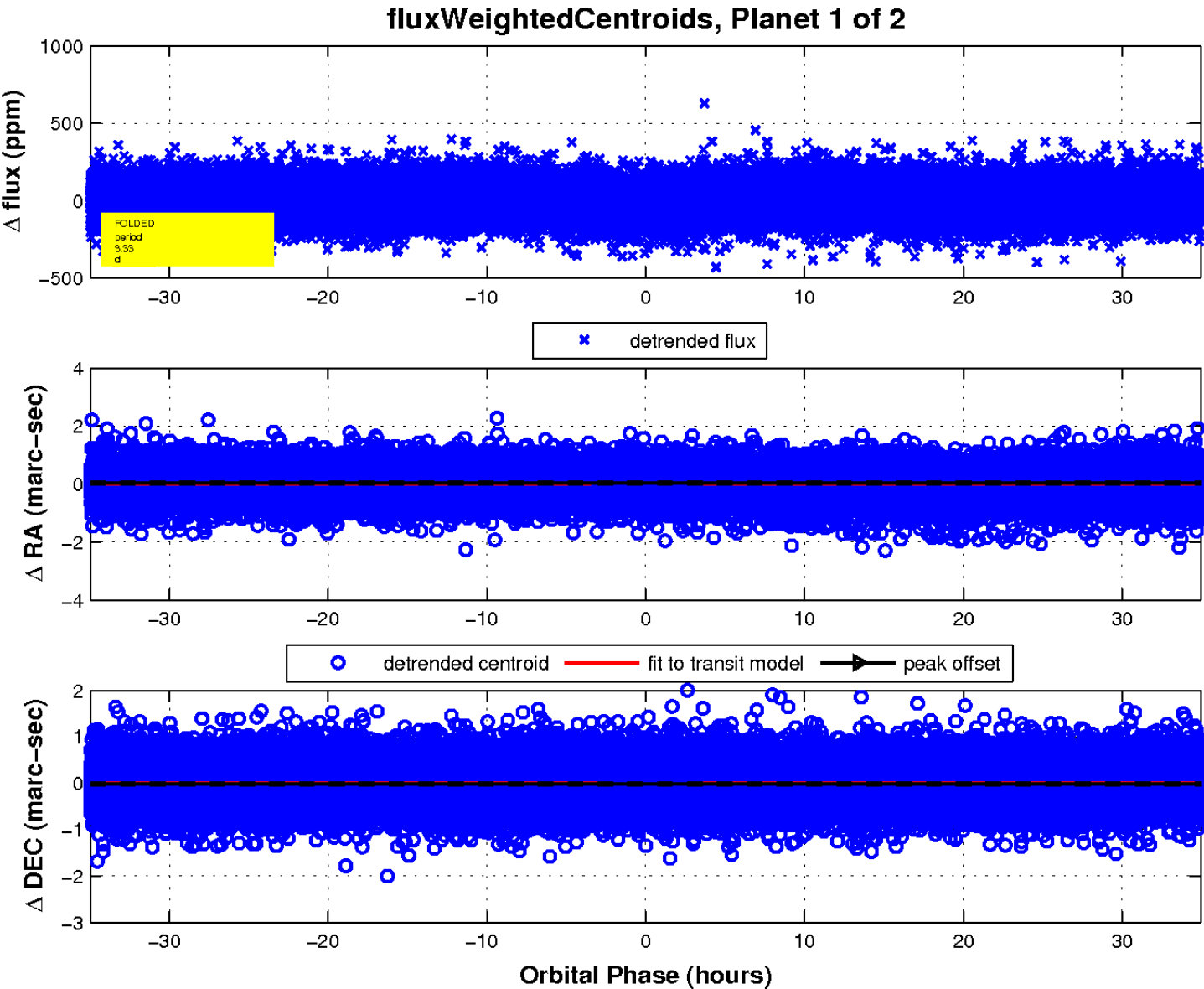
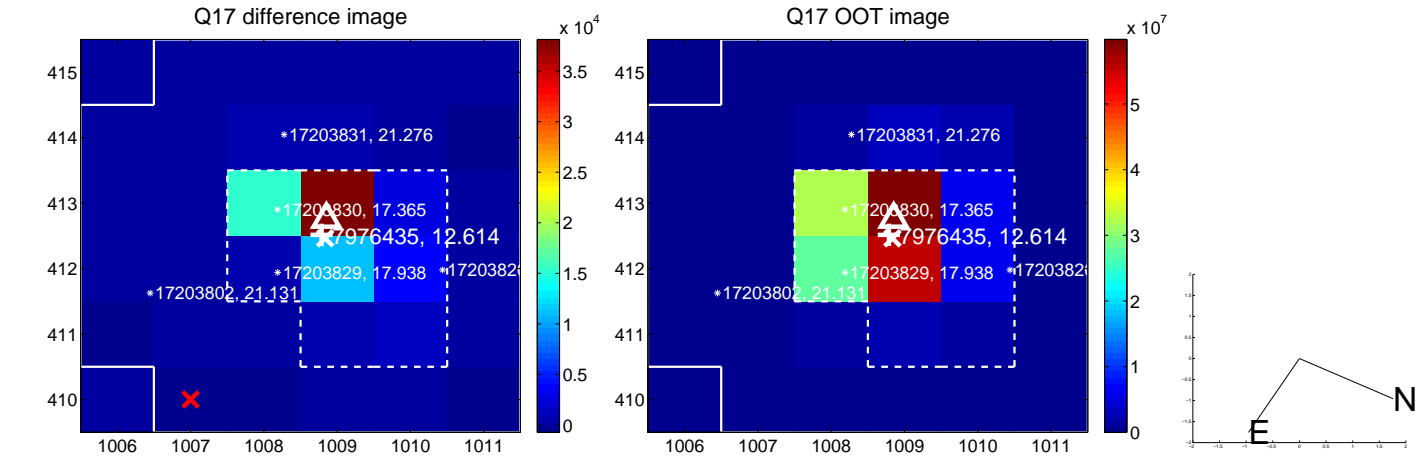
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



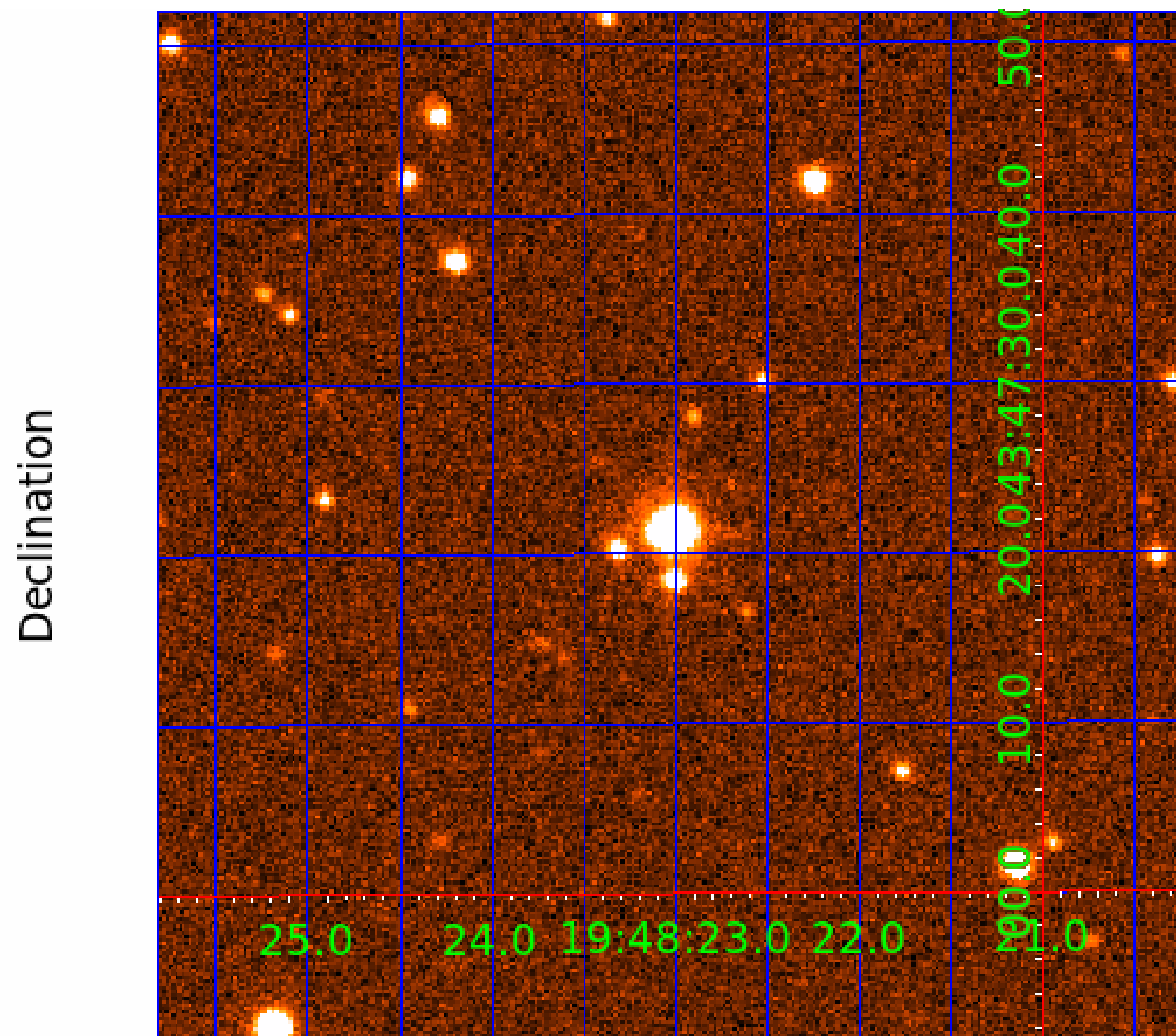
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image



KIC 007976435

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})
007976435-01	OBS	6946.01	3.332833	133.448033	31.7	11.659	17.3	20.0	2.42	8435	2.69	8515.59
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007976435-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS

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

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

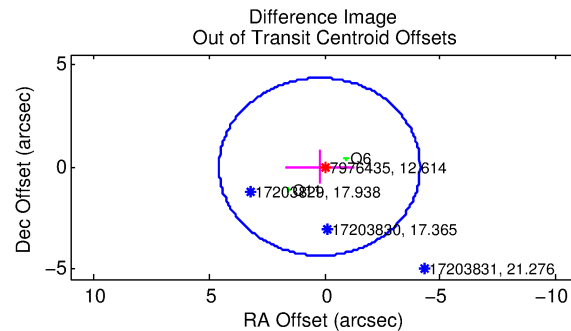
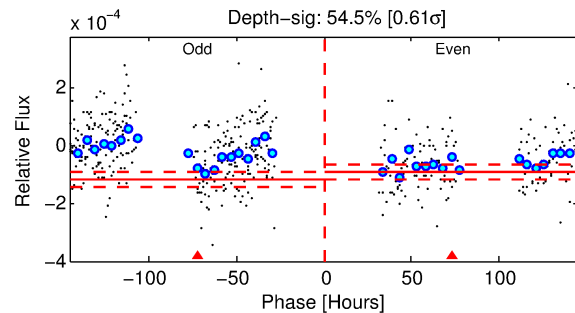
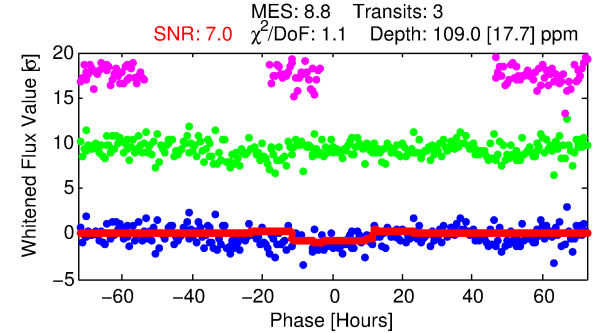
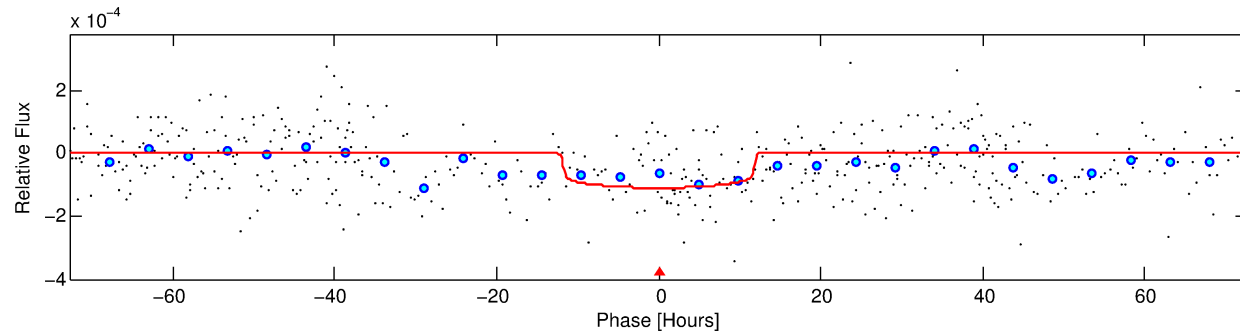
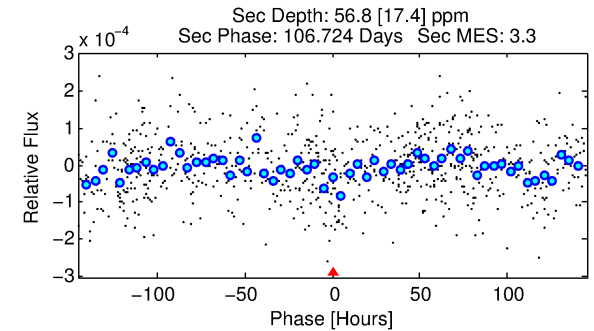
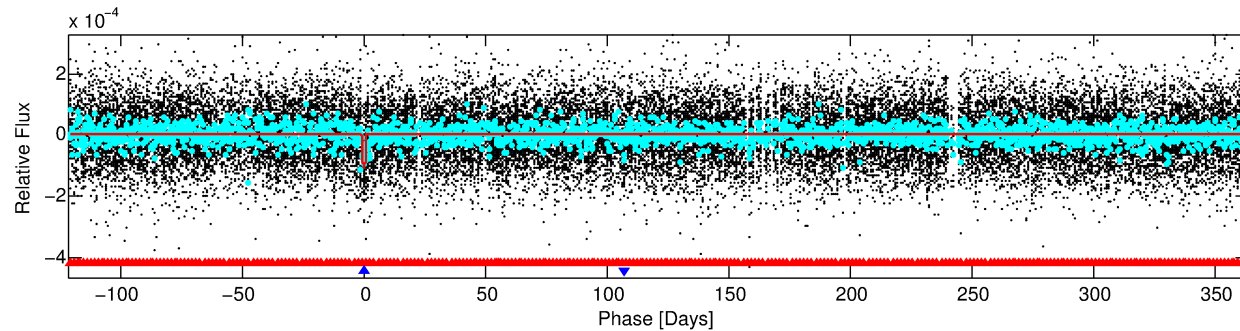
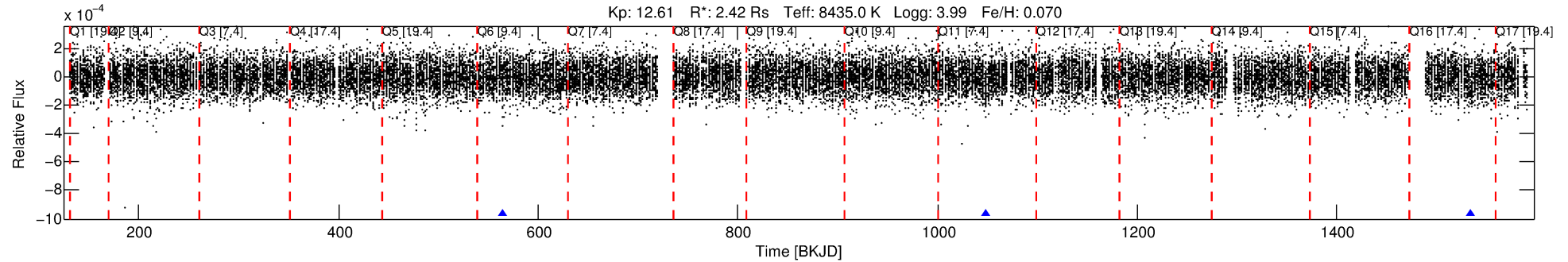
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007976435-02

No Significant Match Found

DV One-Page Summary

KIC: 7976435 Candidate: 2 of 2 Period: 485.002 d
KOI: K06946 Corr: No Ephemeris Match



DV Fit Results:

Period = 485.00194 [0.02214] d
Epoch = 564.0899 [0.0287] BKJD
Rp/R* = 0.0104 [0.0029]
a/R* = 103.21 [166.05]
b = 0.75 [0.94]
Seff = 11.13 [4.89]
Teq = 466 [51] K
Rp = 2.74 [1.14] Re
a = 1.5426 [0.4105] AU
Ag = 9915.80 [7472.46] [1.33σ]
Teffp = 7185 [1201] K [5.59σ]

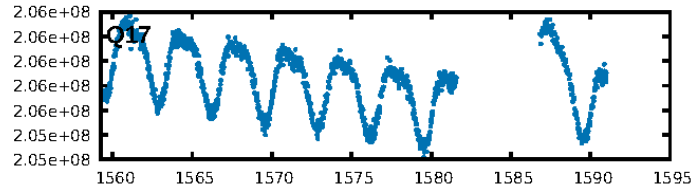
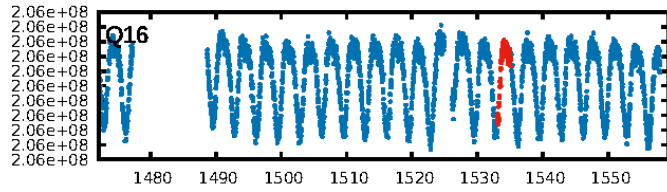
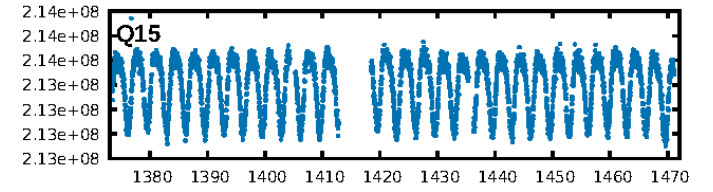
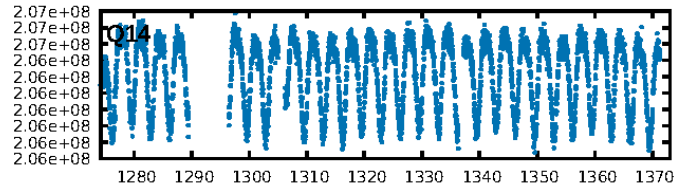
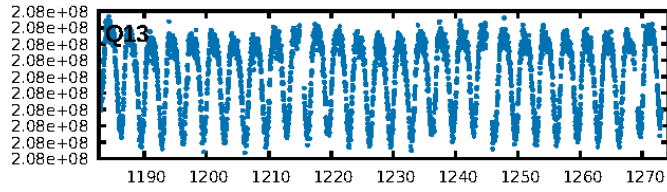
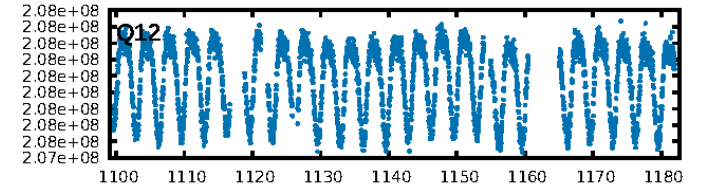
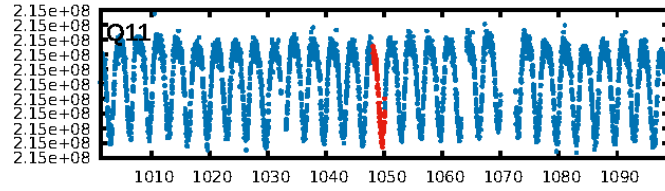
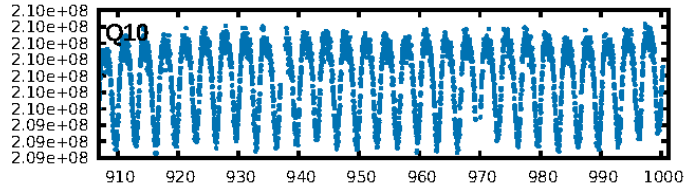
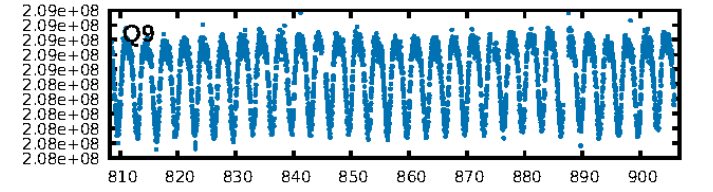
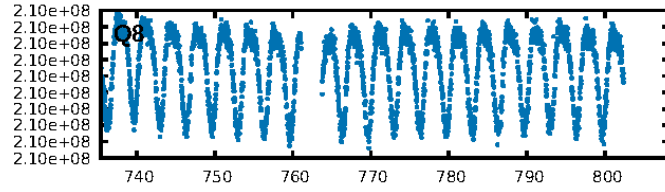
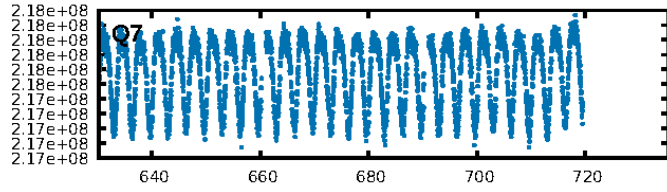
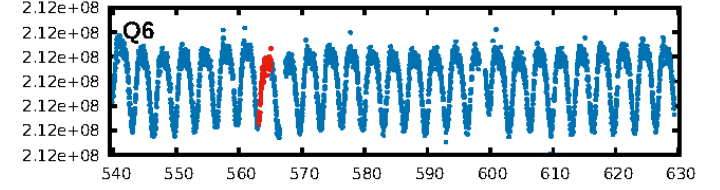
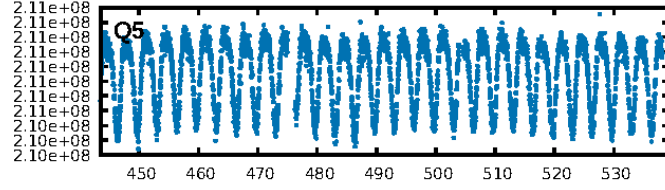
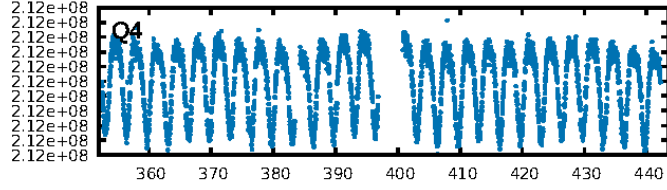
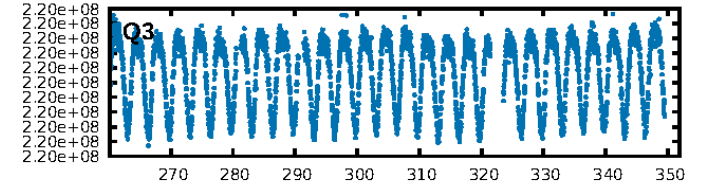
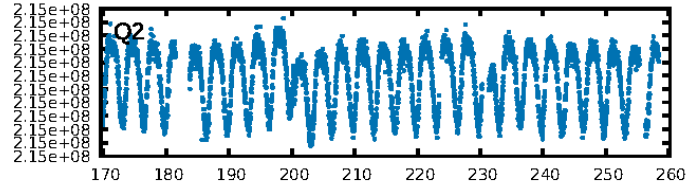
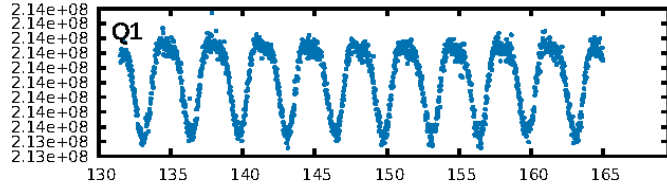
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [429.59σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 80.7%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 8.38e-11
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: -2.768
Centroid-sig: 0.2%
Centroid-so: 3.368 arcsec [2.39σ]
OotOffset-rm: 0.215 arcsec [0.15σ]
KicOffset-rm: 0.264 arcsec [0.25σ]
OotOffset-st: 1/1/0/0 [2]
KicOffset-st: 1/1/0/0 [2]
DiffImageQuality-fgm: 0.50 [1/2]
DiffImageOverlap-fno: 0.00 [0/2]

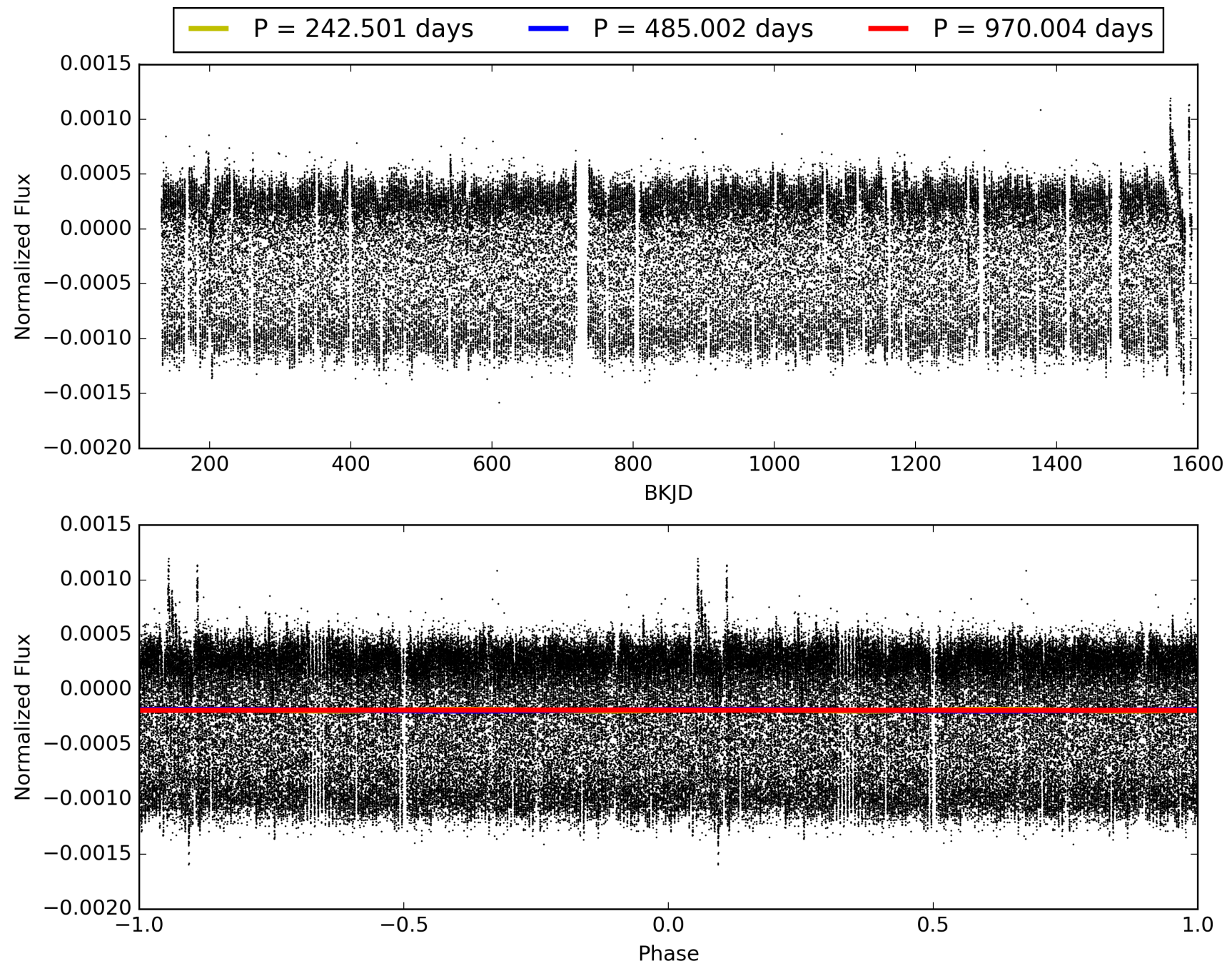
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 02:57:03 Z

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

TCE 007976435-02, PDC Light Curves

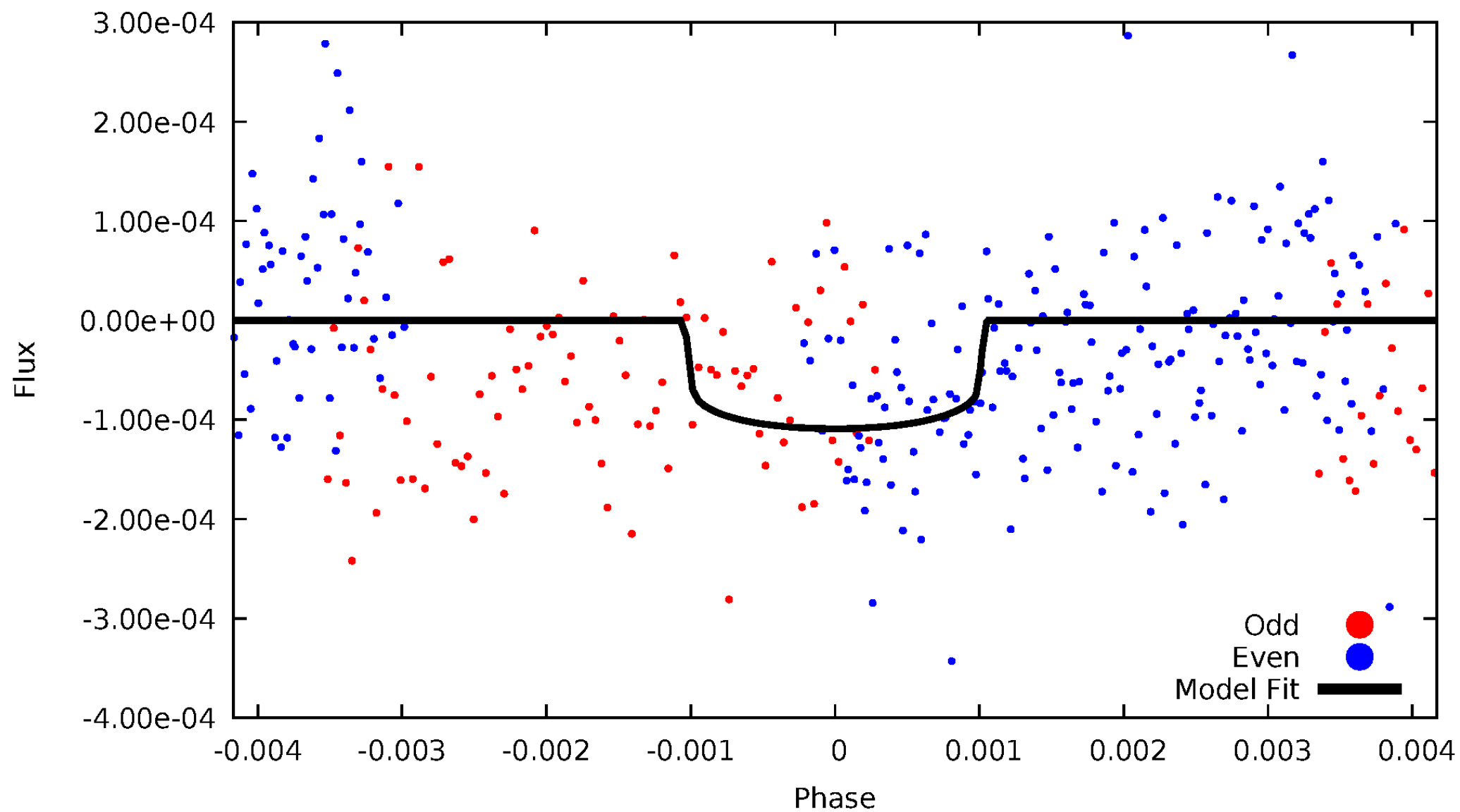


TCE 007976435-02



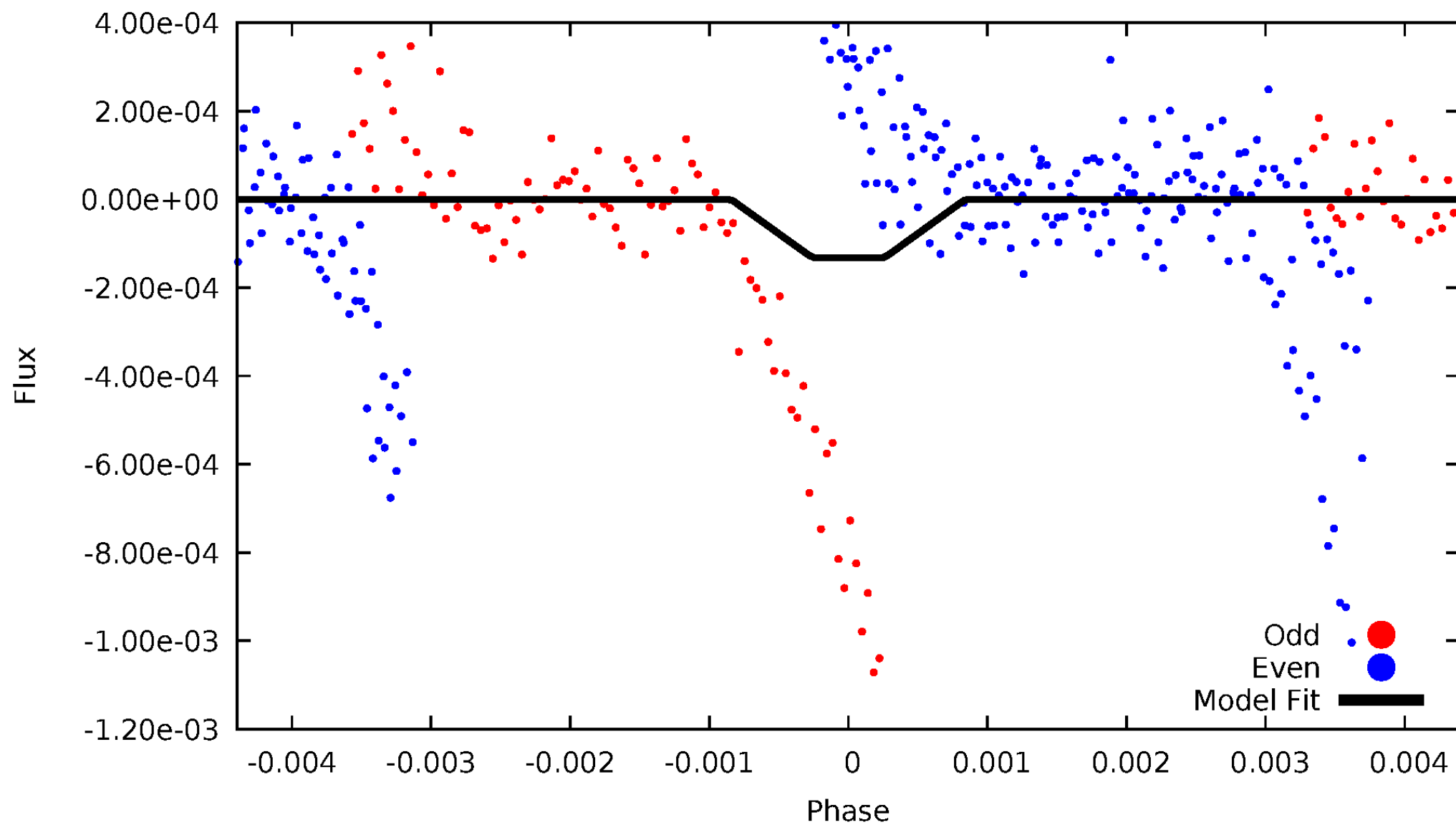
DV Odd/Even

TCE 007976435-02



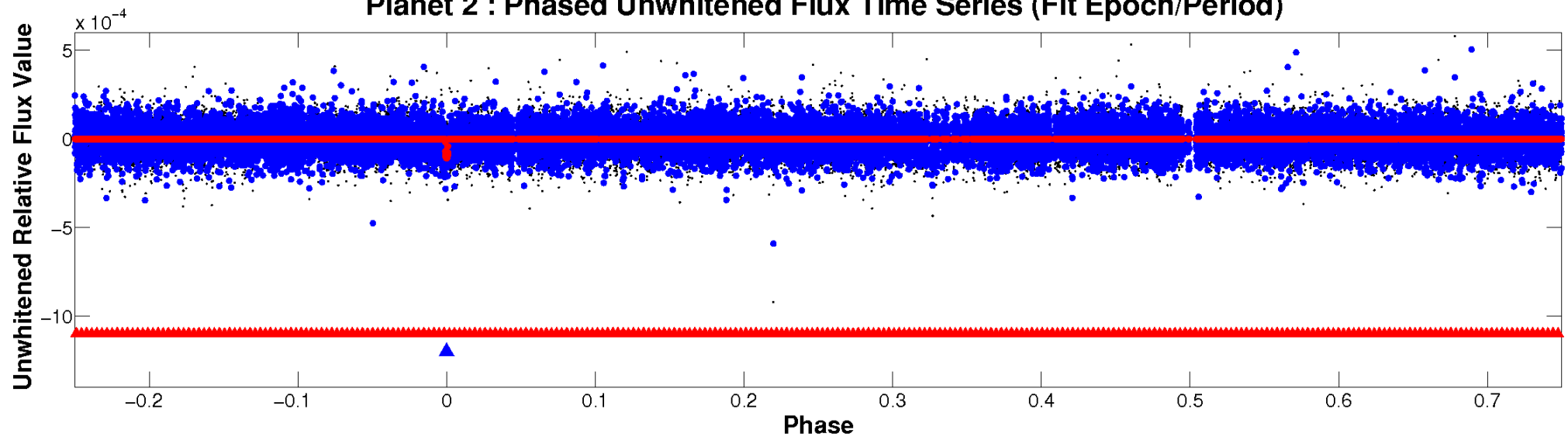
ALT Odd/Even

TCE 007976435-02

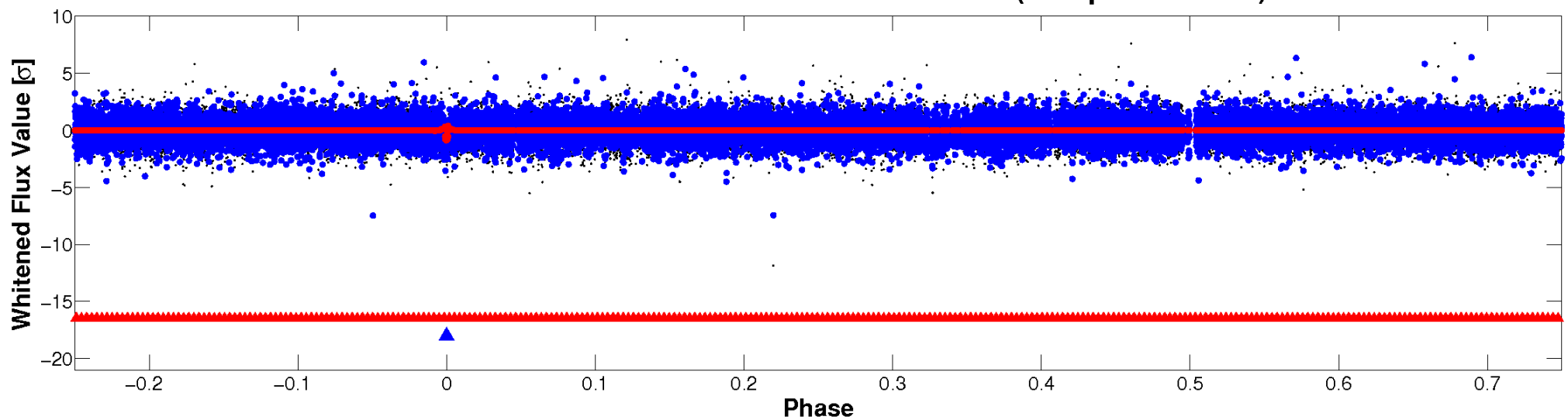


Non-Whitened Vs. Whitened Light Curve

Planet 2 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

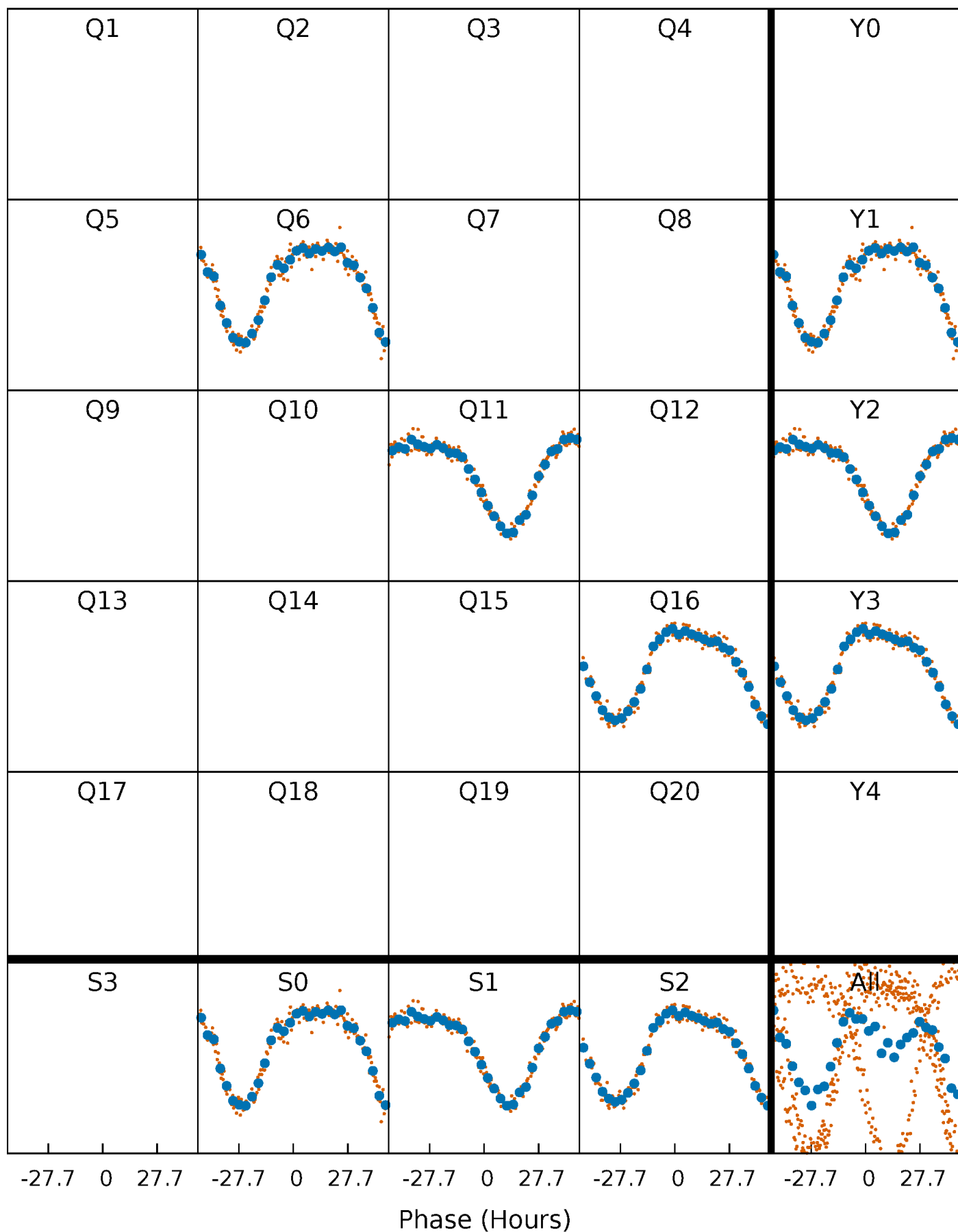


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



PDC Quarter-Phased Transit Curves

TCE 007976435-02 $P=485.001944$ Days $T_0=564.089851$ (BKJD)



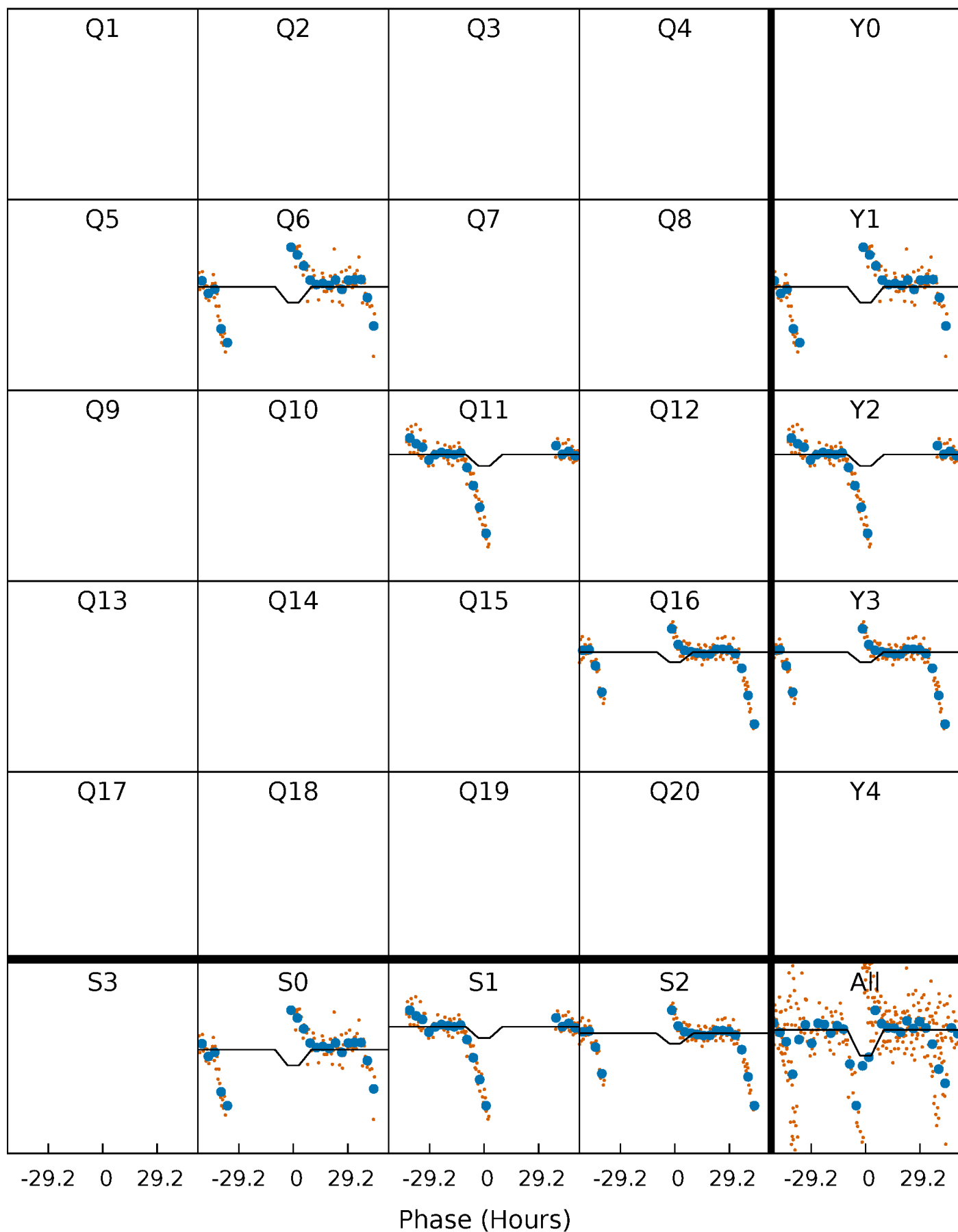
DV Quarter-Phased Transit Curves

TCE 007976435-02 P=485.001944 Days $T_0=564.089851$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

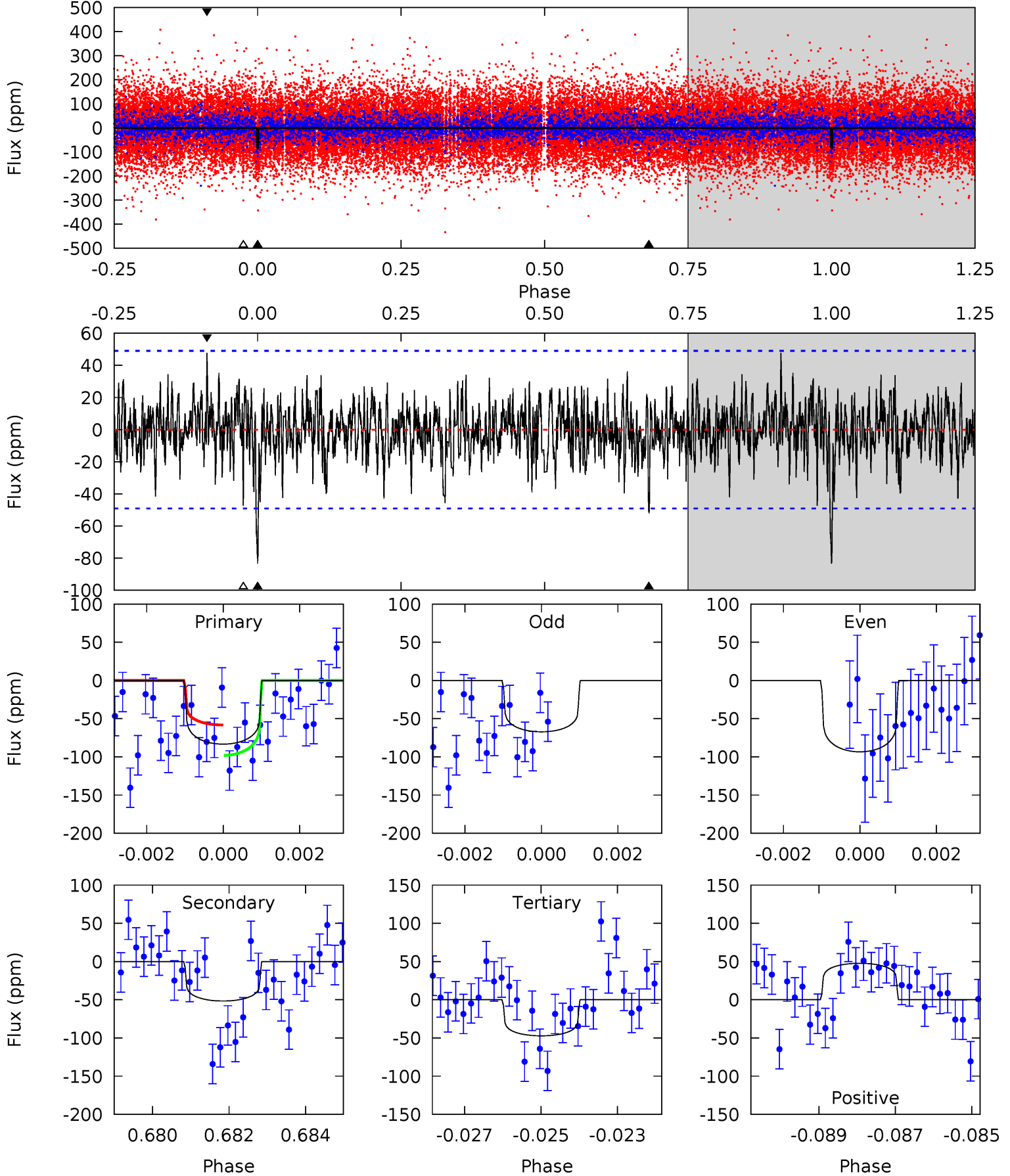
TCE 007976435-02 P=484.956491 Days $T_0=564.160828$ (BKJD)



DV Model-Shift Uniqueness Test

007976435-02, $P = 485.001944$ Days, $E = 79.087907$ Days

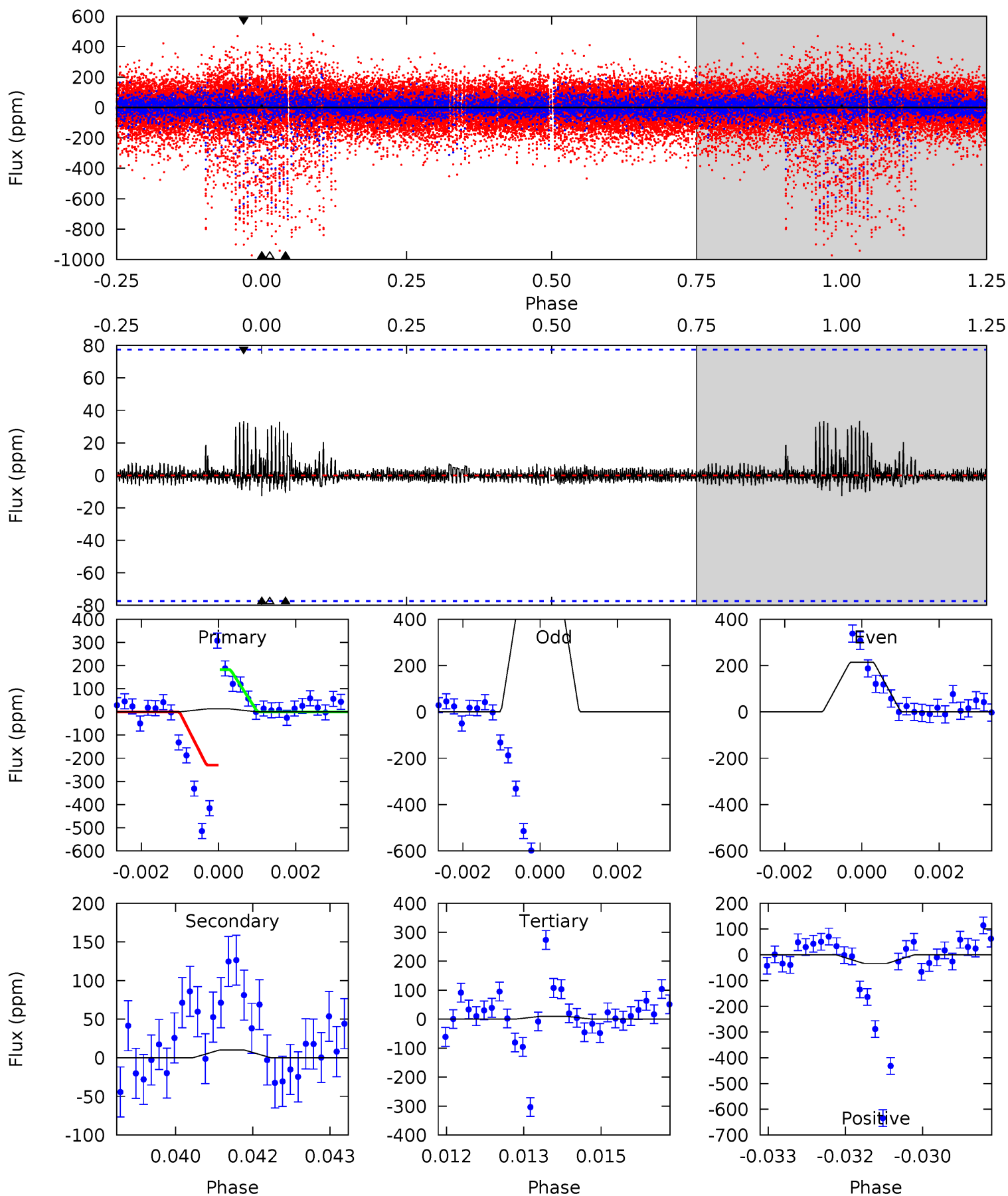
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.04	5.61	5.12	5.18	5.32	3.08	1.47	3.92	3.87	0.48	0.43	1.36	1.34	0.36	2.05



Alt Model-Shift Uniqueness Test

007976435-02, P = 484.956491 Days, E = 79.204337 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0.89	0.71	0.70	2.30	5.36	3.14	0.28	0.18	-1.42	0.01	-1.59	17.3	-0.66	0.72	1.63



Stellar Parameters For KIC 007976435

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	8435^{+200}_{-400}	$3.990^{+0.221}_{-0.119}$	$0.070^{+0.150}_{-0.550}$	$2.416^{+0.495}_{-0.743}$	$2.078^{+0.333}_{-0.500}$	$0.207^{+0.286}_{-0.077}$
	+2%/-5%	+6%/-3%	+214%/-786%	+20%/-31%	+16%/-24%	+138%/-37%
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 007976435-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-52 ± 9	$2.62^{+0.83}_{-0.83}$	639^{+41}_{-49}	6738^{+1631}_{-866}	9730^{+11501}_{-4389}
Alt.	-10 ± 14	$2.93^{+0.85}_{-0.81}$	638^{+42}_{-51}	4386^{+1093}_{-8162}	1388^{+2931}_{-2037}

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

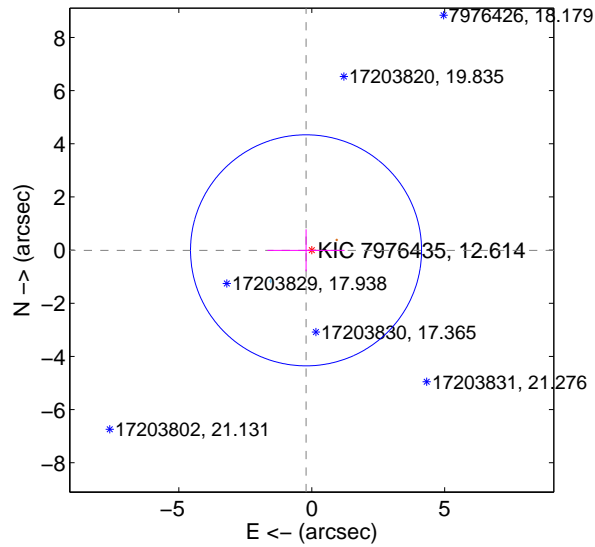
Supplemental centroid analysis for 007976435-02. Kepler magnitude: 12.61. Transit SNR 6.95

There are 1 quarters with good PRF difference image offsets

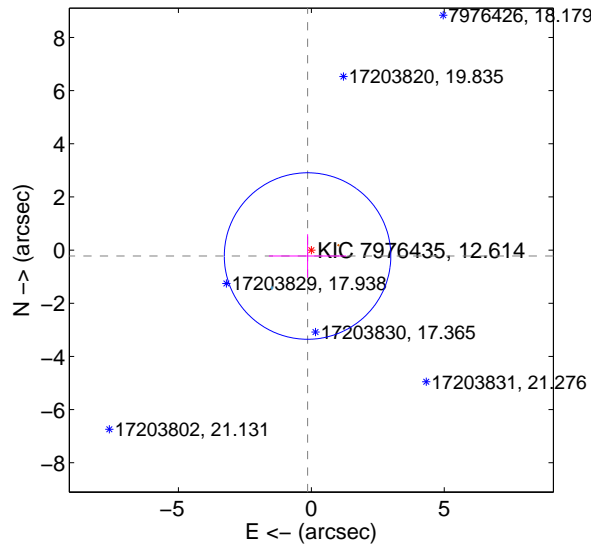
The direct PRF centroid is offset from the target star catalog position by about 0.27 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.215 ± 1.449	0.15	0.214 ± 1.450	-0.009 ± 0.790
PRF-fit source offset from KIC position	0.264 ± 1.044	0.25	0.142 ± 1.457	-0.223 ± 0.820
photometric centroid source offset	3.37 ± 1.41	2.39	-2.51 ± 1.53	-2.25 ± 1.23

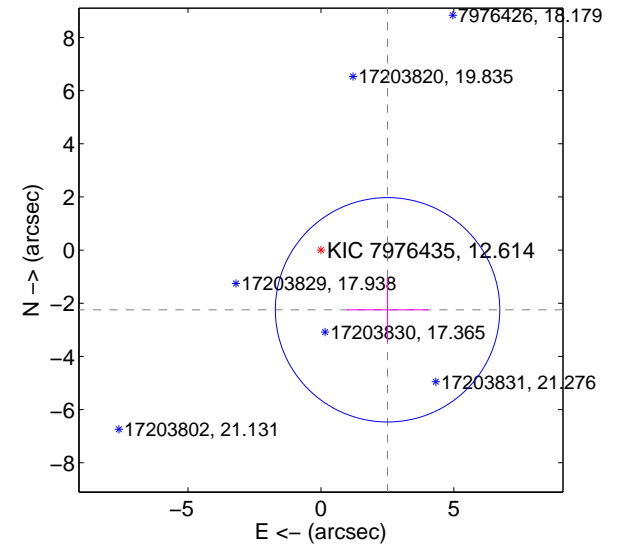
offset from difference PRF-fit to OOT PRF-fit



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.

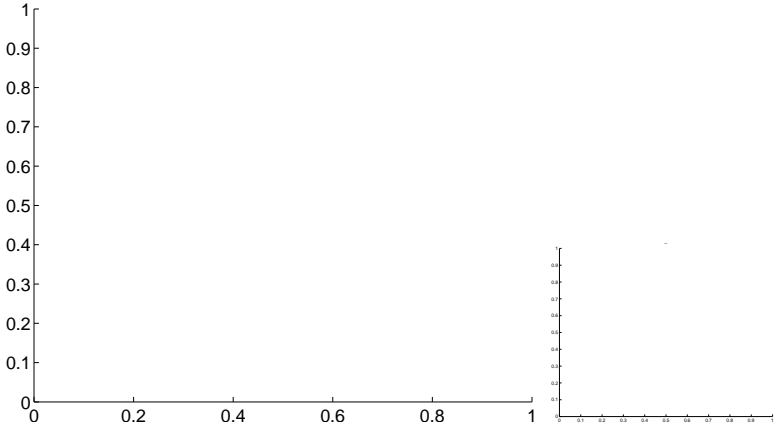


white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

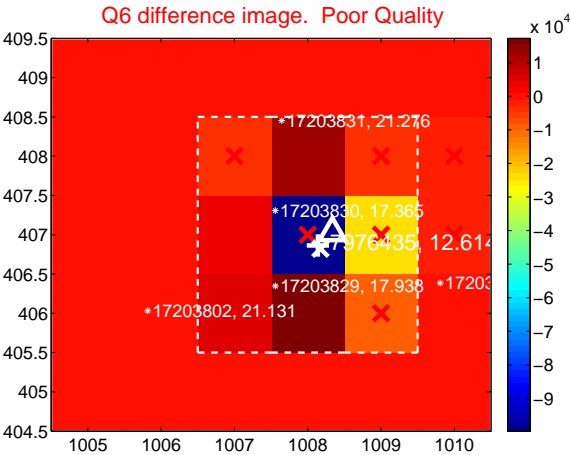
Q5 no difference image



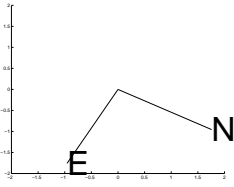
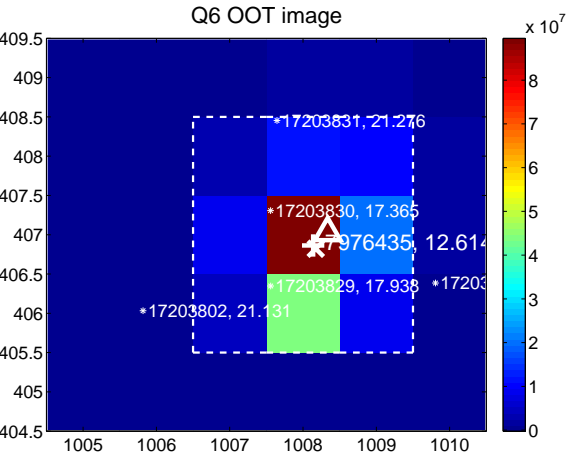
Q5 no OOT image



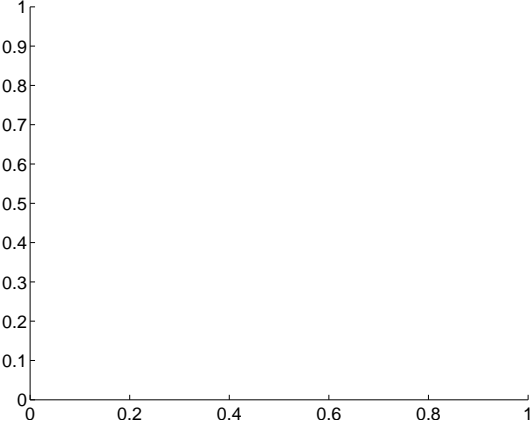
Q6 difference image. Poor Quality



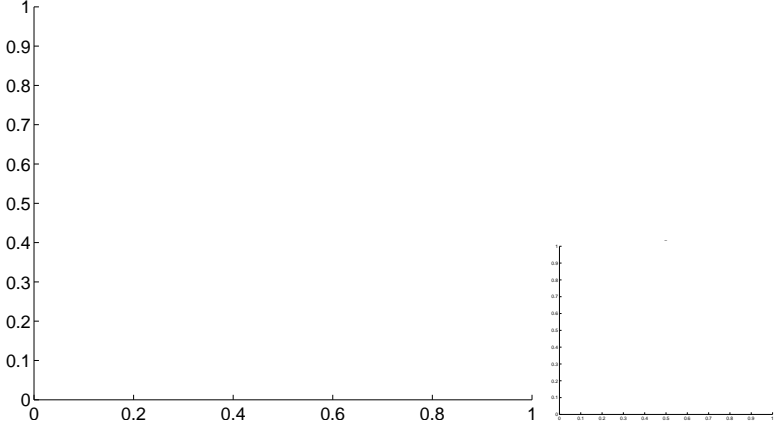
Q6 OOT image



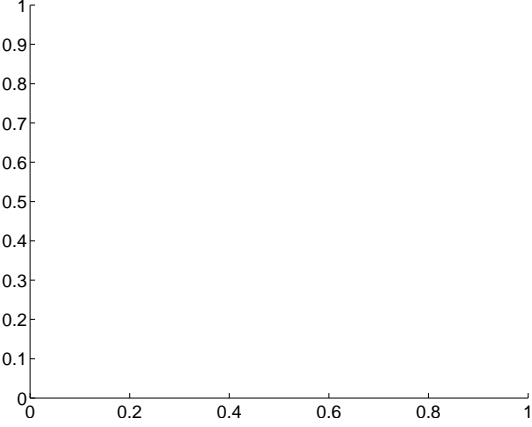
Q7 no difference image



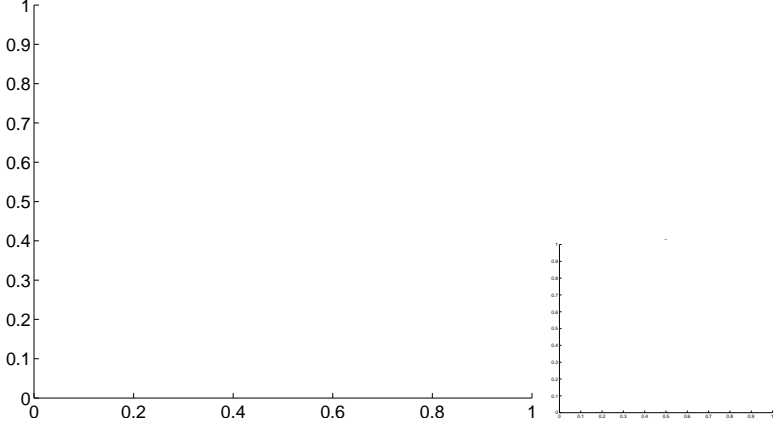
Q7 no OOT image



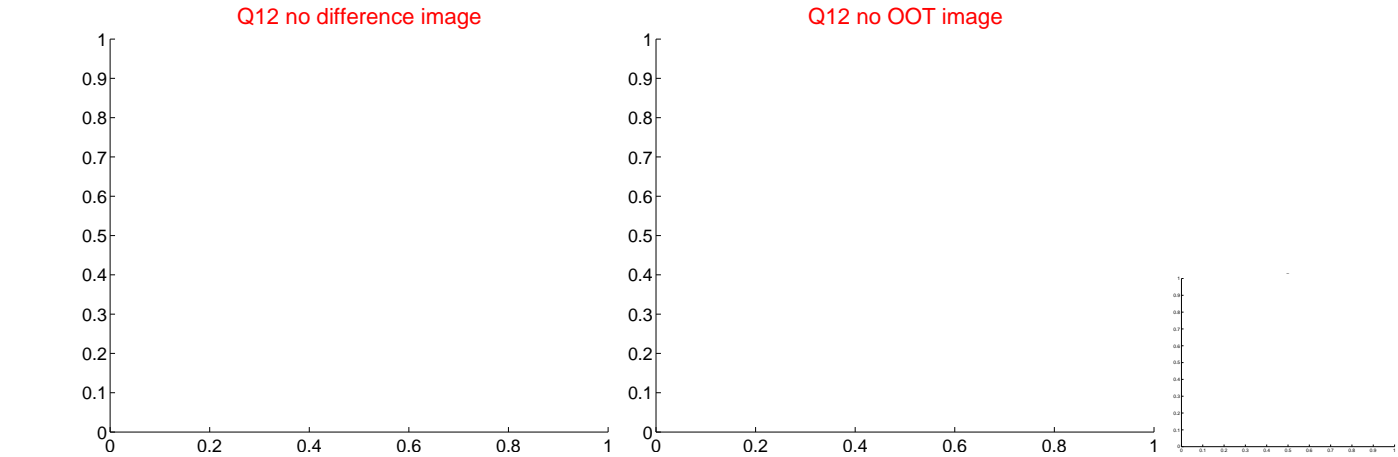
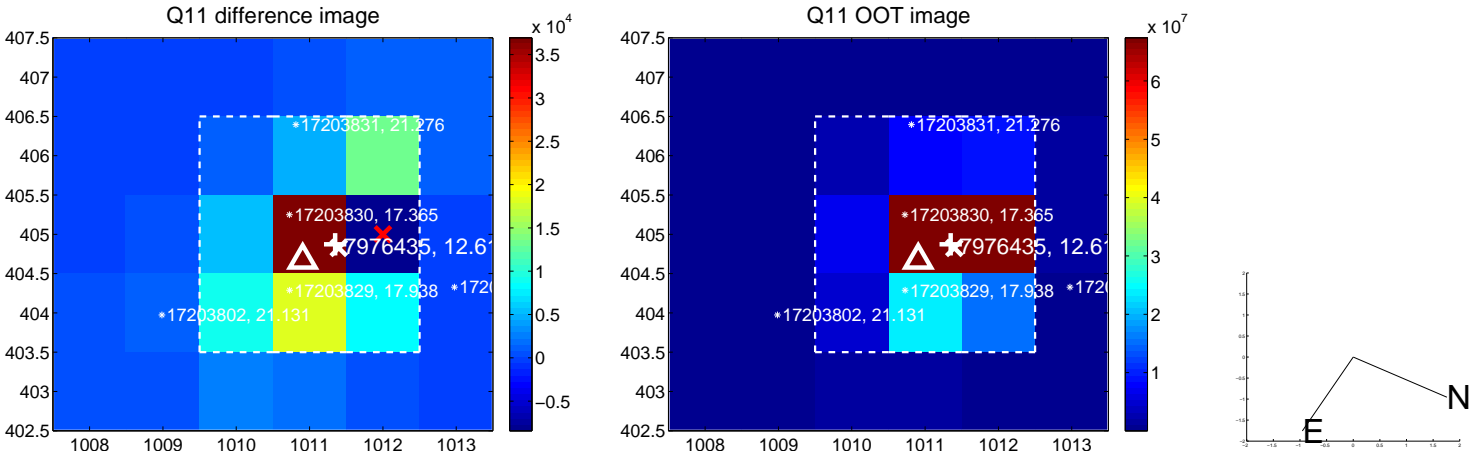
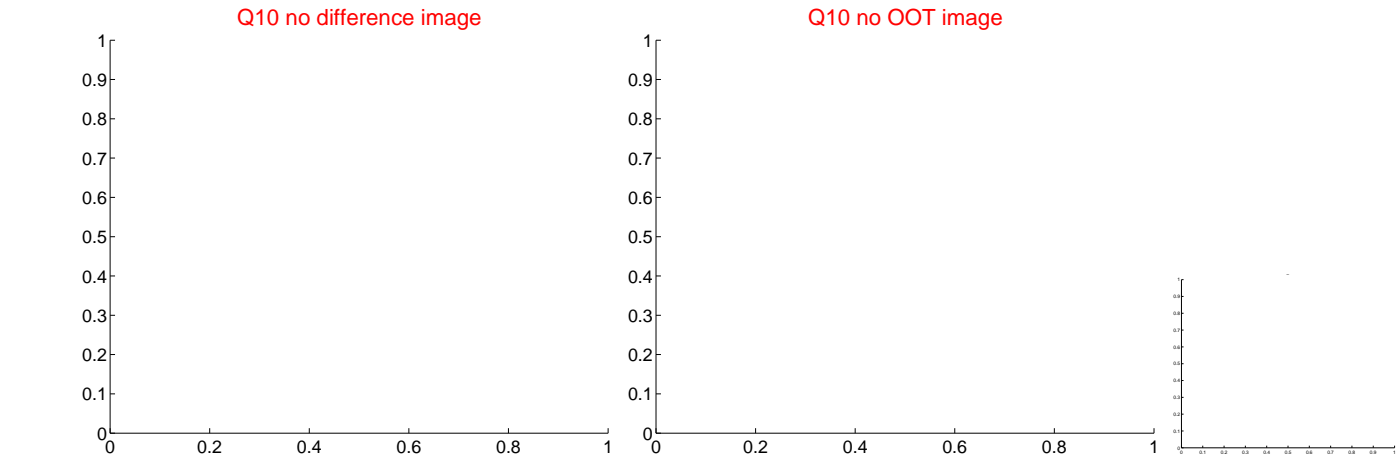
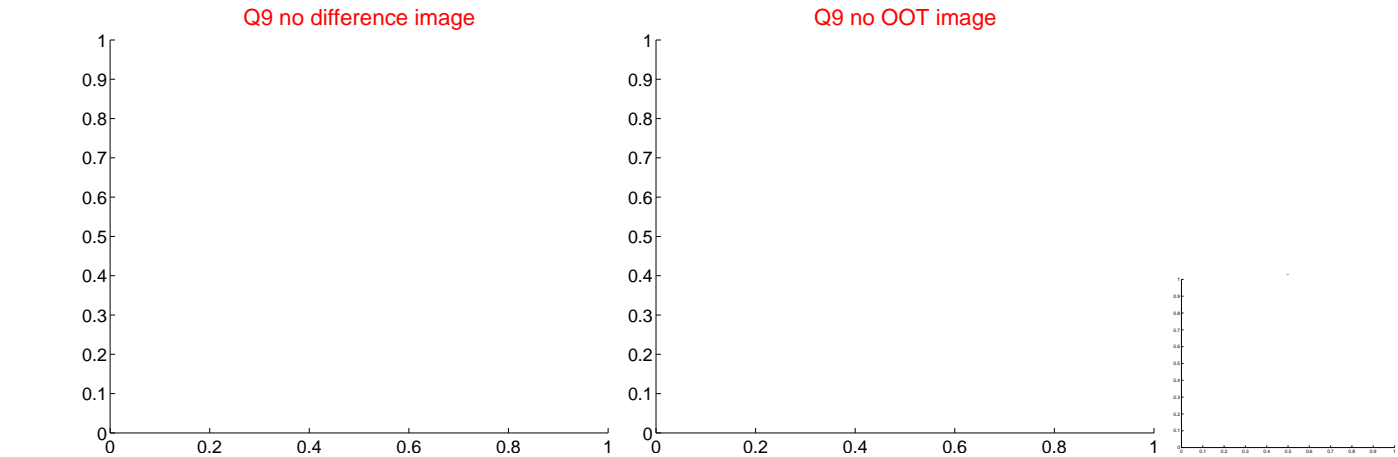
Q8 no difference image



Q8 no OOT image



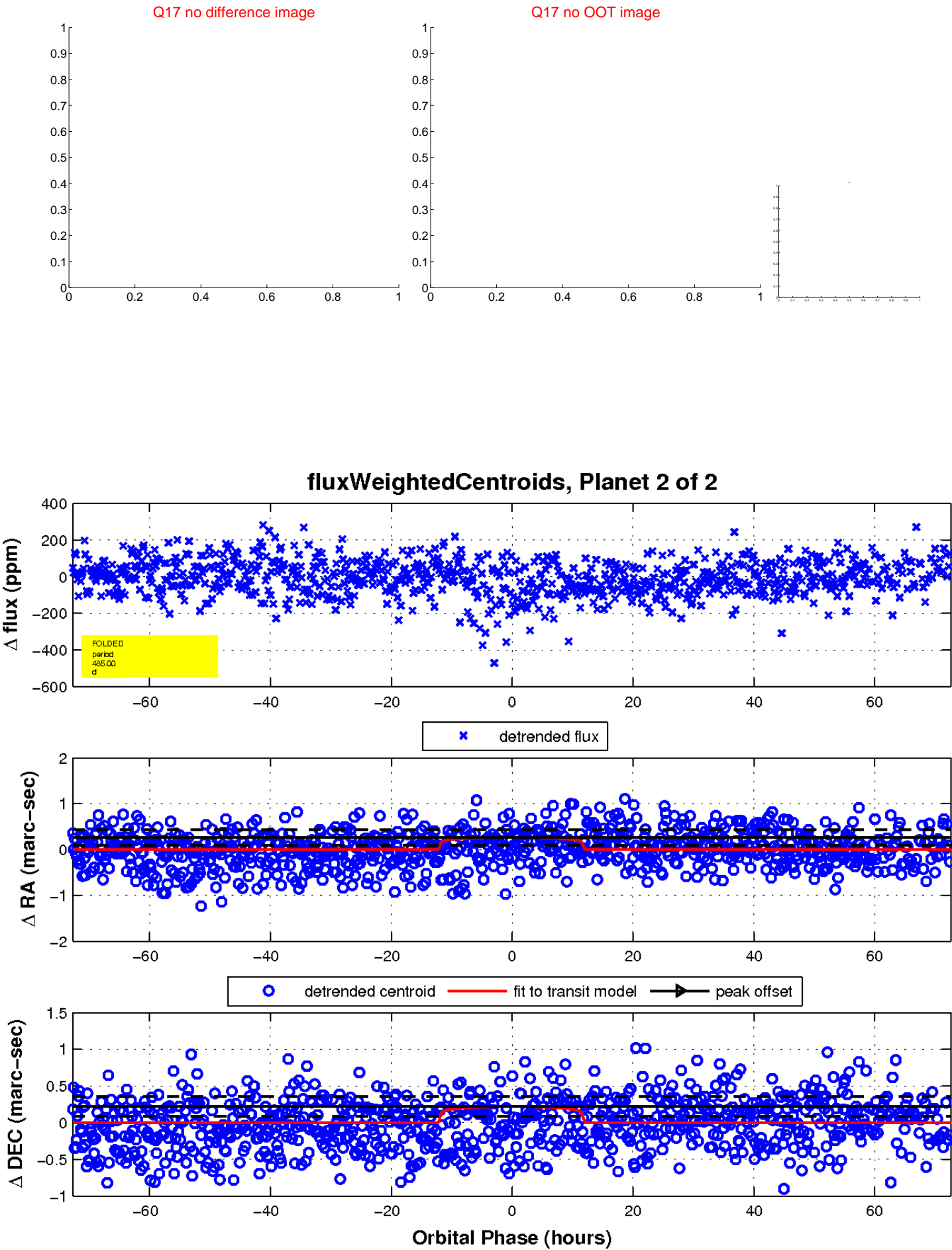
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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.



UKIRT Image

