

KIC 006950275

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})
006950275-01	OBS	6796.01	40.879625	163.411622	414.3	4.743	10.7	10.5	0.92	6072	2.10	19.16
006950275-02	OBS	No	40.875407	158.386529	341.6	6.777	10.5	10.3	0.92	6072	1.91	19.16

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006950275-01	OBS	FP	0.00	0	1	1	1	MOD_SEC_DV—MOD_SEC_ALT—HAS_SEC_TCE—CENT_RESOLVED_OFFSET—HALO_GHOST—EPHEM_MATCH
006950275-02	OBS	FP	0.00	1	1	1	1	IS_SEC_TCE—CENT_RESOLVED_OFFSET—HALO_GHOST—EPHEM_MATCH

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.

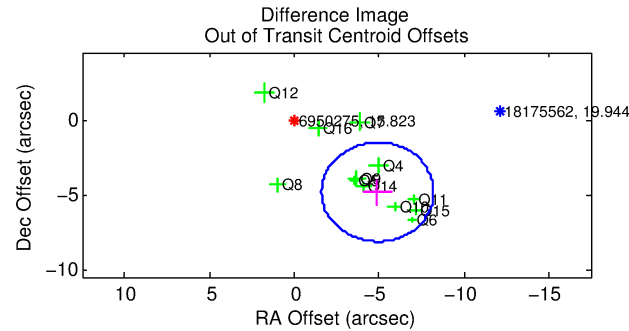
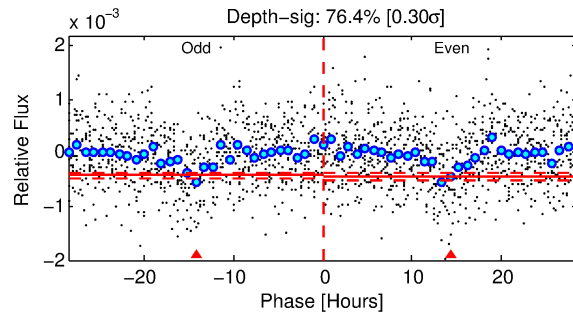
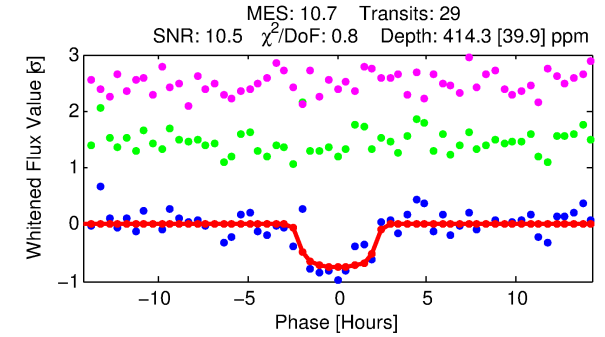
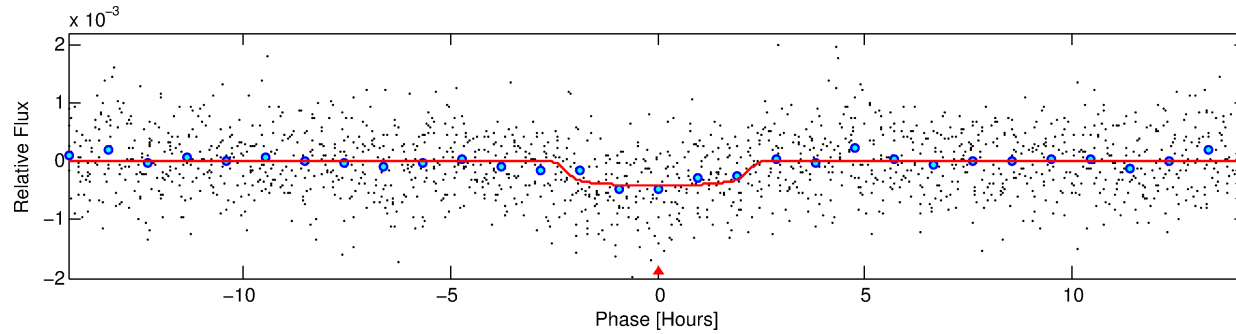
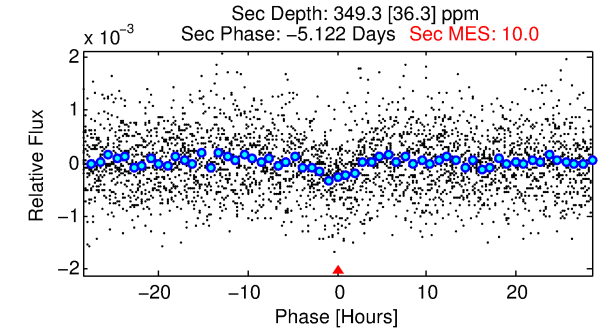
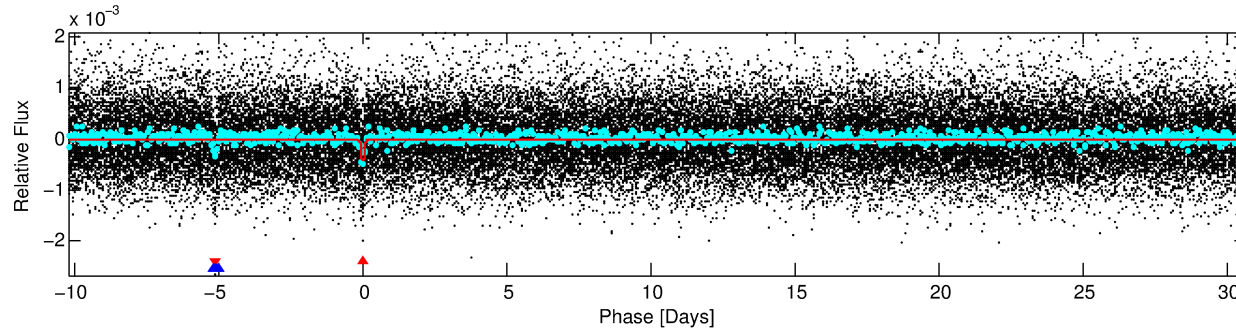
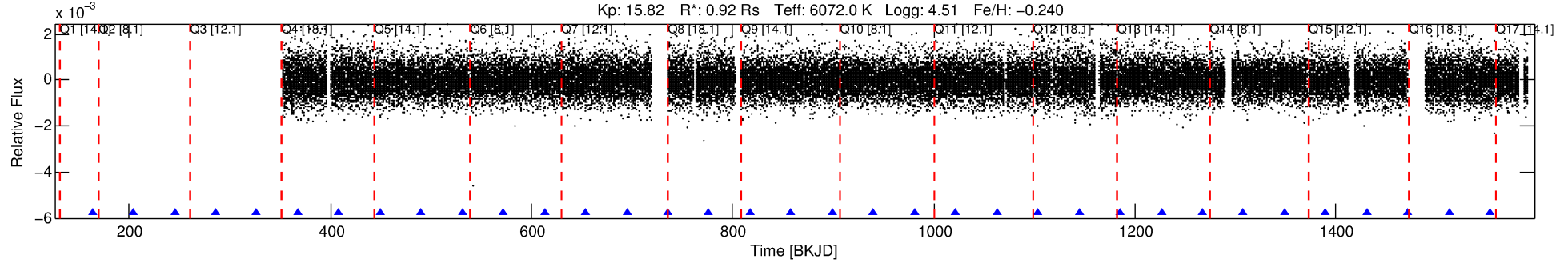
Ephemeris Match Information For 006950275-01

TCE (1)	KIC	Parent (2)	Parent KIC	$P_1:P_2$	Dist ($''$)	Δ Row	Δ Col	m_2	m_1	D_2/D_1	Mechanism	Flag	σ_P	σ_T
006950275-01	6950275	006864859-02	6864859	1:1	35.5	-9	3	11.66	15.82	614.56	Direct-PRF	0	0.97	0.32

Notes: $P_1:P_2$ is the period ratio. Dist is the distance in arcseconds. Δ Row and Δ Col are the number of pixels apart in row and column. m_2 and m_1 are the magnitudes of the parent and child. D_2/D_1 is the parent's transit depth divided by the child's. σ_P and σ_T are the significance of the match in period and epoch. For a match to be considered significant $\sigma_P < 5.0$ and $\sigma_T < 5.0$. Matches which have σ_P and σ_T very close to this cutoff should receive extra scrutiny, especially if the period ratio is very large.

DV One-Page Summary

KIC: 6950275 Candidate: 1 of 2 Period: 40.880 d
KOI: K06796.01 Corr: 0.882



DV Fit Results:

Period = 40.87962 [0.00059] d
Epoch = 163.4116 [0.0124] BKJD
Rp/R* = 0.0208 [0.0093]
a/R* = 40.25 [89.75]
b = 0.82 [0.92]
Seff = 19.16 [8.06]
Teq = 533 [56] K
Rp = 2.10 [1.14] Re
a = 0.2327 [0.0622] AU
Ag = 2369.30 [2316.07] [1.02σ]
Teffp = 5755 [1307] K [3.99σ]

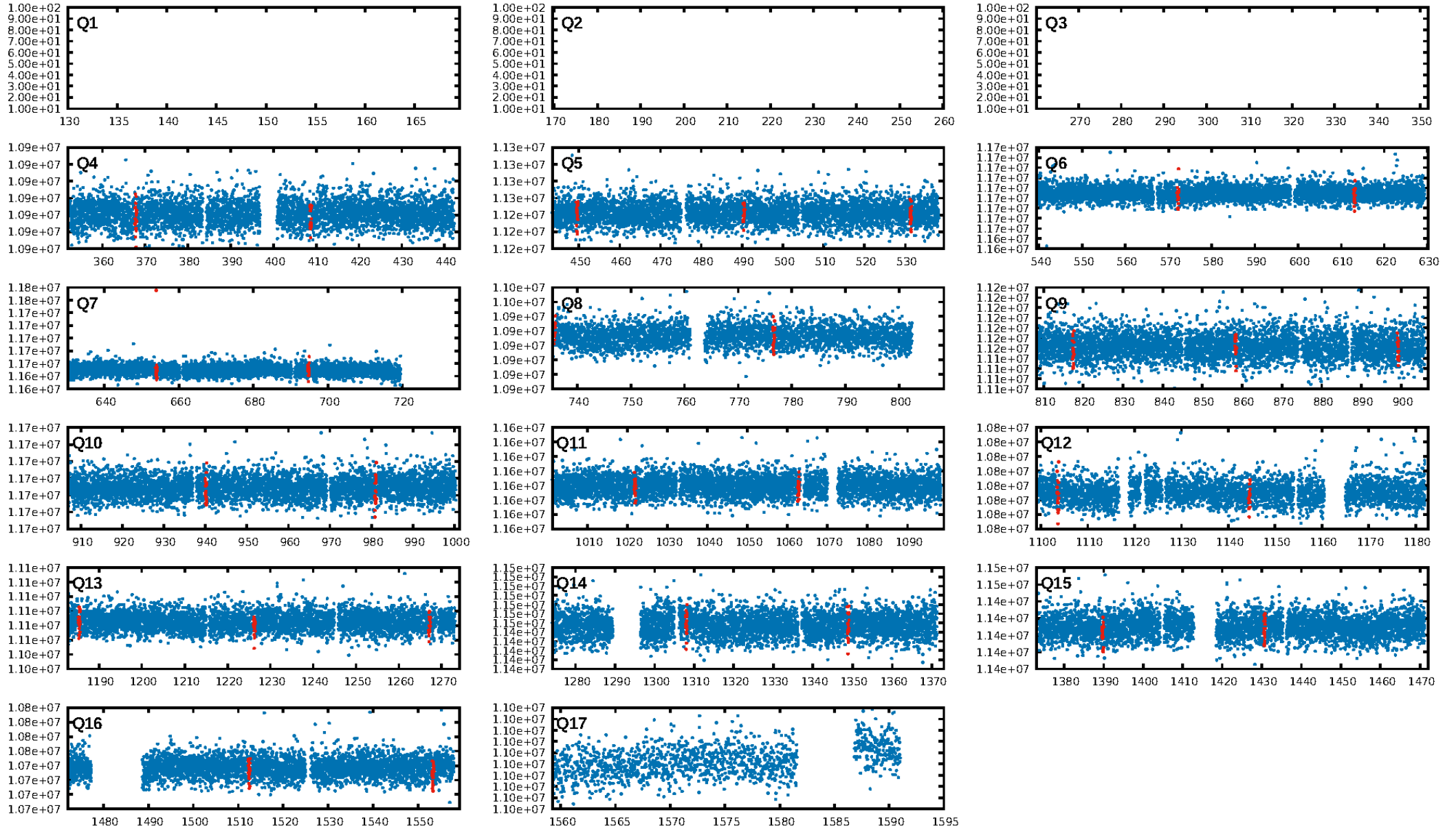
DV Diagnostic Results:

ShortPeriod-sig: 1.0% [0.01σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 84.7%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 2.09e-26
RollingBand-fgt: 1.00 [29/29]
GhostDiagnostic-chr: -0.03167
Centroid-sig: 0.0%
Centroid-so: 7.648 arcsec [5.49σ]
OotOffset-rm: 6.895 arcsec [6.26σ]
KicOffset-rm: 6.934 arcsec [6.84σ]
OotOffset-st: 3/3/4/2 [12]
KicOffset-st: 3/3/4/2 [12]
DiffImageQuality-fgm: 0.00 [0/12]
DiffImageOverlap-fno: 1.00 [12/12]

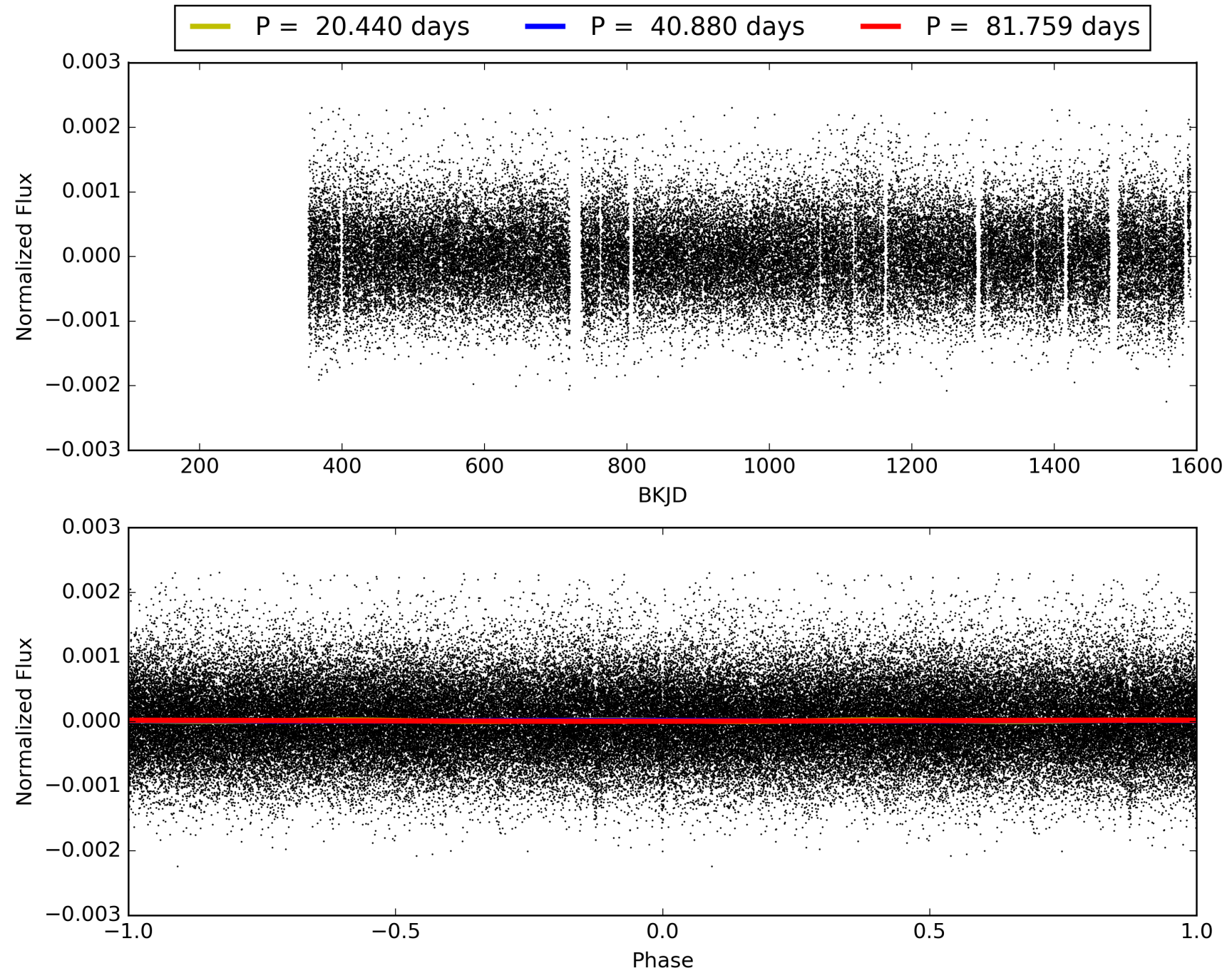
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This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 006950275-01, PDC Light Curves

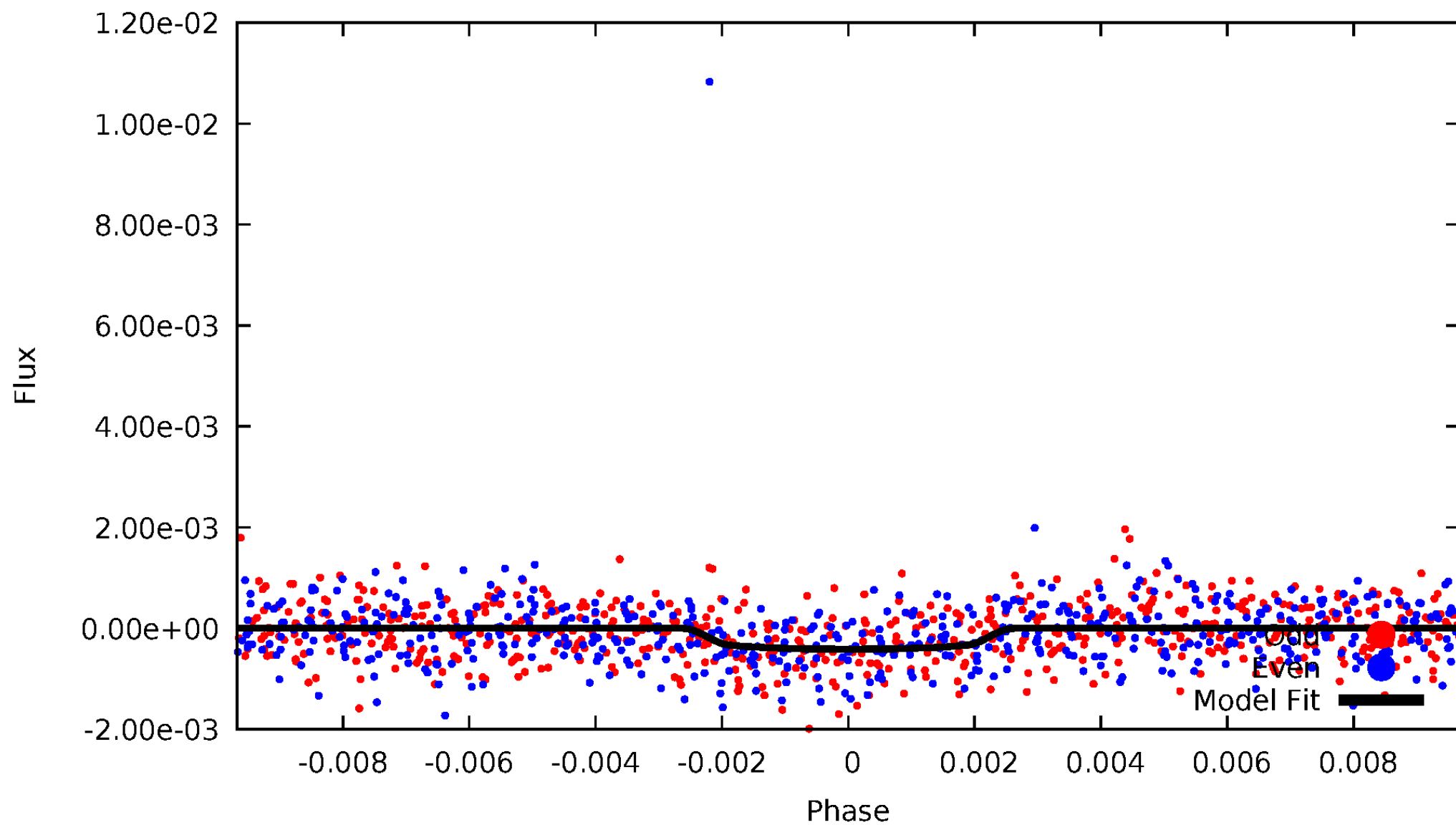


TCE 006950275-01



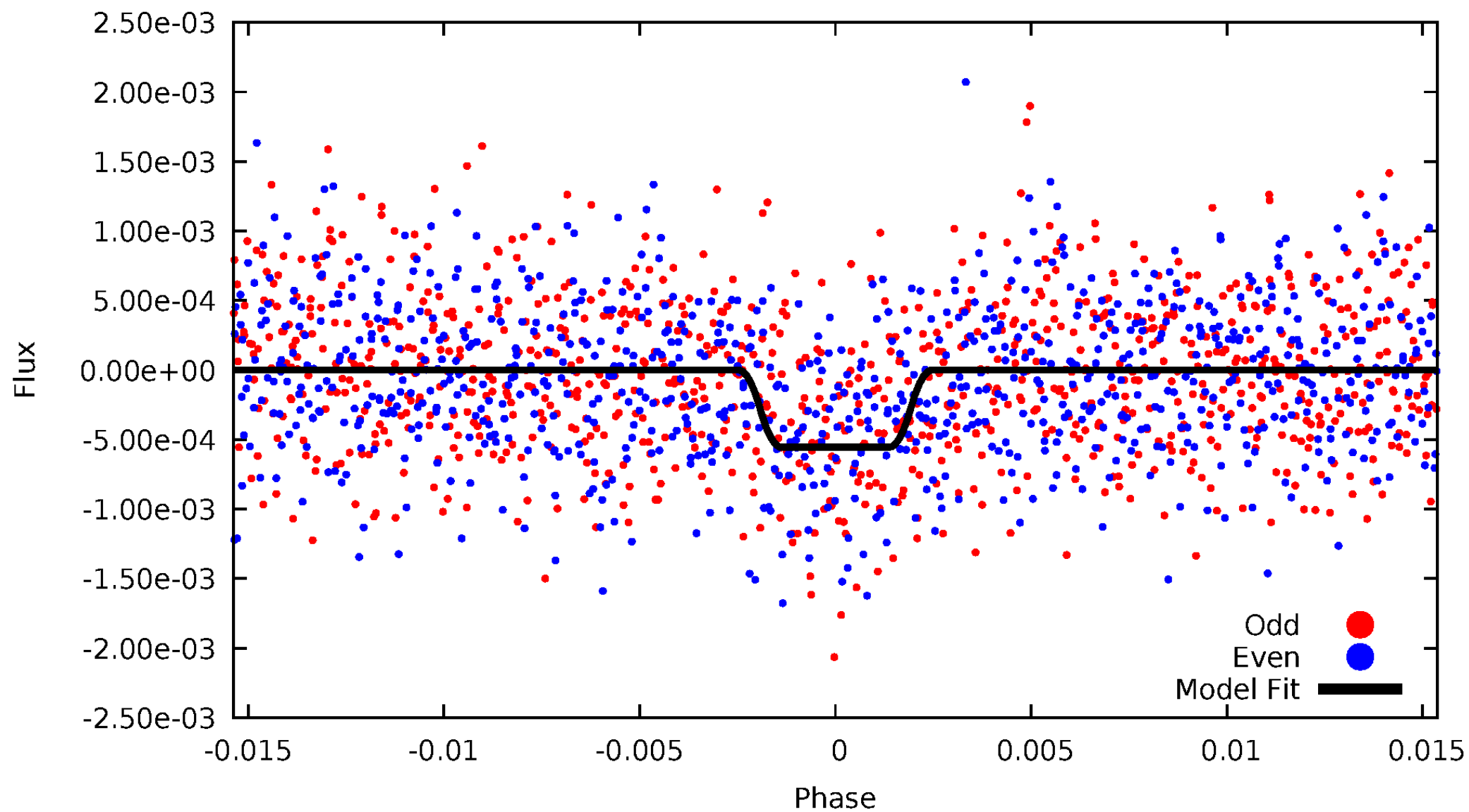
DV Odd/Even

TCE 006950275-01

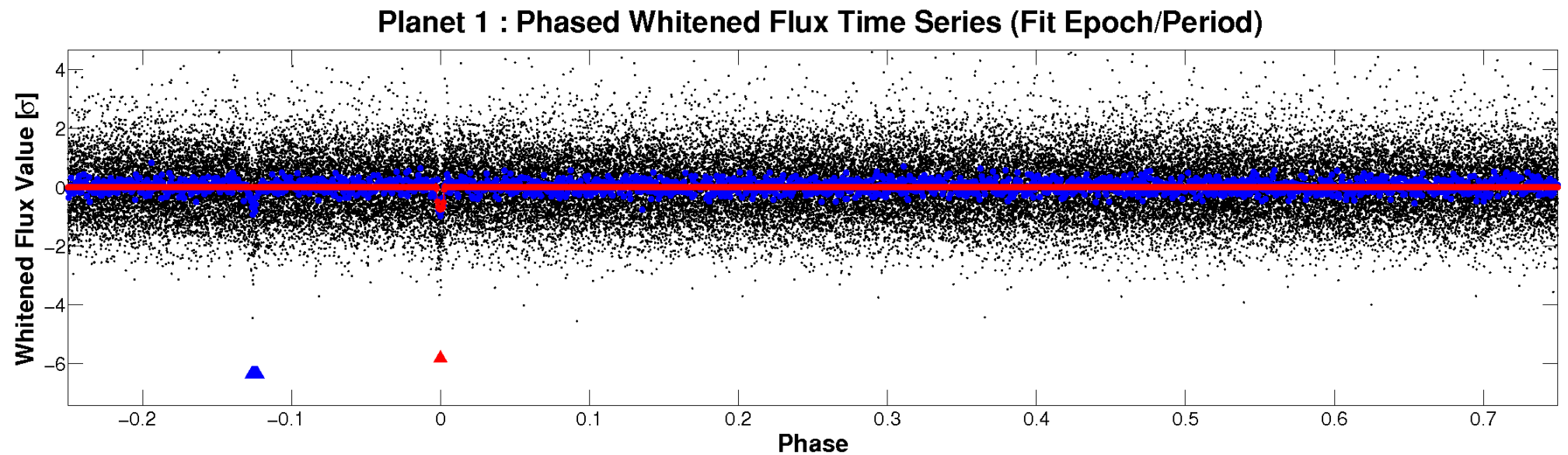
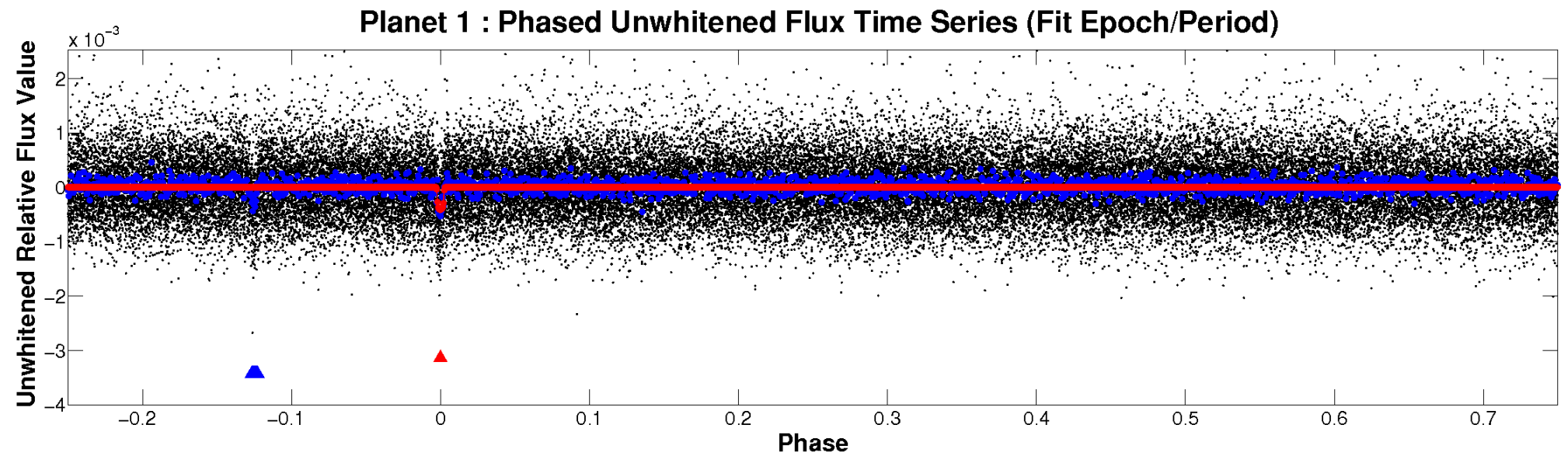


ALT Odd/Even

TCE 006950275-01

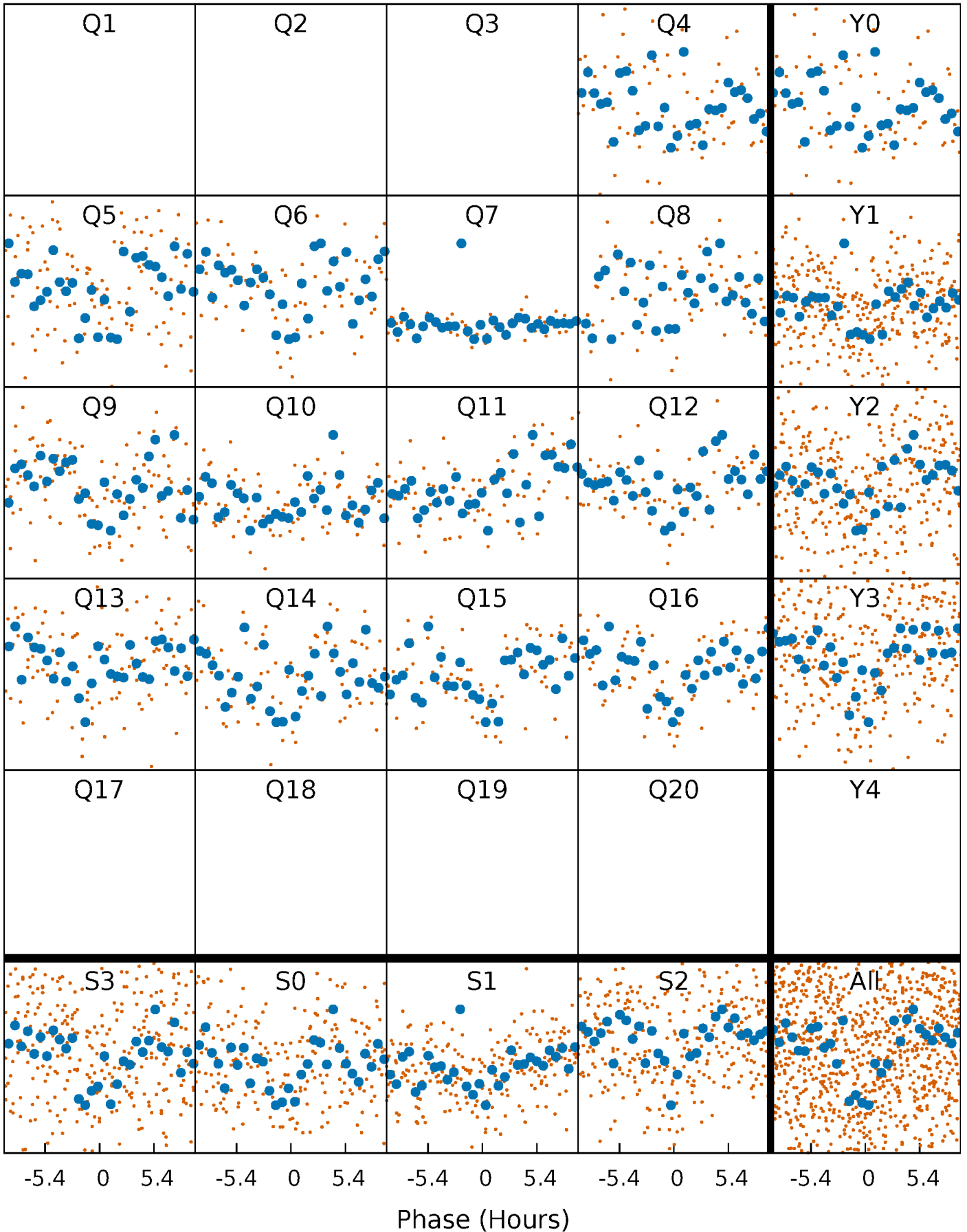


Non-Whitened Vs. Whitened Light Curve



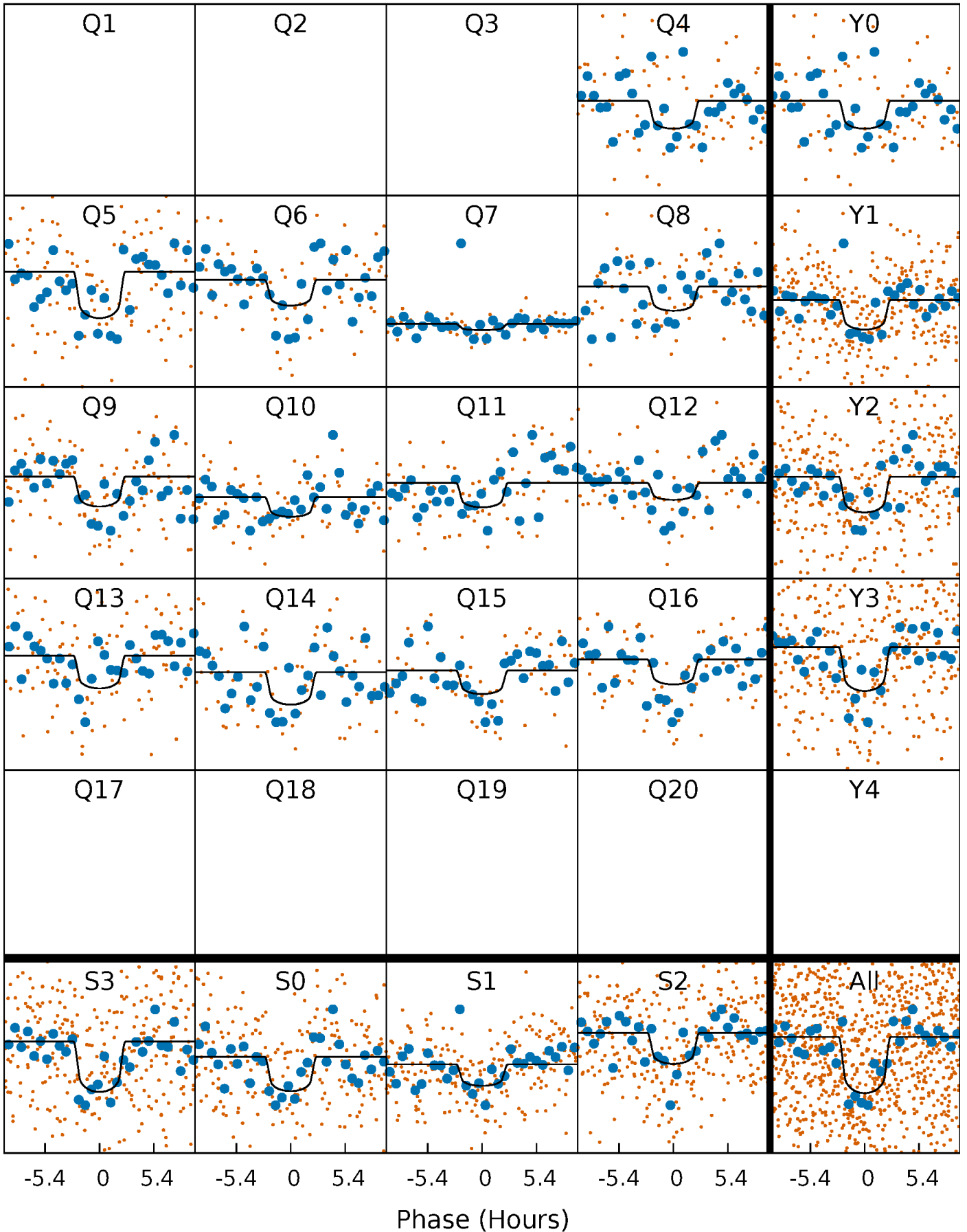
PDC Quarter-Phased Transit Curves

TCE 006950275-01 P= 40.879625 Days $T_0=163.411622$ (BKJD)



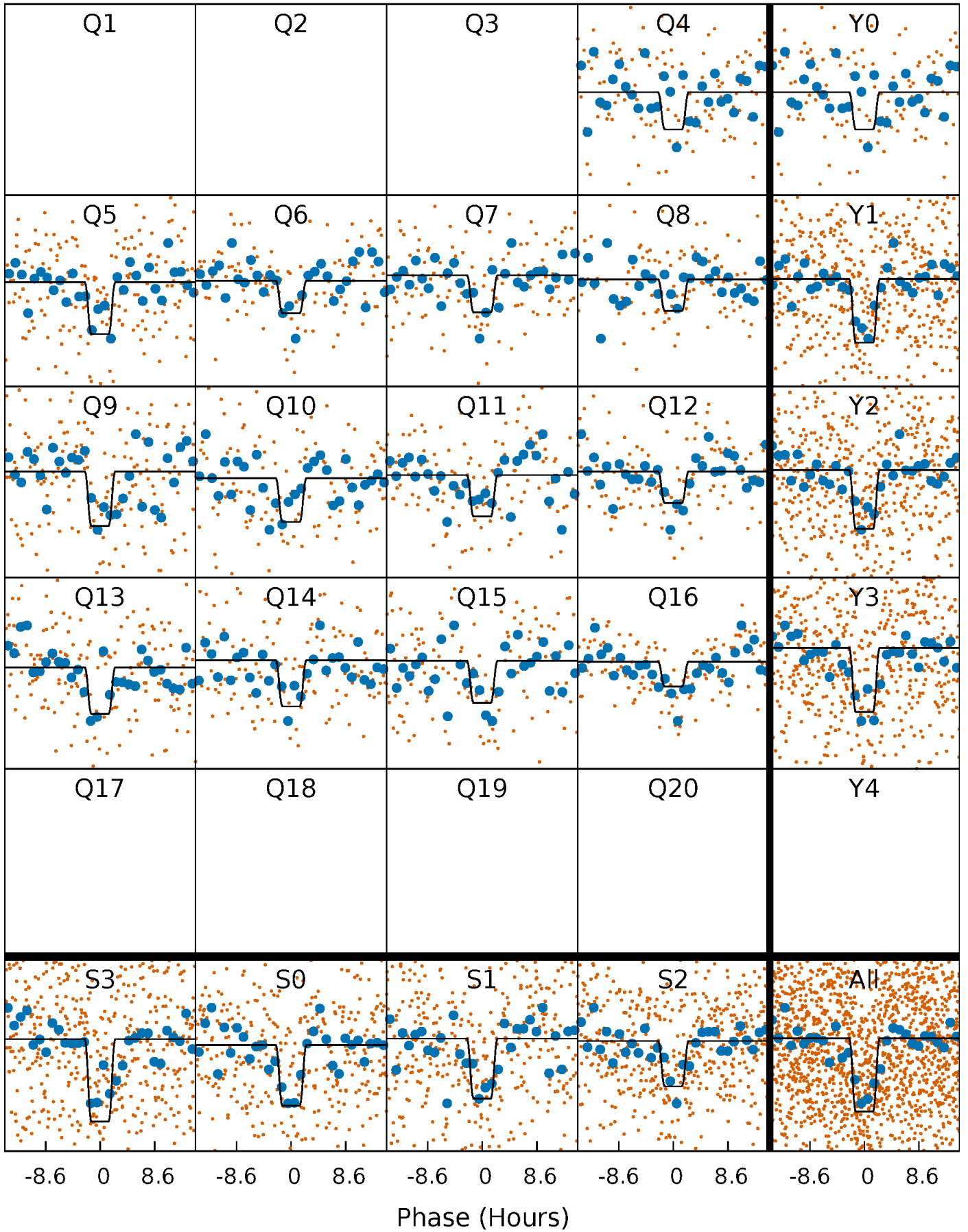
DV Quarter-Phased Transit Curves

TCE 006950275-01 $P = 40.879625$ Days $T_0 = 163.411622$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

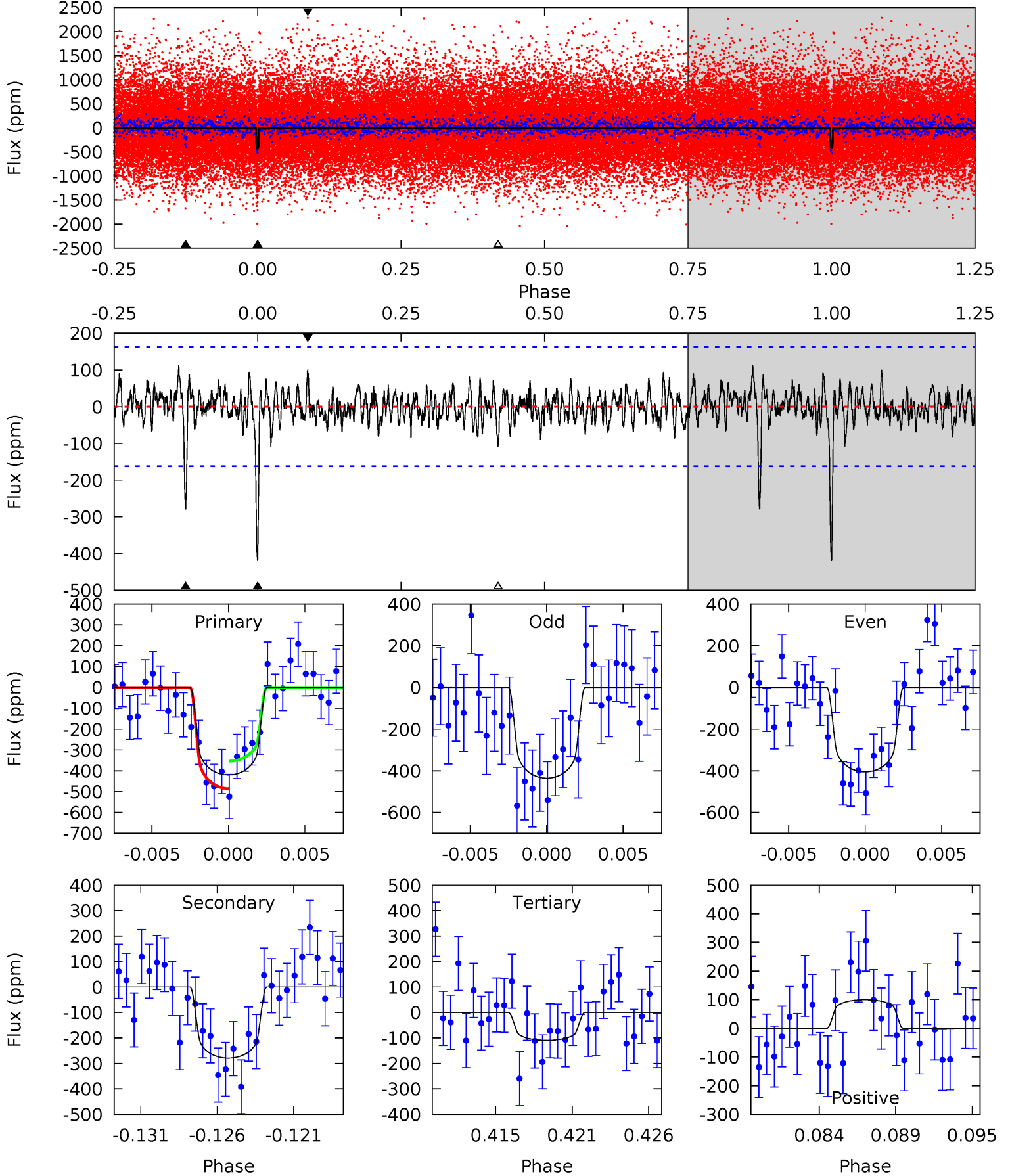
TCE 006950275-01 P= 40.878960 Days $T_0=163.402676$ (BKJD)



DV Model-Shift Uniqueness Test

006950275-01, P = 40.879625 Days, E = 163.411622 Days

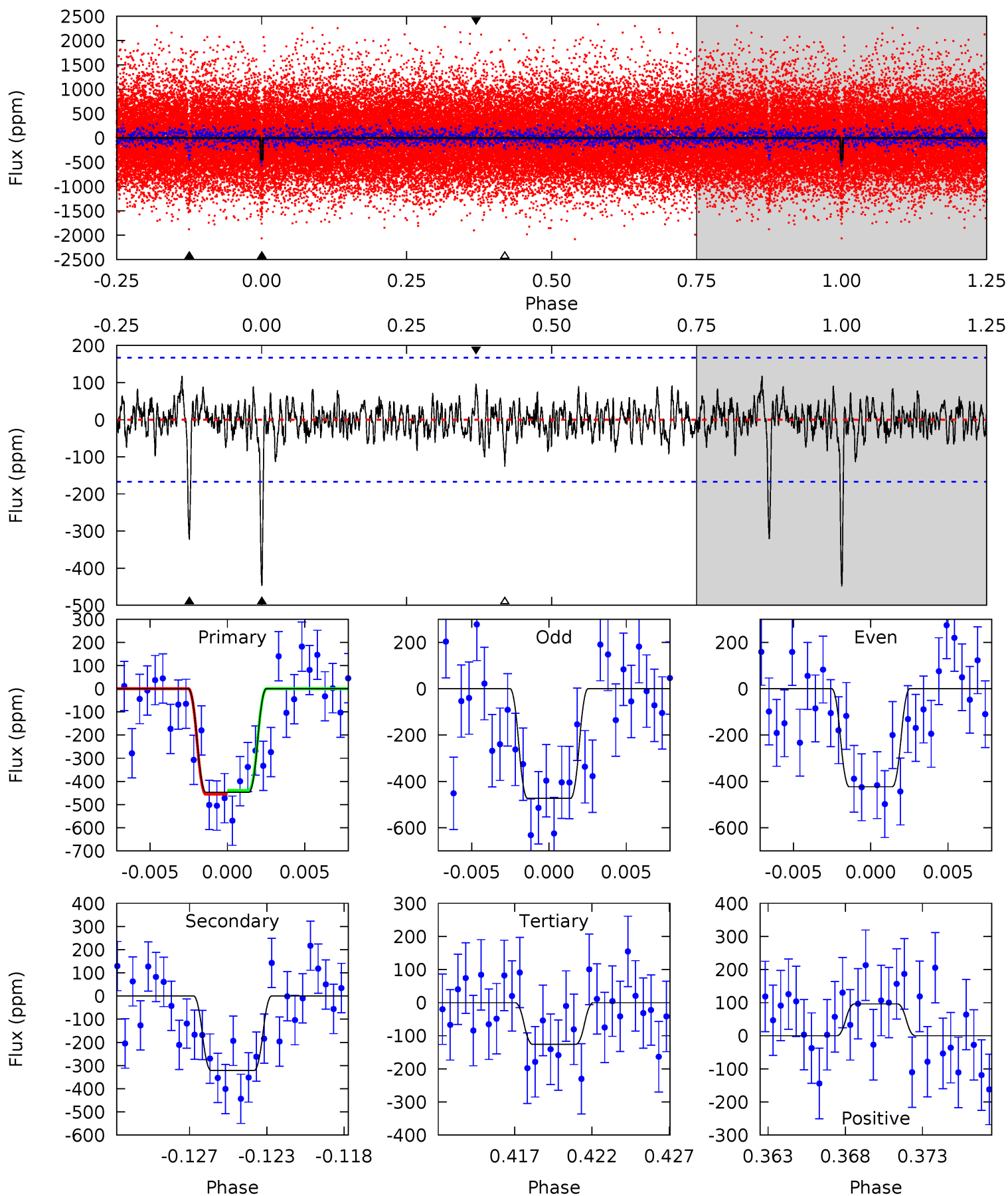
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.3	8.86	3.47	3.18	5.15	2.79	1.08	9.86	10.2	5.39	5.68	0.48	0.99	0.21	2.09



Alt Model-Shift Uniqueness Test

006950275-01, P = 40.878960 Days, E = 163.402676 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.8	9.91	3.89	2.96	5.16	2.81	1.07	9.91	10.8	6.02	6.95	0.77	1.06	0.21	0.26



Stellar Parameters For KIC 006950275

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6072^{+190}_{-232}	$4.510^{+0.054}_{-0.216}$	$-0.240^{+0.300}_{-0.300}$	$0.923^{+0.290}_{-0.097}$	$1.005^{+0.130}_{-0.143}$	$1.800^{+0.493}_{-0.921}$
	+3%/-4%	+1%/-5%	+125%/-125%	+31%/-11%	+13%/-14%	+27%/-51%
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 006950275-01 / KOI 6796.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-279 ± 32	$2.24^{+1.09}_{-1.08}$	762^{+57}_{-40}	5436^{+2082}_{-861}	1640^{+4374}_{-884}
Alt.	-321 ± 32	$2.46^{+1.02}_{-1.03}$	760^{+57}_{-40}	5384^{+1575}_{-772}	1571^{+2882}_{-832}

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 $A_{obs} \gg 1.0$

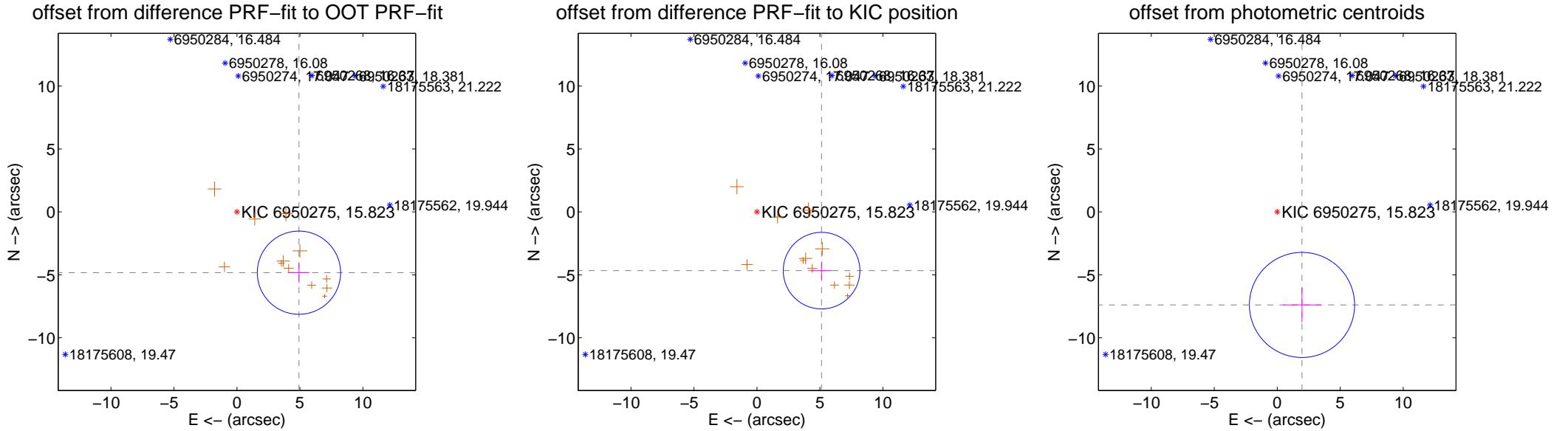
DV Centroid Data

Supplemental centroid analysis for 006950275-01. Kepler magnitude: 15.82. Transit SNR 10.52

There are 0 quarters with good PRF difference image offsets

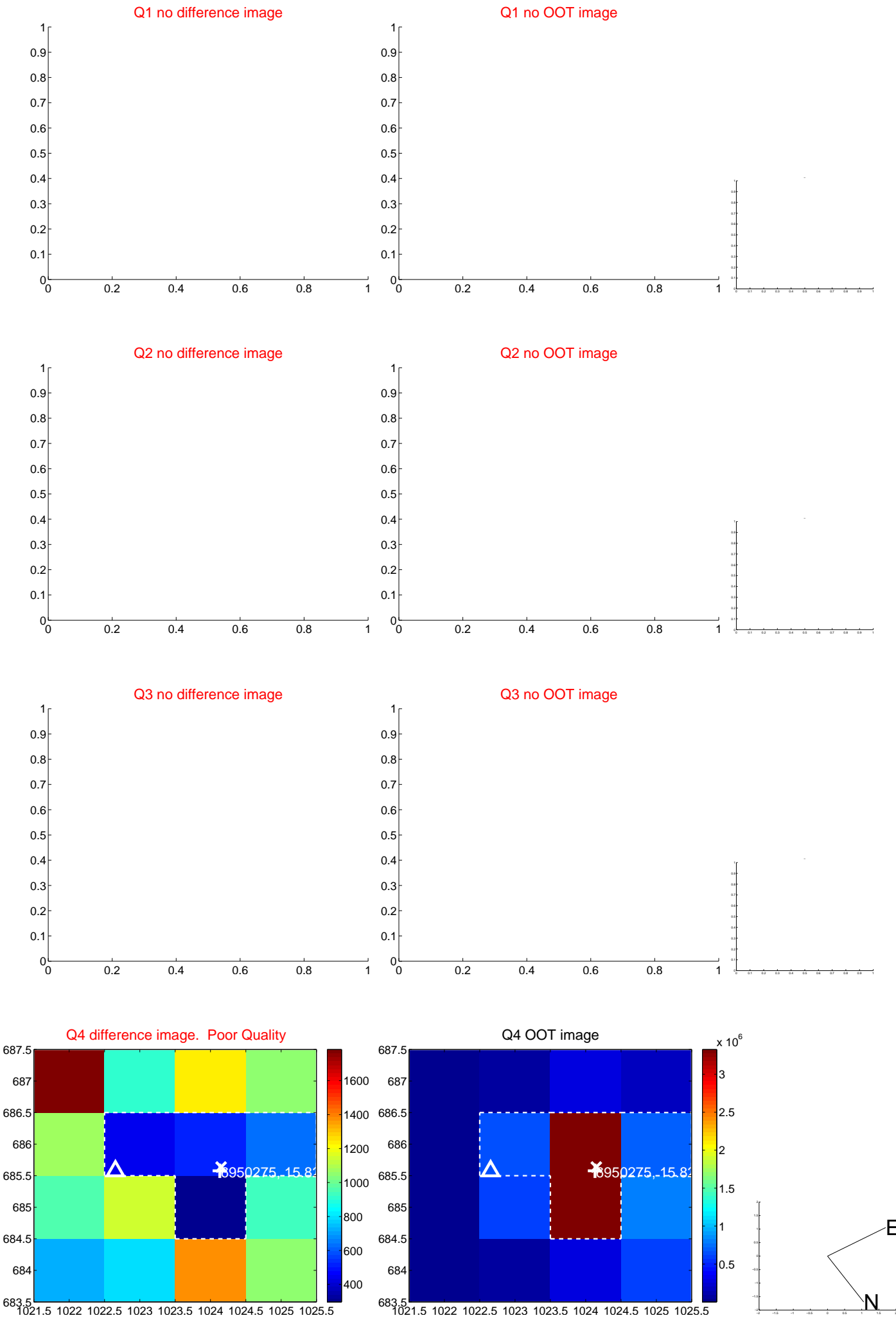
The direct PRF centroid is offset from the target star catalog position by about 0.27 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	6.895 ± 1.102	6.26	-4.923 ± 0.843	-4.827 ± 0.808
PRF-fit source offset from KIC position	6.934 ± 1.014	6.84	-5.130 ± 0.838	-4.665 ± 0.727
photometric centroid source offset	7.65 ± 1.39	5.49	-1.97 ± 1.51	-7.39 ± 1.38

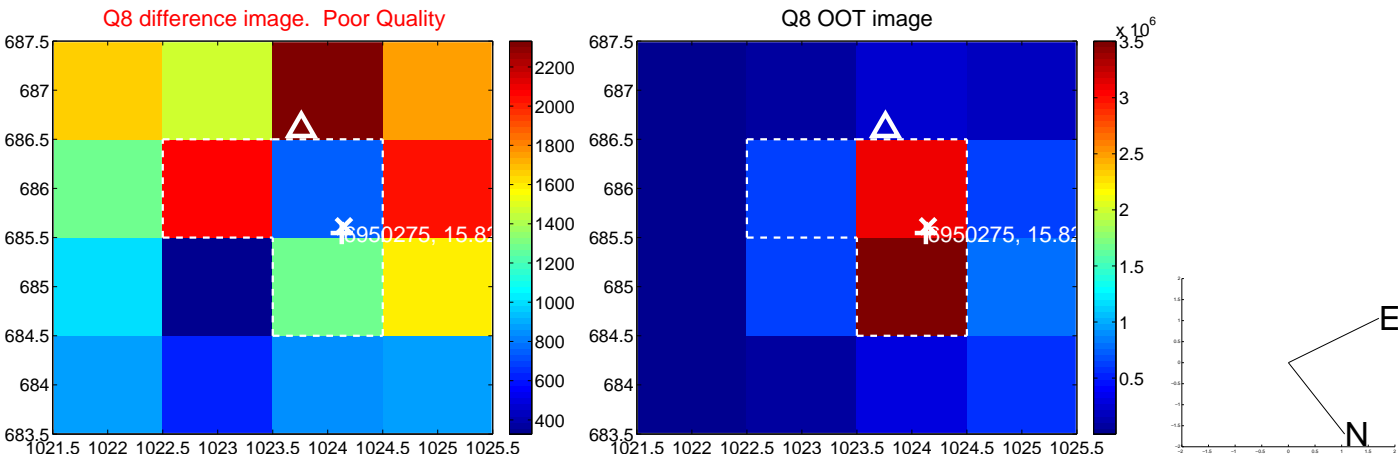
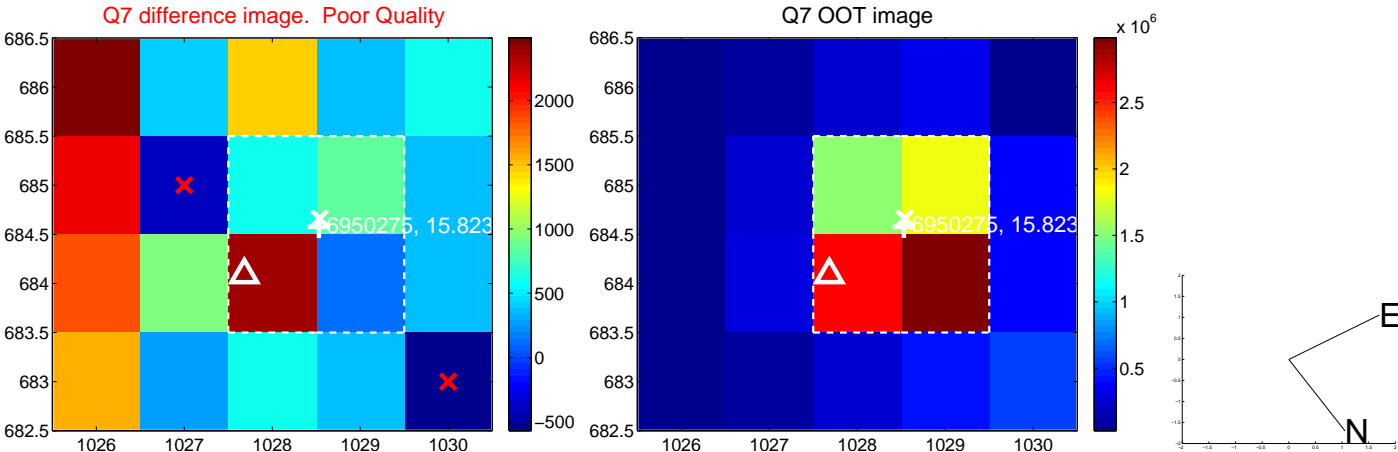
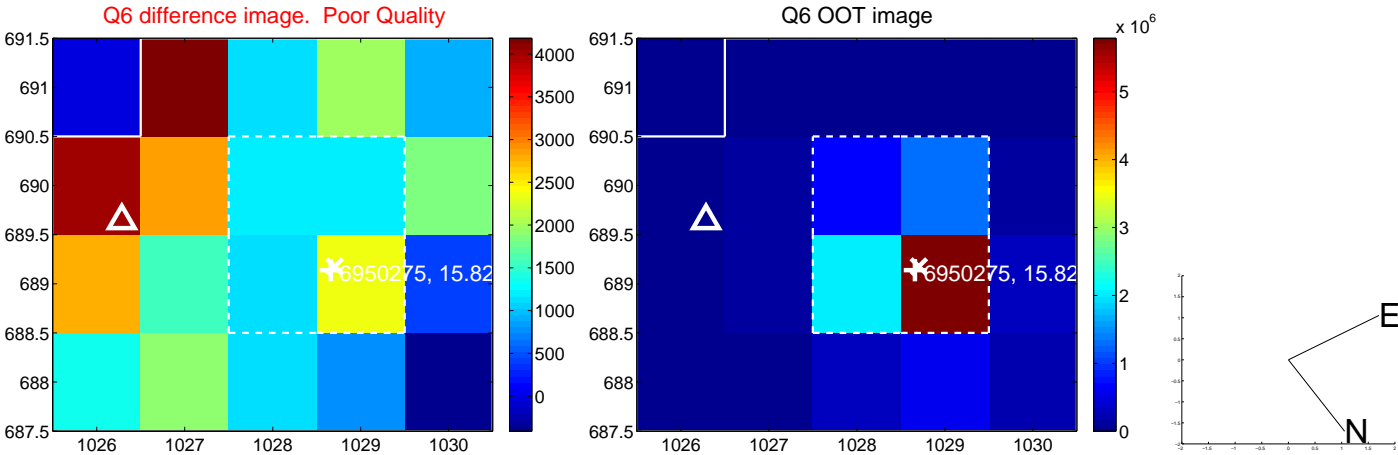
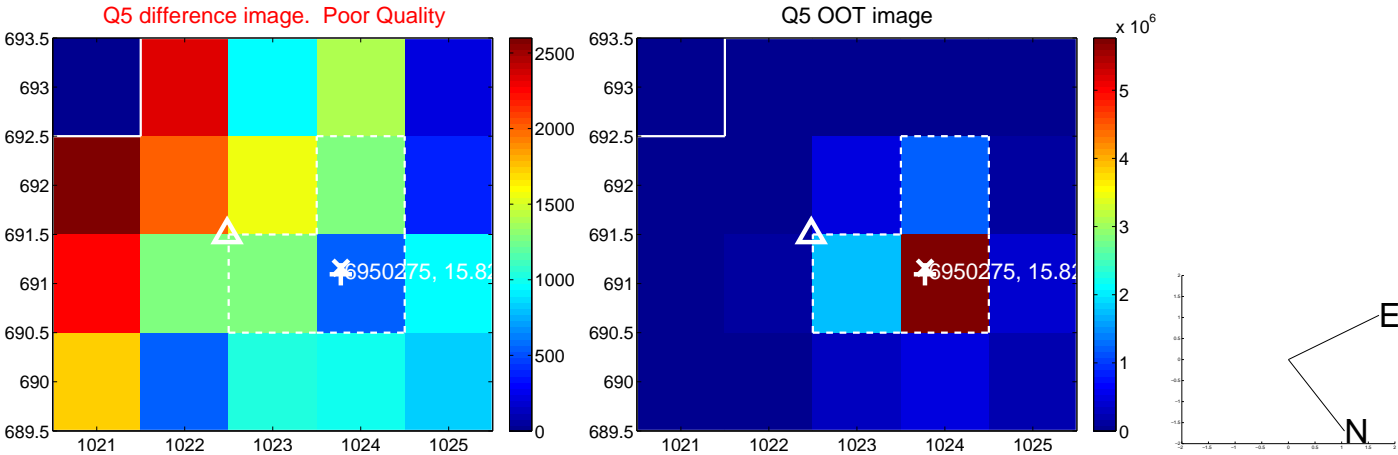


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

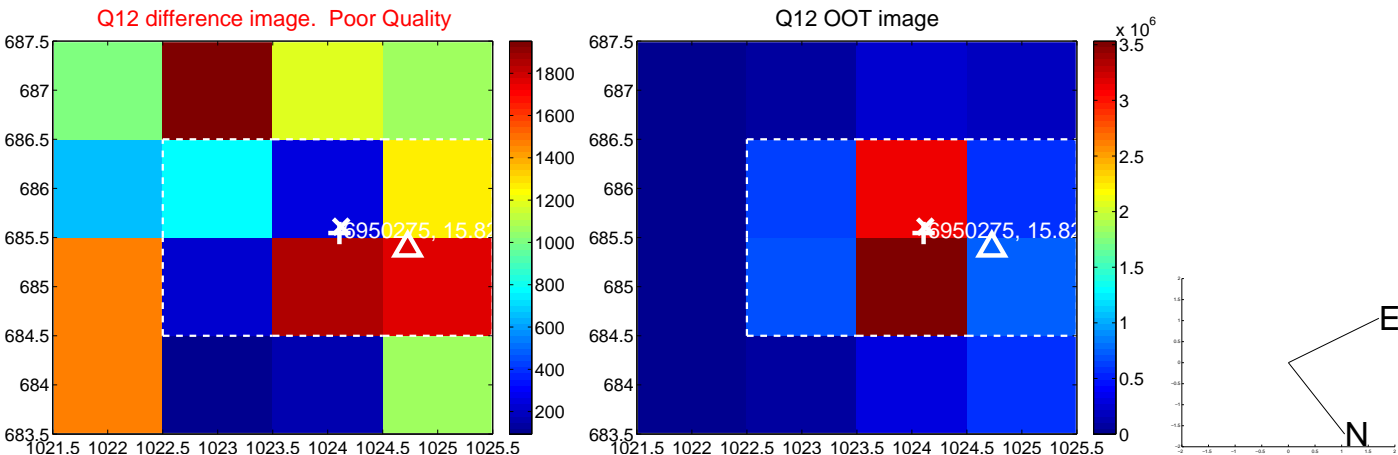
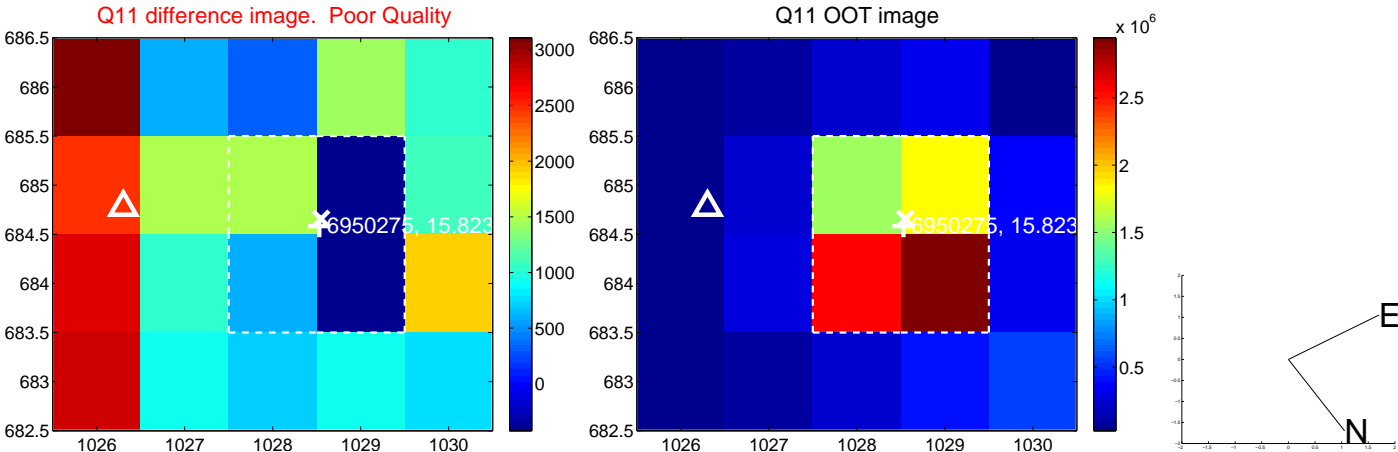
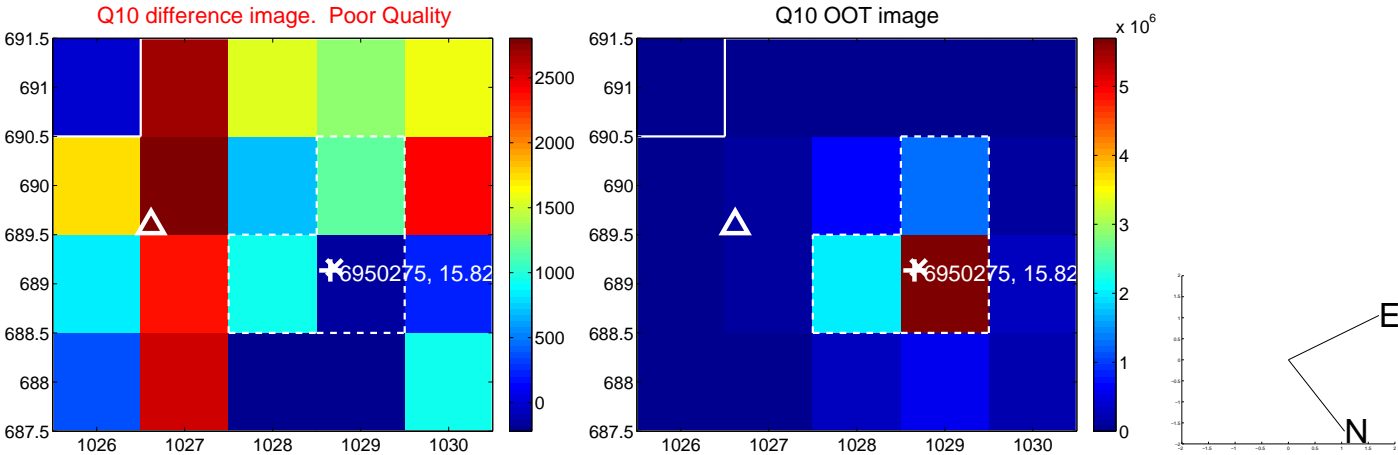
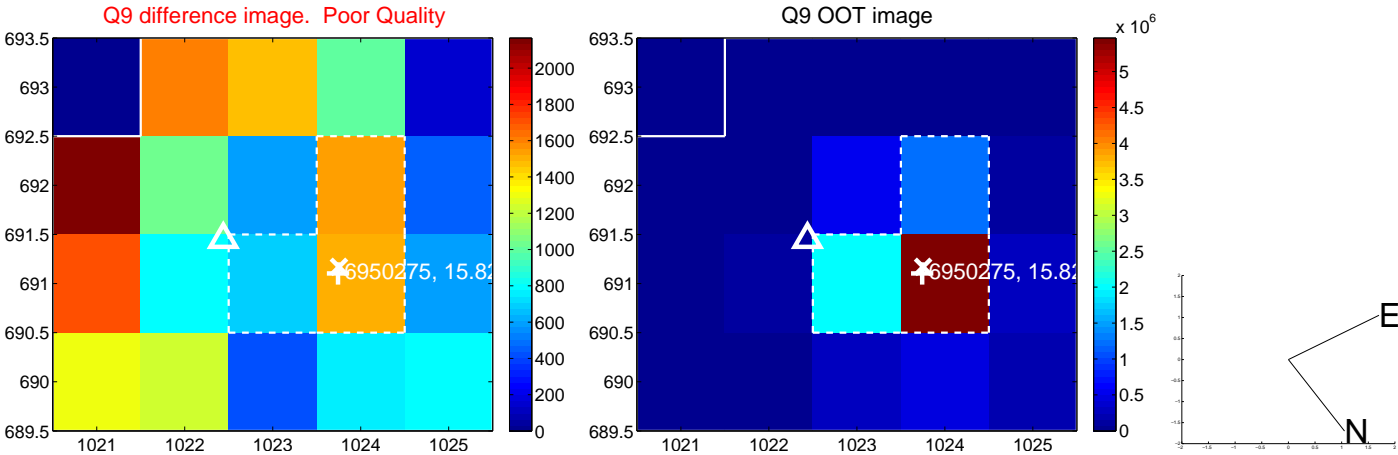
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



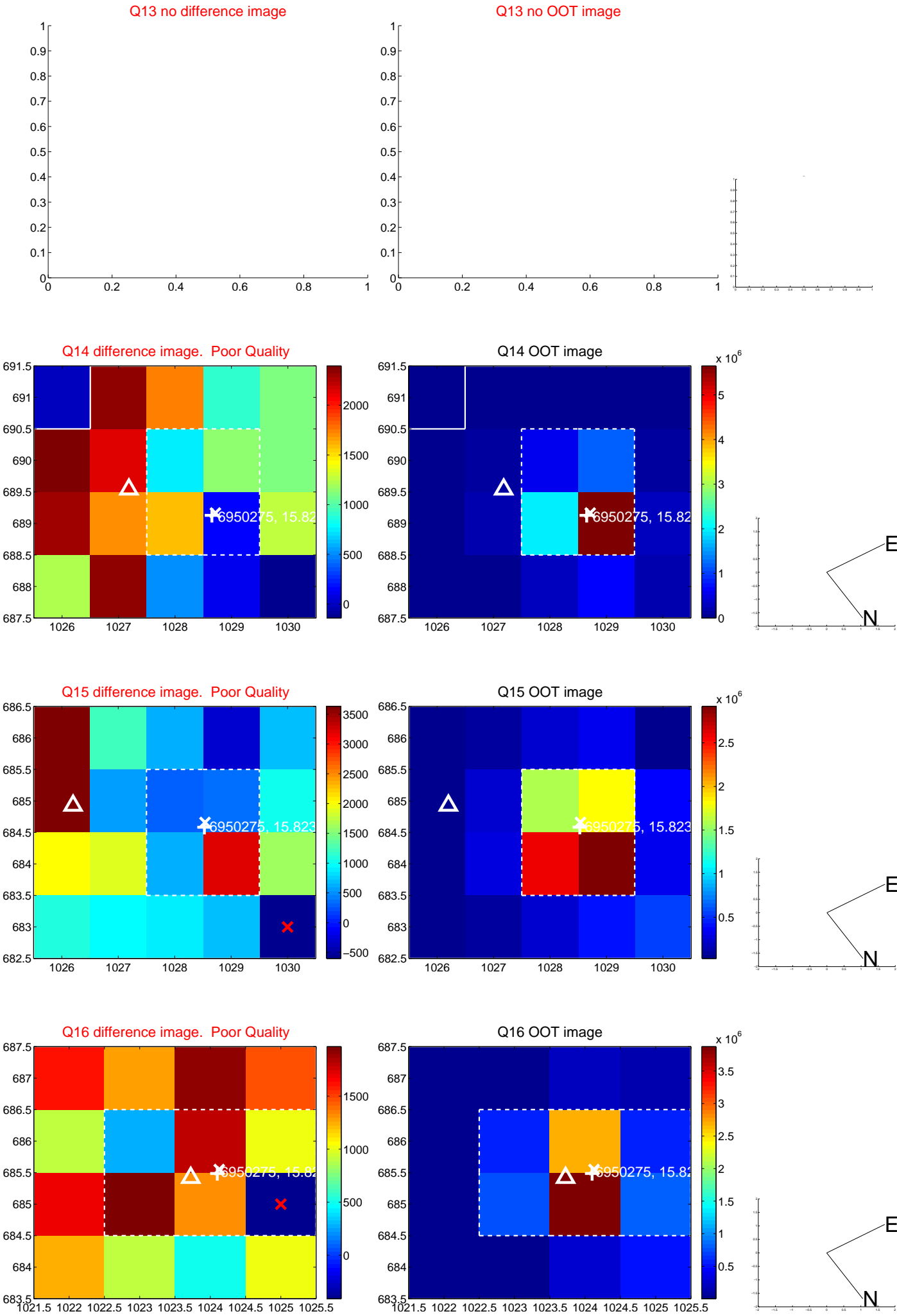
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



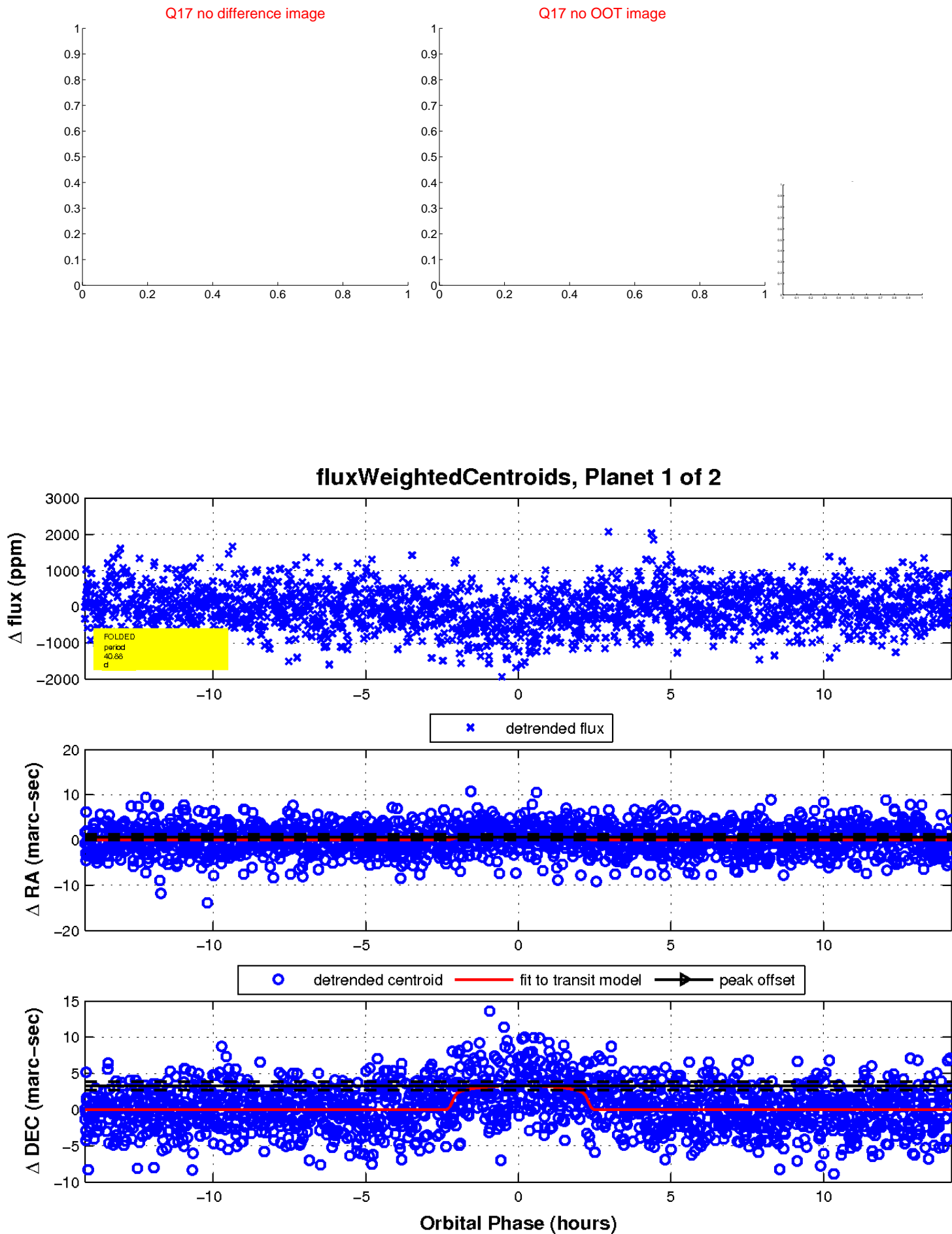
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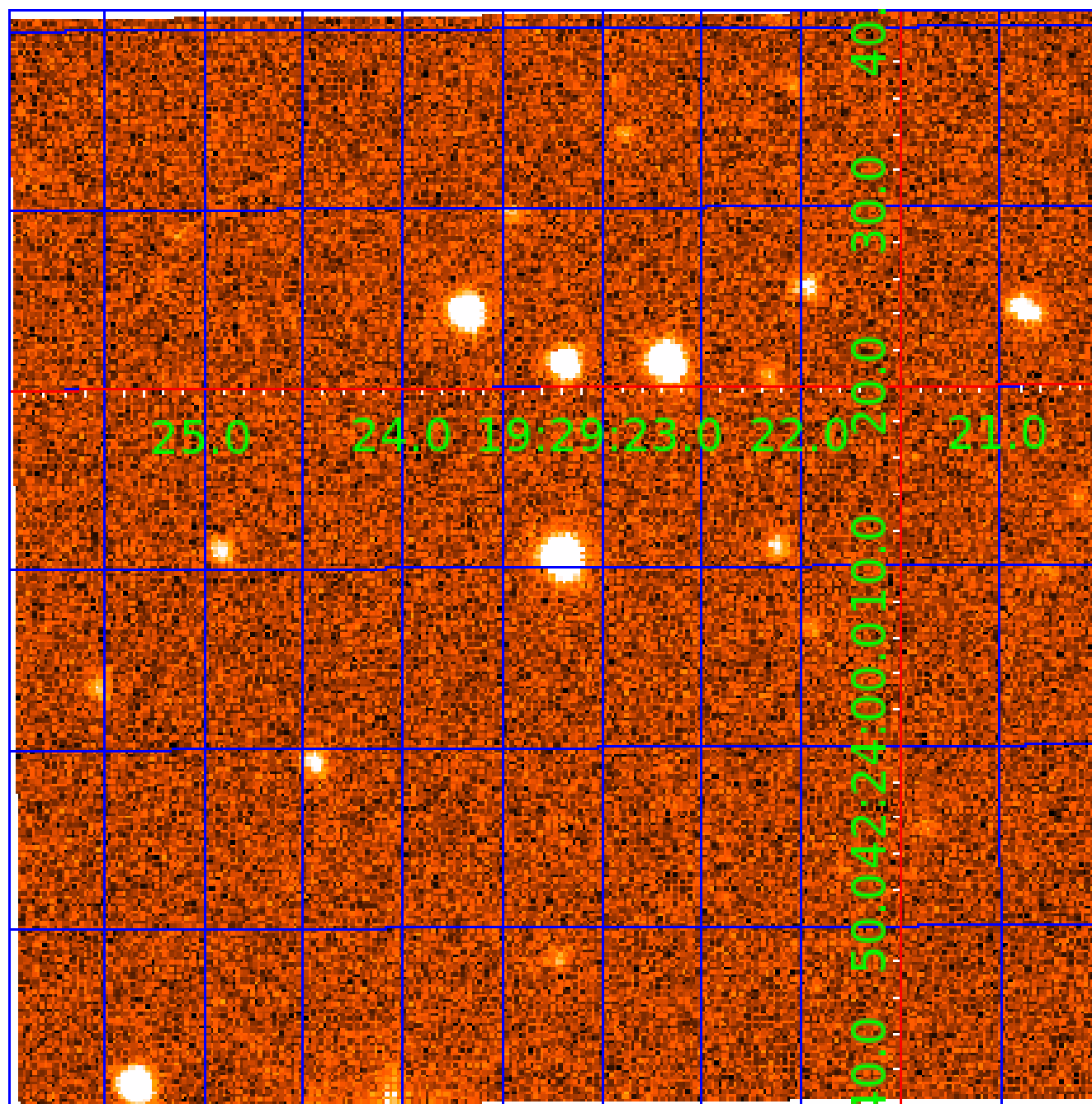


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 006950275

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})
006950275-01	OBS	6796.01	40.879625	163.411622	414.3	4.743	10.7	10.5	0.92	6072	2.10	19.16
006950275-02	OBS	No	40.875407	158.386529	341.6	6.777	10.5	10.3	0.92	6072	1.91	19.16

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006950275-01	OBS	FP	0.00	0	1	1	1	MOD_SEC_DV—MOD_SEC_ALT—HAS_SEC_TCE—CENT_RESOLVED_OFFSET—HALO_GHOST—EPHEM_MATCH
006950275-02	OBS	FP	0.00	1	1	1	1	IS_SEC_TCE—CENT_RESOLVED_OFFSET—HALO_GHOST—EPHEM_MATCH

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 006950275-02

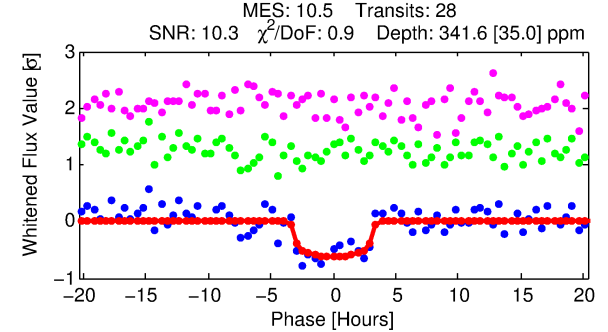
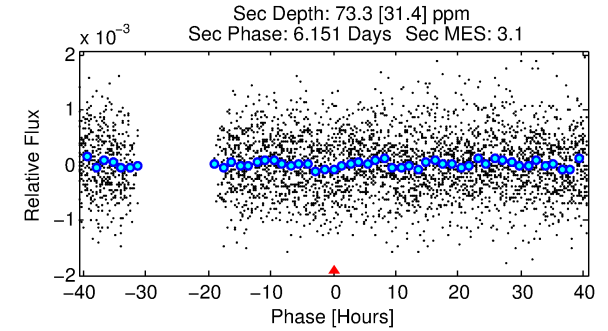
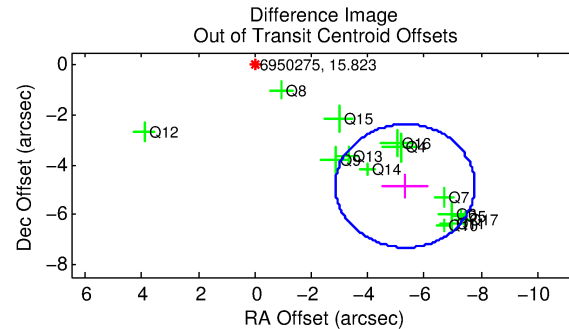
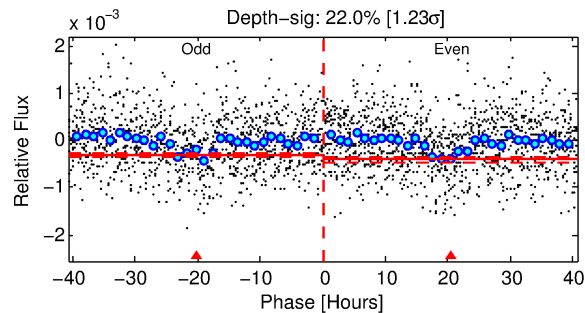
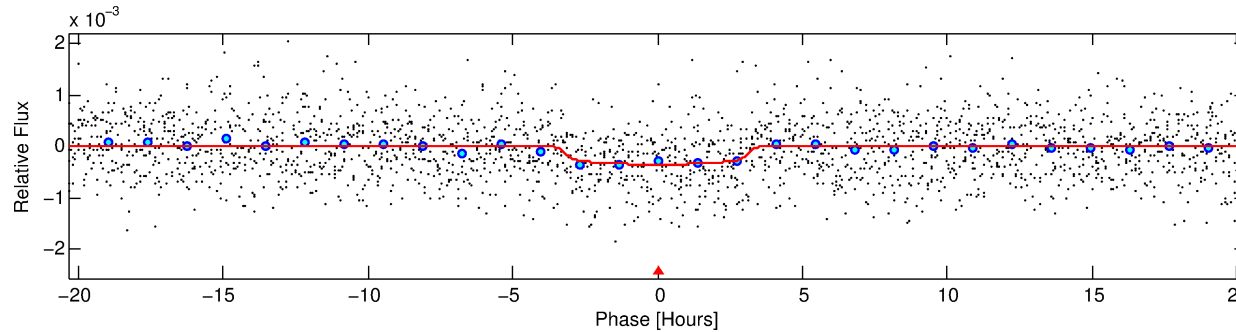
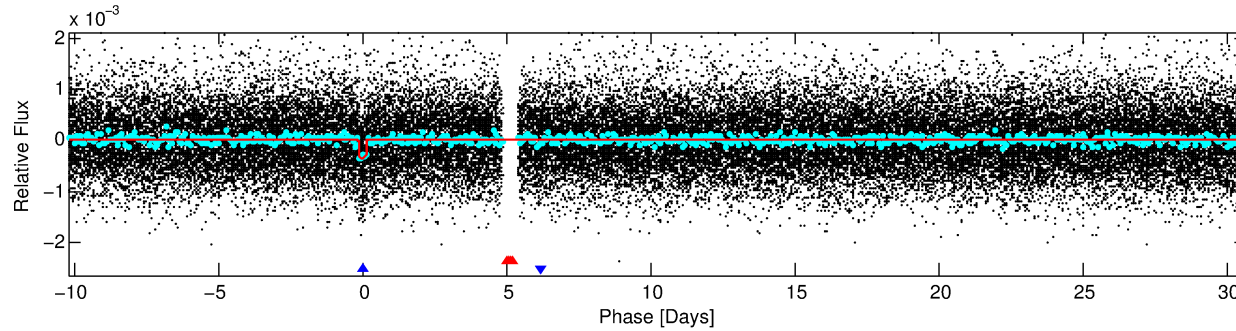
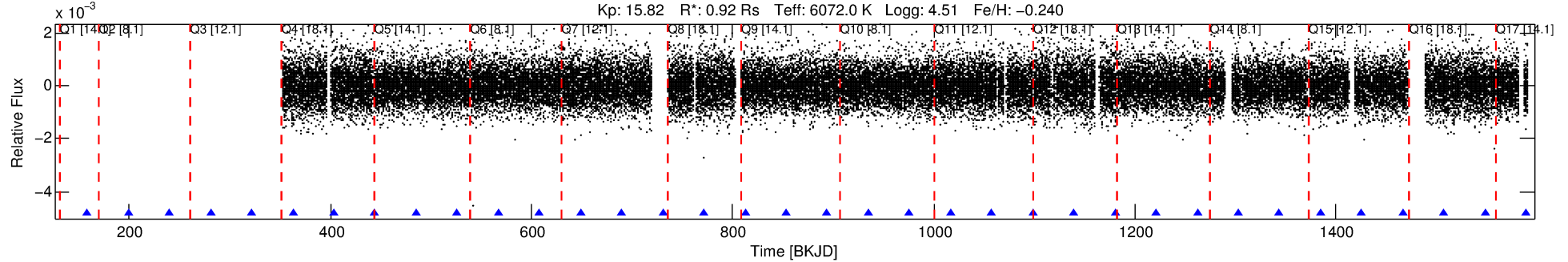
TCE (1)	KIC	Parent (2)	Parent KIC	$P_1:P_2$	Dist ($''$)	Δ Row	Δ Col	m_2	m_1	D_2/D_1	Mechanism	Flag	σ_P	σ_T
006950275-02	6950275	006864859-01	6864859	1:1	35.5	-9	3	11.66	15.82	752.81	Direct-PRF	0	1.57	1.46

Notes: $P_1:P_2$ is the period ratio. Dist is the distance in arcseconds. Δ Row and Δ Col are the number of pixels apart in row and column. m_2 and m_1 are the magnitudes of the parent and child. D_2/D_1 is the parent's transit depth divided by the child's. σ_P and σ_T are the significance of the match in period and epoch. For a match to be considered significant $\sigma_P < 5.0$ and $\sigma_T < 5.0$. Matches which have σ_P and σ_T very close to this cutoff should receive extra scrutiny, especially if the period ratio is very large.

DV One-Page Summary

KIC: 6950275 Candidate: 2 of 2 Period: 40.875 d
KOI: K06796 Corr: No Ephemeris Match

Kp: 15.82 R*: 0.92 Rs Teff: 6072.0 K Logg: 4.51 Fe/H: -0.240



DV Fit Results:

Period = 40.87541 [0.00076] d
Epoch = 158.3865 [0.0170] BKJD
Rp/R* = 0.0190 [0.0076]
a/R* = 27.31 [55.50]
b = 0.83 [0.77]
Seff = 19.16 [8.06]
Teq = 533 [56] K
Rp = 1.91 [0.98] Re
a = 0.2327 [0.0622] AU
Ag = 596.48 [591.66] [1.01σ]
Teffp = 4076 [941] K [3.76σ]

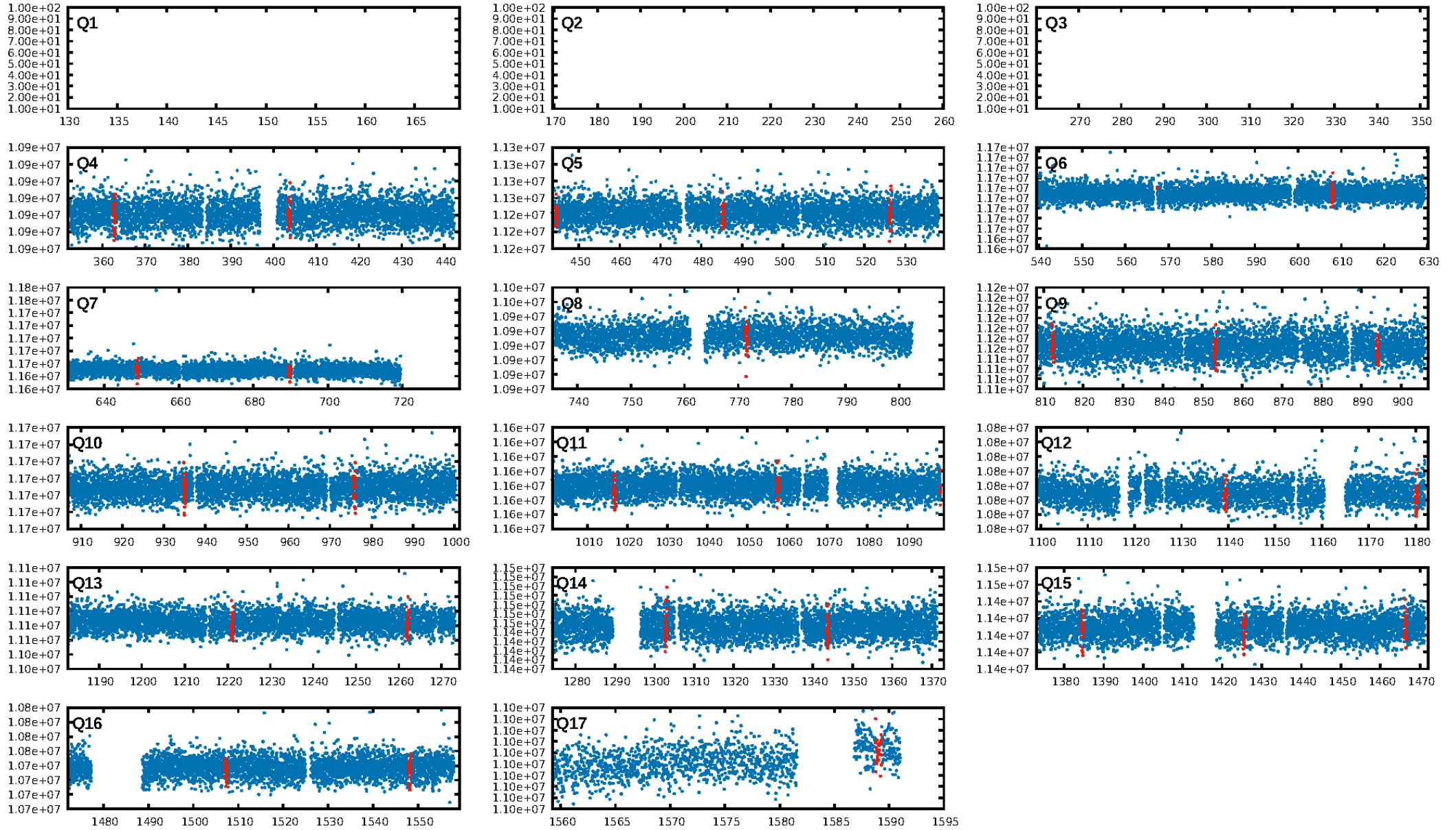
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 1.0% [0.01σ]
ModelChiSquare2-sig: 89.6%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 6.59e-26
RollingBand-fgt: 1.00 [27/27]
GhostDiagnostic-chr: -0.2187
Centroid-sig: 0.0%
Centroid-so: 6.097 arcsec [4.31σ]
OotOffset-rm: 7.195 arcsec [8.74σ]
KicOffset-rm: 7.267 arcsec [7.97σ]
OotOffset-st: 3/3/4/4 [14]
KicOffset-st: 3/3/4/4 [14]
DiffImageQuality-fgm: 0.21 [3/14]
DiffImageOverlap-fno: 1.00 [14/14]

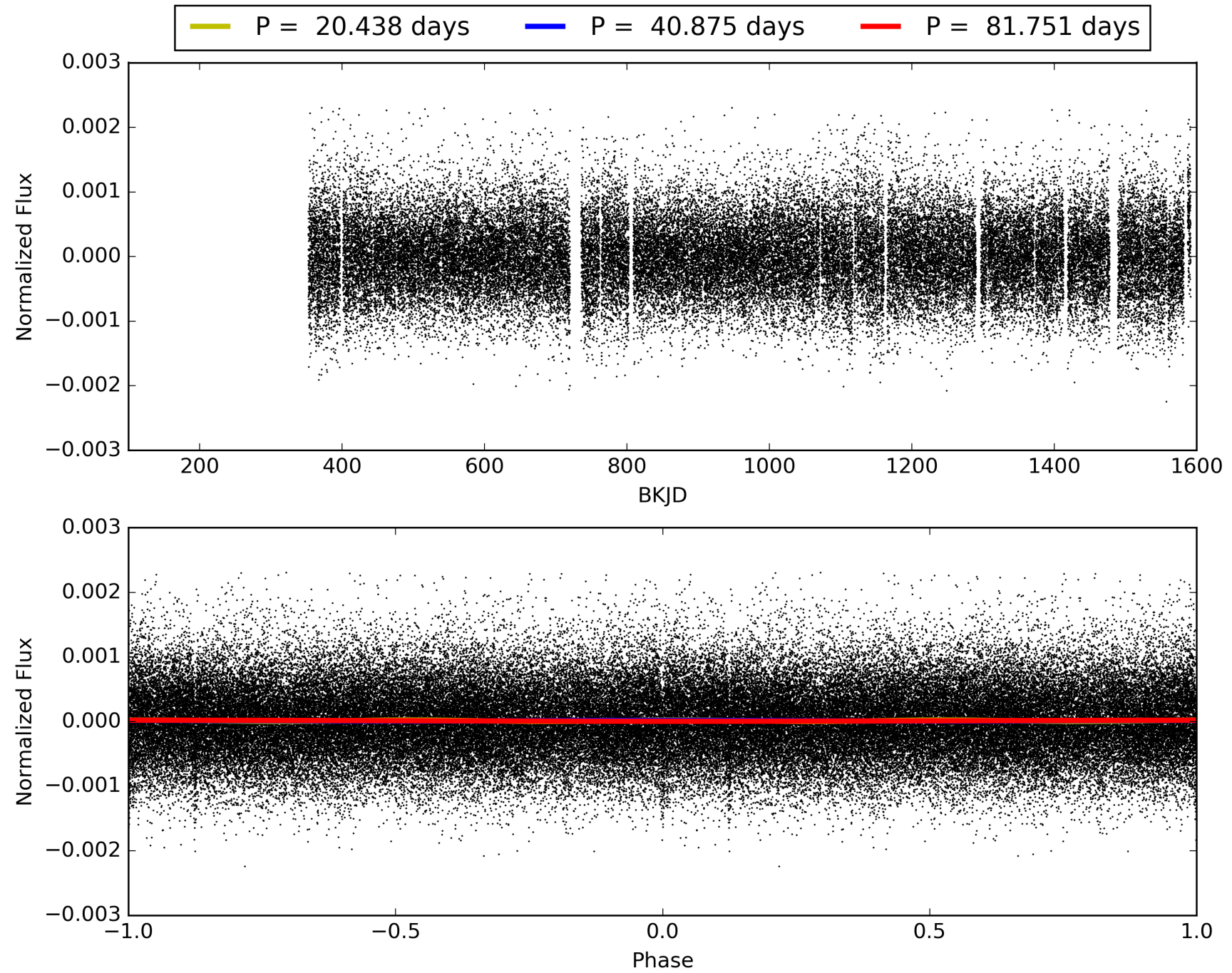
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 07:25:31 Z

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TCE 006950275-02, PDC Light Curves

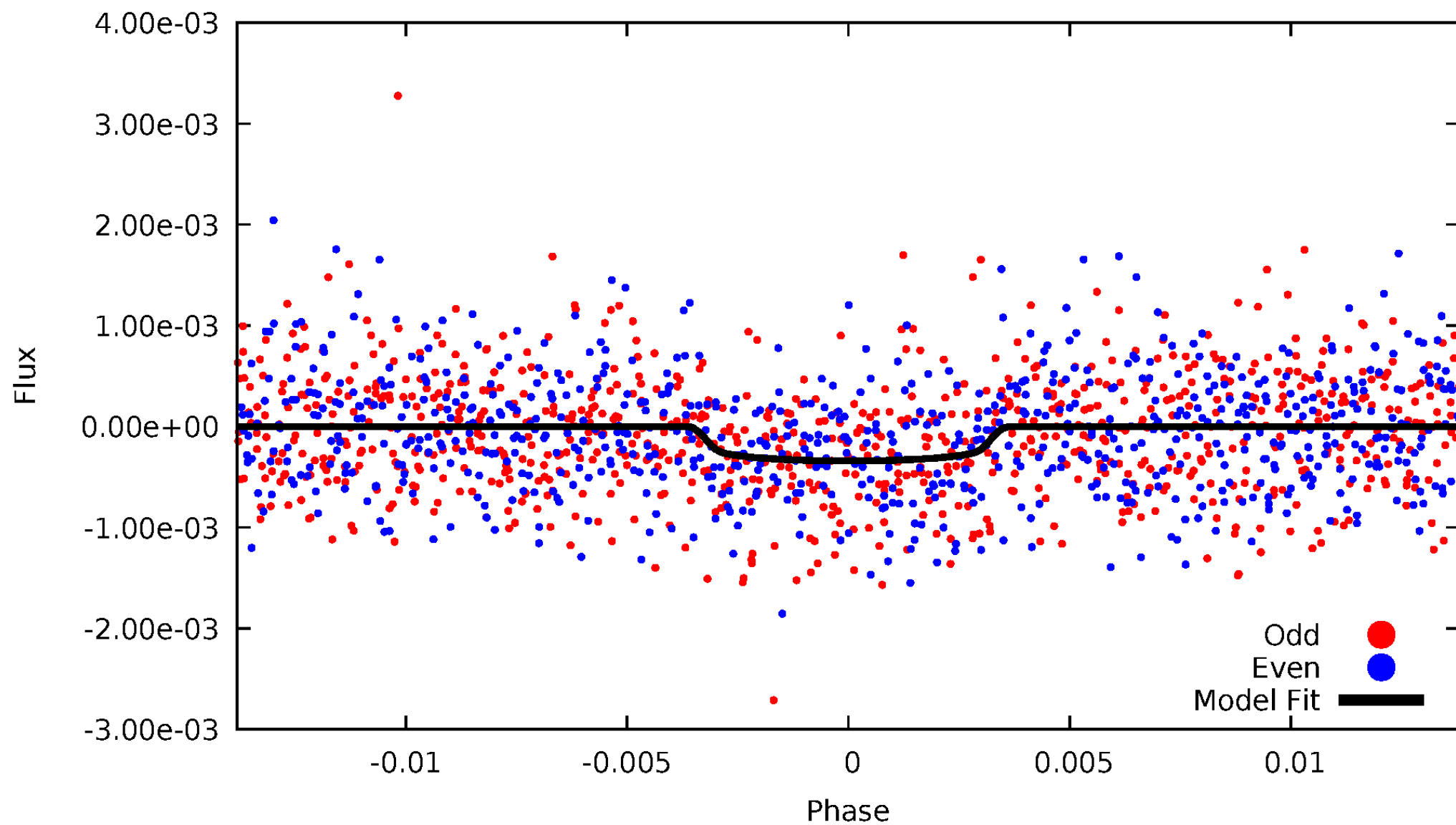


TCE 006950275-02



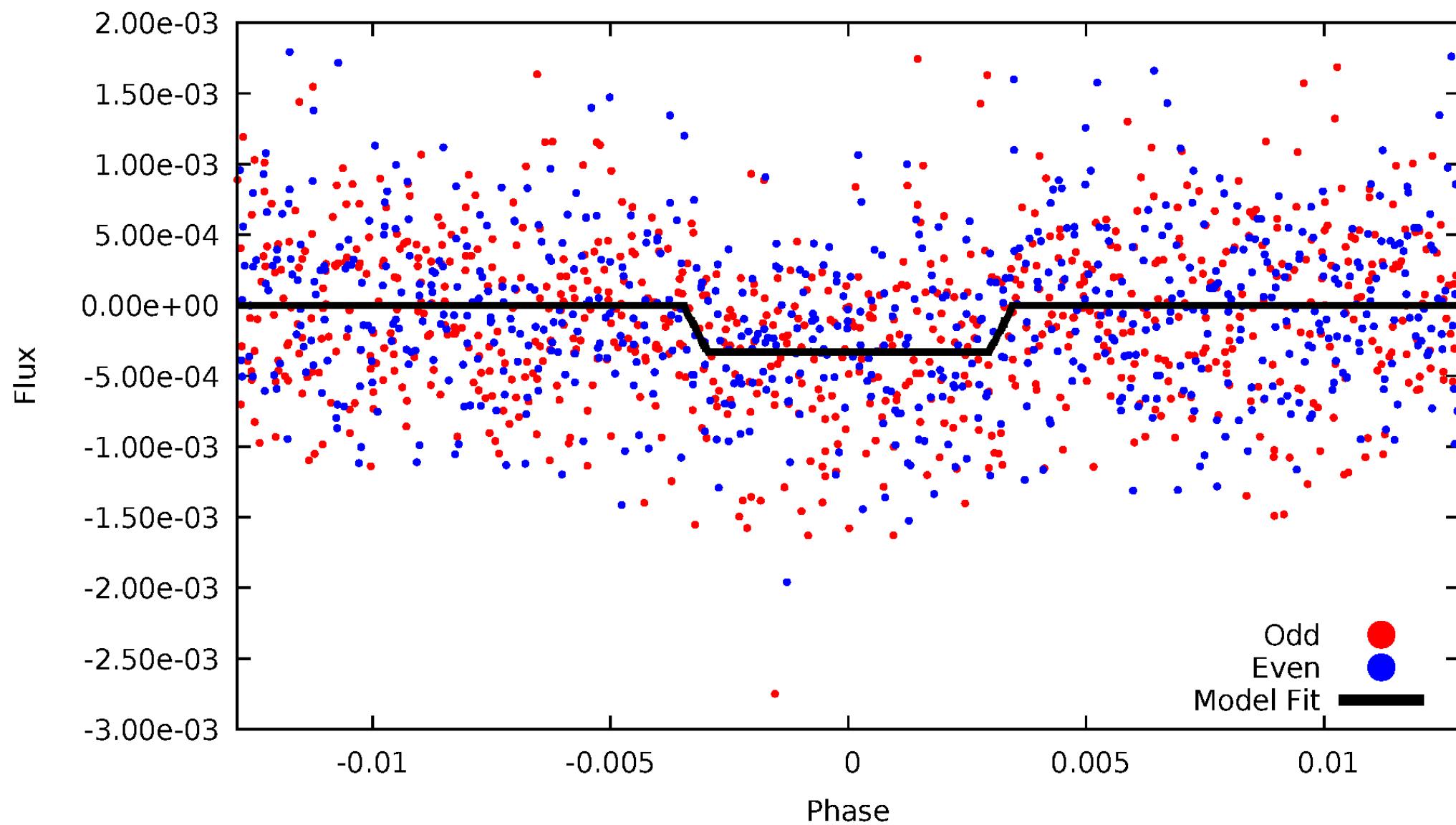
DV Odd/Even

TCE 006950275-02



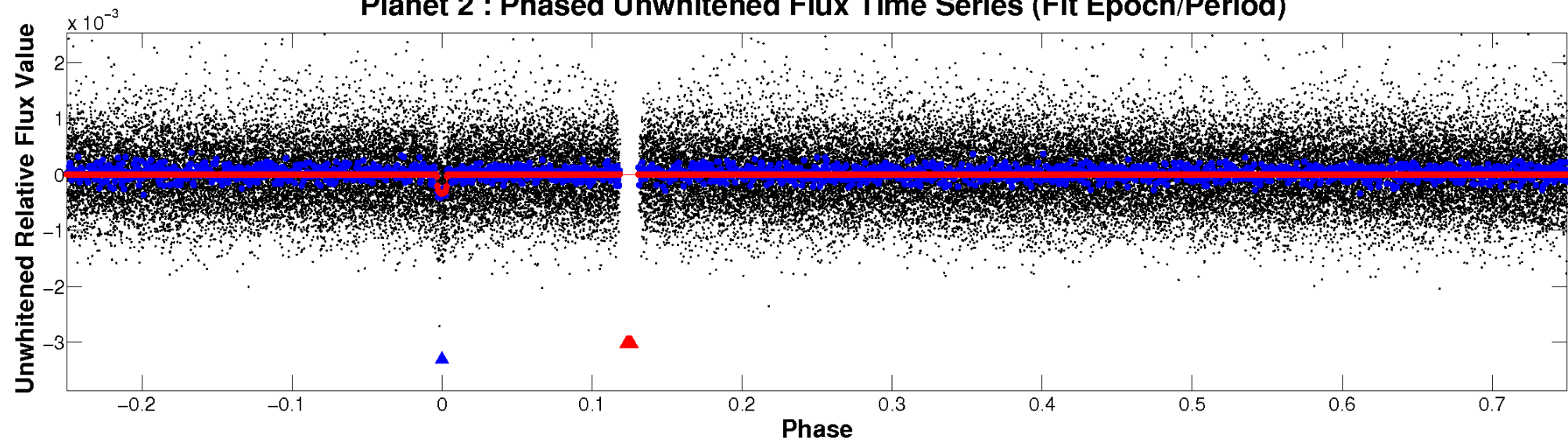
ALT Odd/Even

TCE 006950275-02

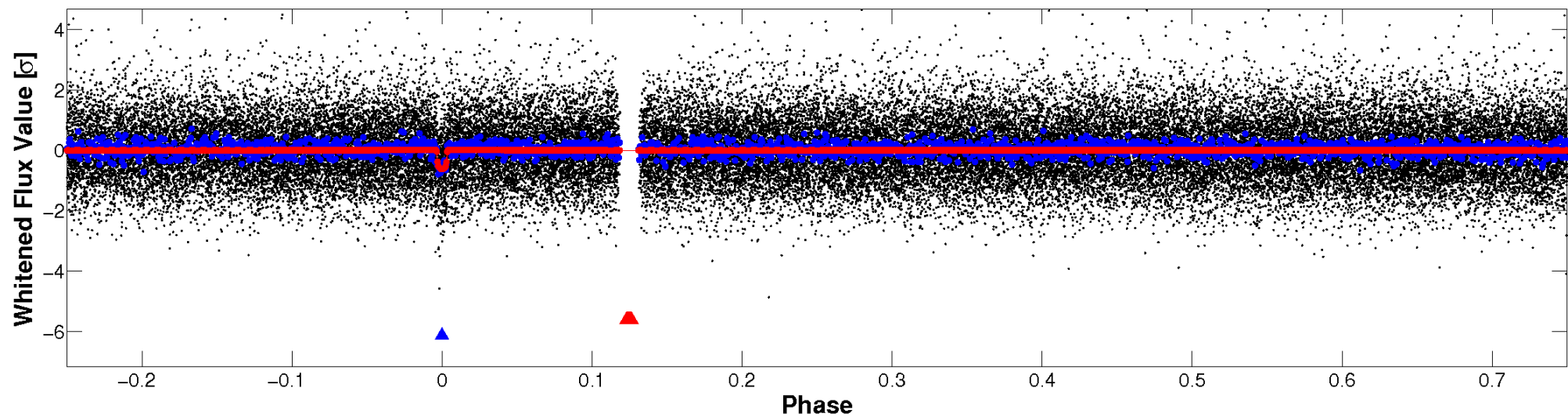


Non-Whitened Vs. Whitened Light Curve

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

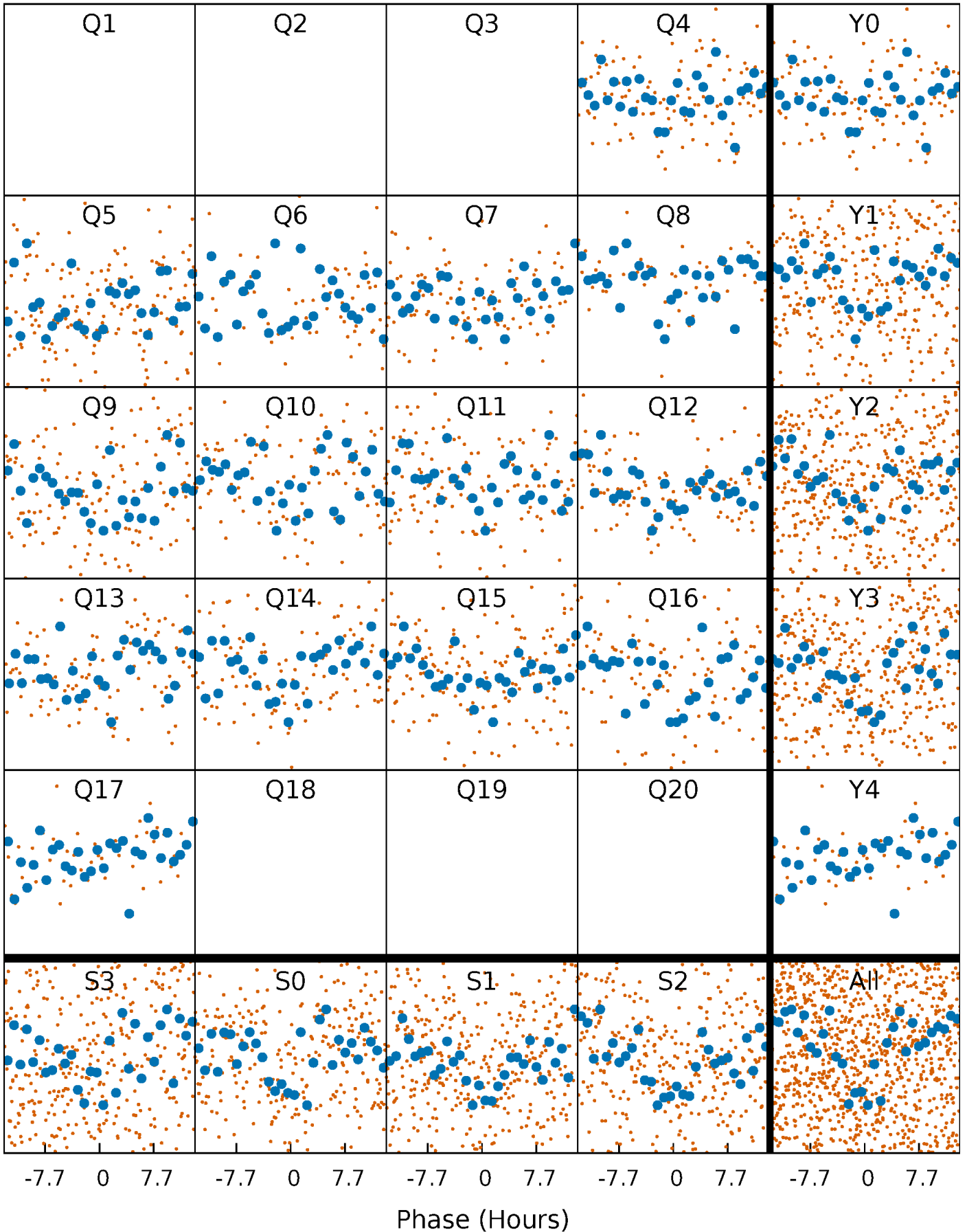


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



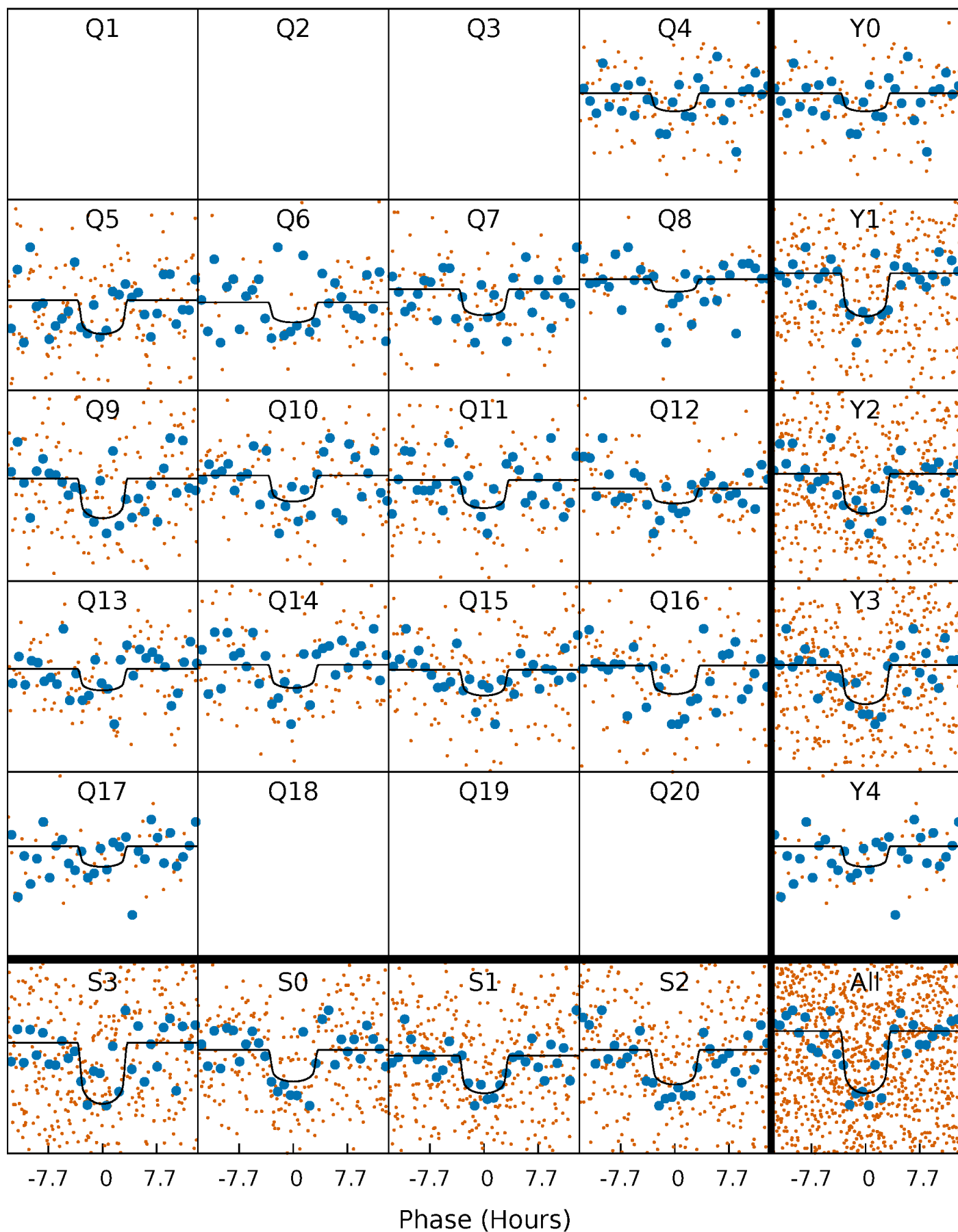
PDC Quarter-Phased Transit Curves

TCE 006950275-02 $P = 40.875407$ Days $T_0 = 158.386529$ (BKJD)



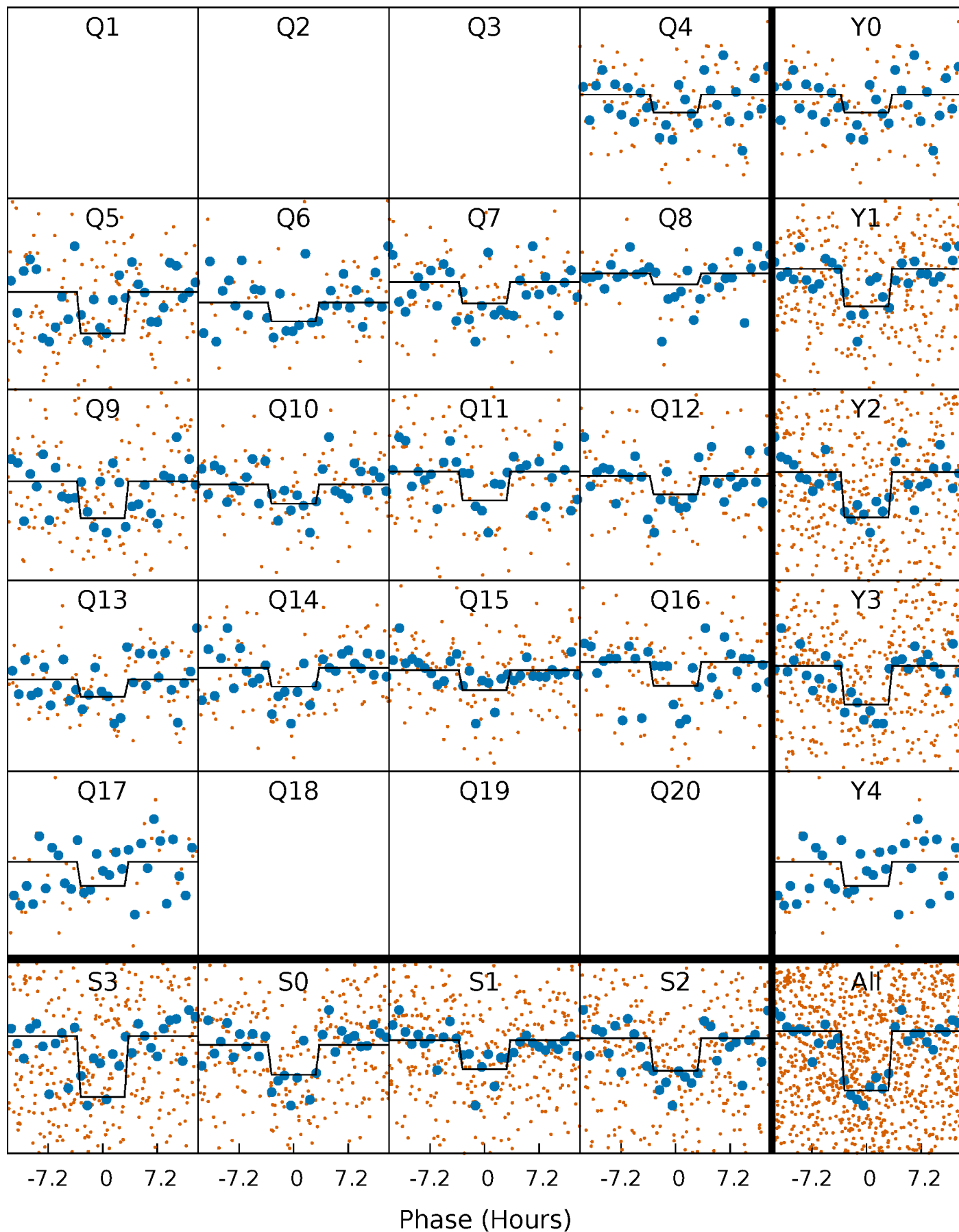
DV Quarter-Phased Transit Curves

TCE 006950275-02 P= 40.875407 Days $T_0=158.386529$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

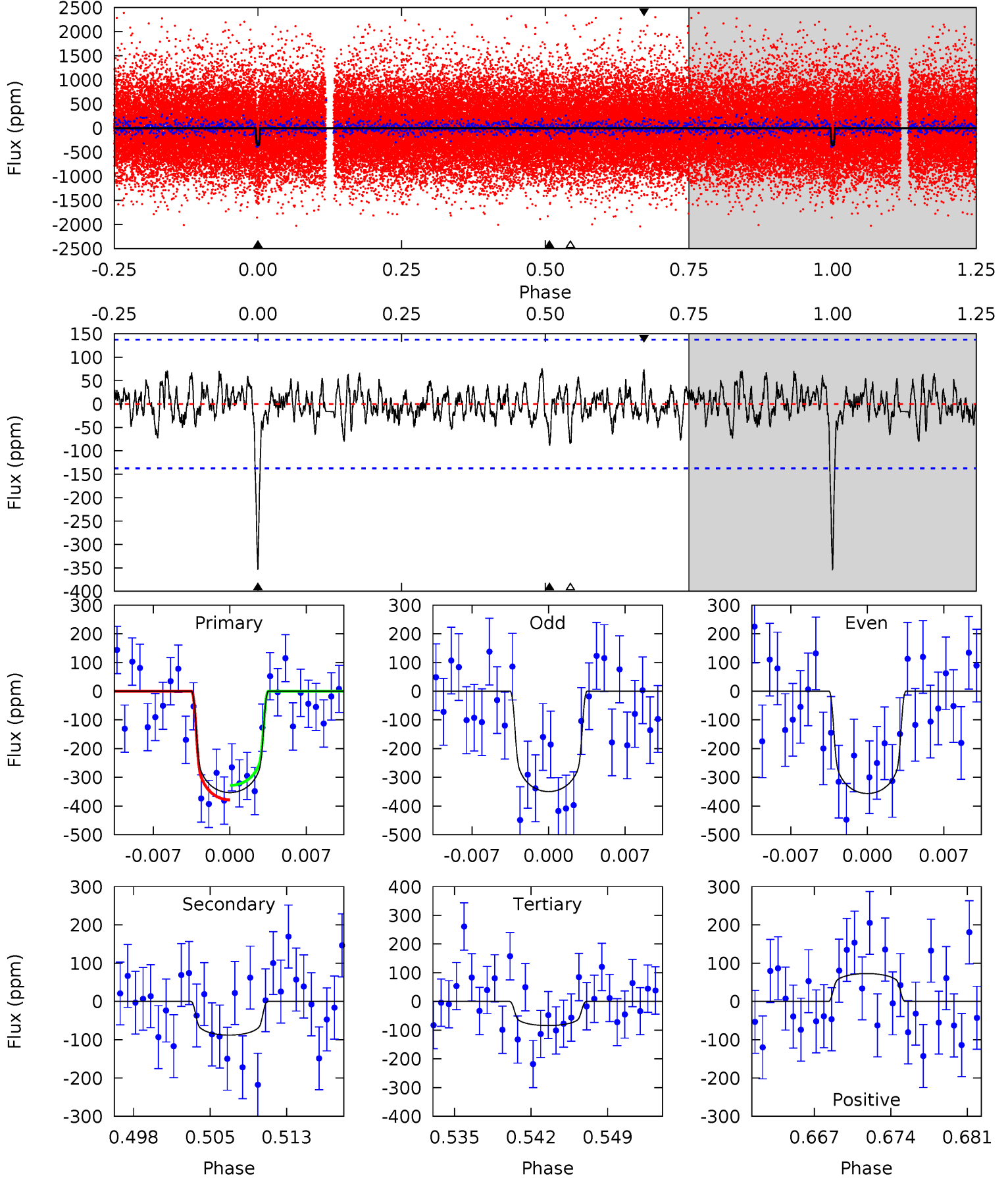
TCE 006950275-02 $P = 40.876148$ Days $T_0 = 158.369459$ (BKJD)



DV Model-Shift Uniqueness Test

006950275-02, P = 40.875407 Days, E = 158.386529 Days

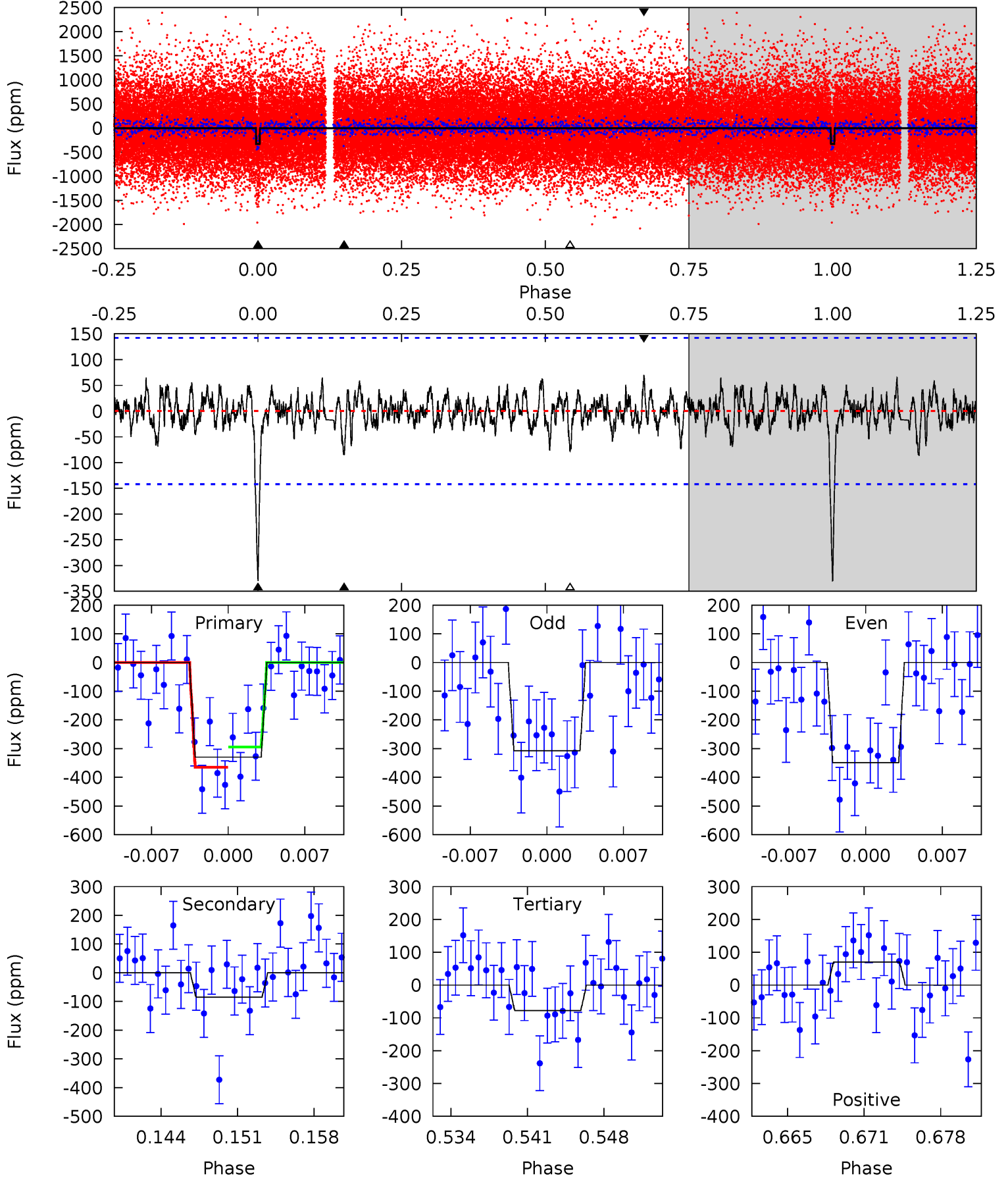
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.1	3.25	3.11	2.70	5.09	2.68	1.00	9.97	10.4	0.15	0.56	0.12	0.96	0.17	0.94



Alt Model-Shift Uniqueness Test

006950275-02, P = 40.876148 Days, E = 158.369459 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	3.07	2.80	2.52	5.10	2.70	0.85	9.04	9.32	0.27	0.54	0.74	1.09	0.18	1.26



Stellar Parameters For KIC 006950275

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6072^{+190}_{-232}	$4.510^{+0.054}_{-0.216}$	$-0.240^{+0.300}_{-0.300}$	$0.923^{+0.290}_{-0.097}$	$1.005^{+0.130}_{-0.143}$	$1.800^{+0.493}_{-0.921}$
	+3%/-4%	+1%/-5%	+125%/-125%	+31%/-11%	+13%/-14%	+27%/-51%
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 006950275-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-88 ± 27	$2.02^{+0.83}_{-0.79}$	760^{+56}_{-38}	4401^{+1027}_{-531}	617^{+1148}_{-326}
Alt.	-85 ± 28	$1.93^{+0.86}_{-0.75}$	760^{+57}_{-40}	4467^{+1000}_{-603}	632^{+1196}_{-349}

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 $A_{obs} \gg 1.0$

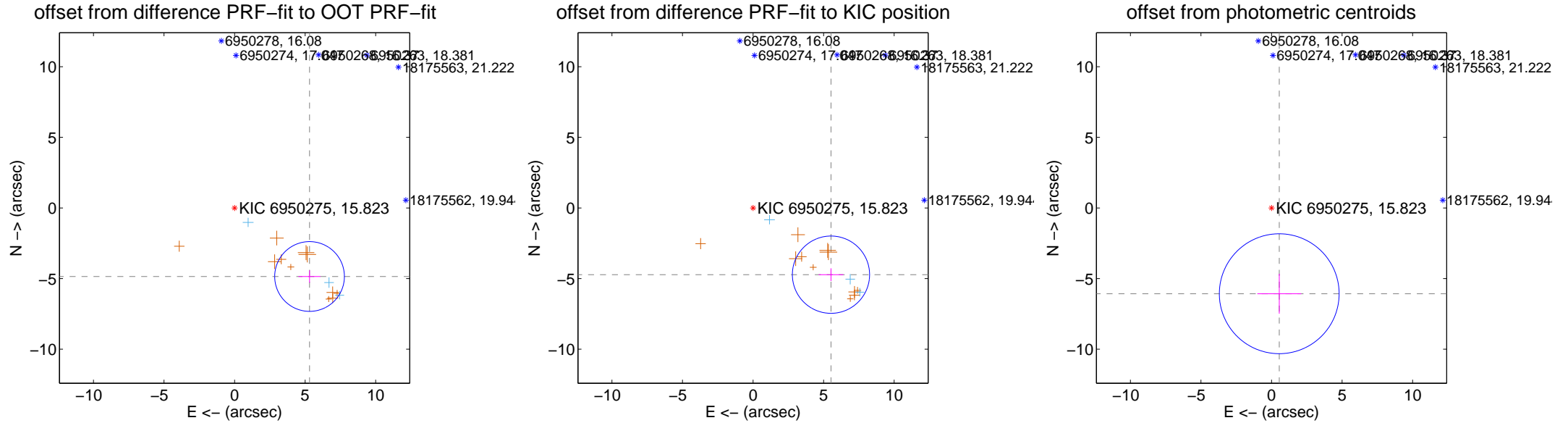
DV Centroid Data

Supplemental centroid analysis for 006950275-02. Kepler magnitude: 15.82. Transit SNR 10.28

There are 3 quarters with good PRF difference image offsets

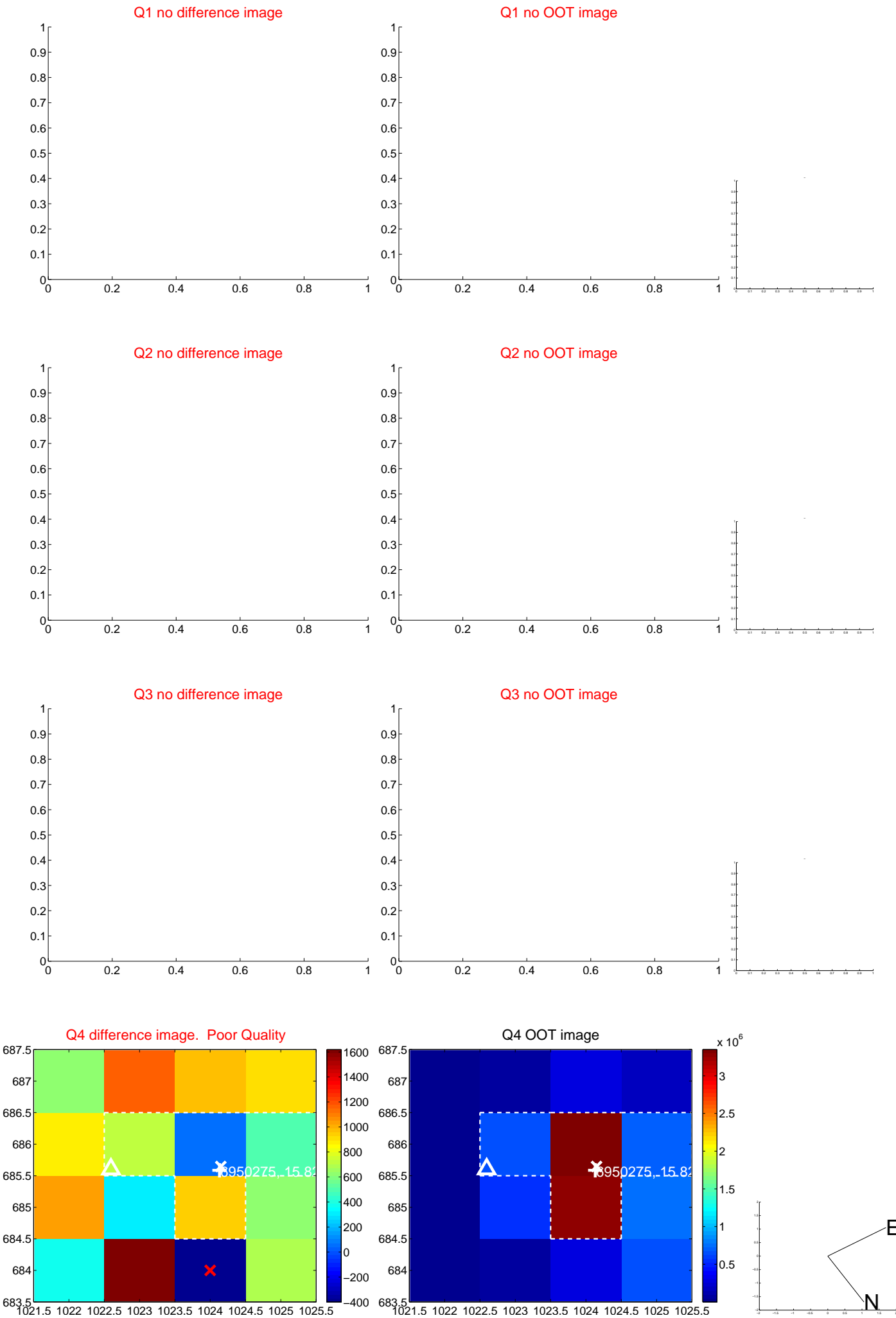
The direct PRF centroid is offset from the target star catalog position by about 0.24 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	7.195 ± 0.823	8.74	-5.313 ± 0.782	-4.852 ± 0.440
PRF-fit source offset from KIC position	7.267 ± 0.912	7.97	-5.522 ± 0.875	-4.724 ± 0.453
photometric centroid source offset	6.10 ± 1.41	4.31	-0.55 ± 1.56	-6.07 ± 1.41

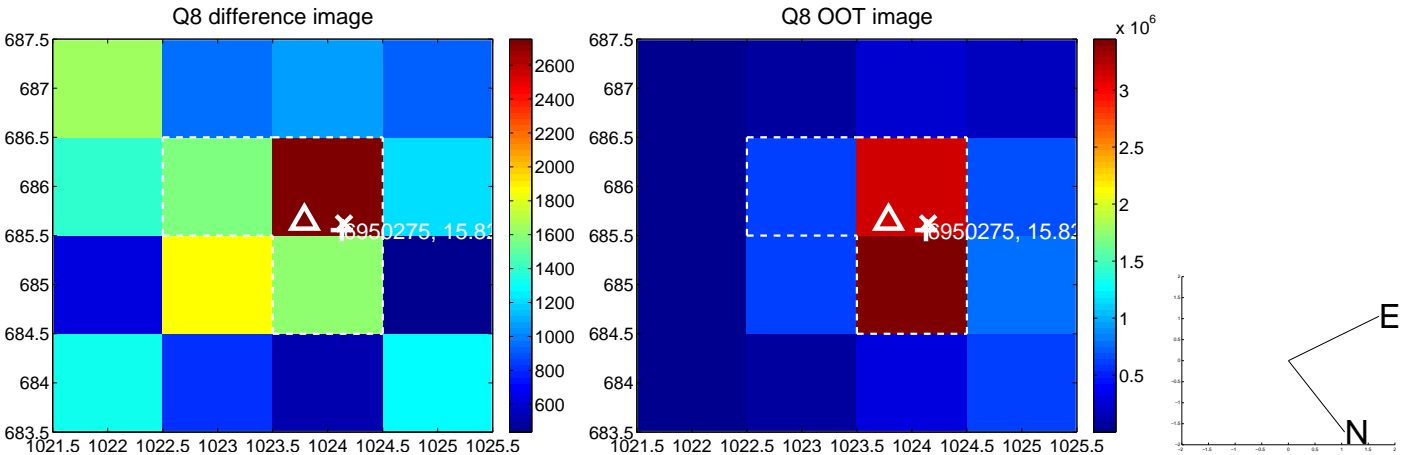
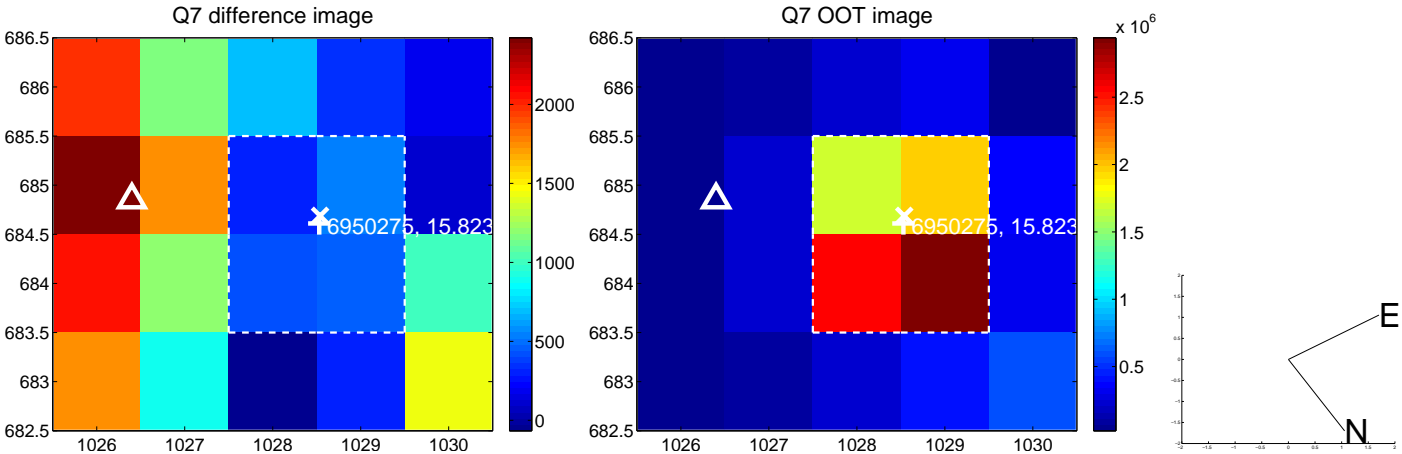
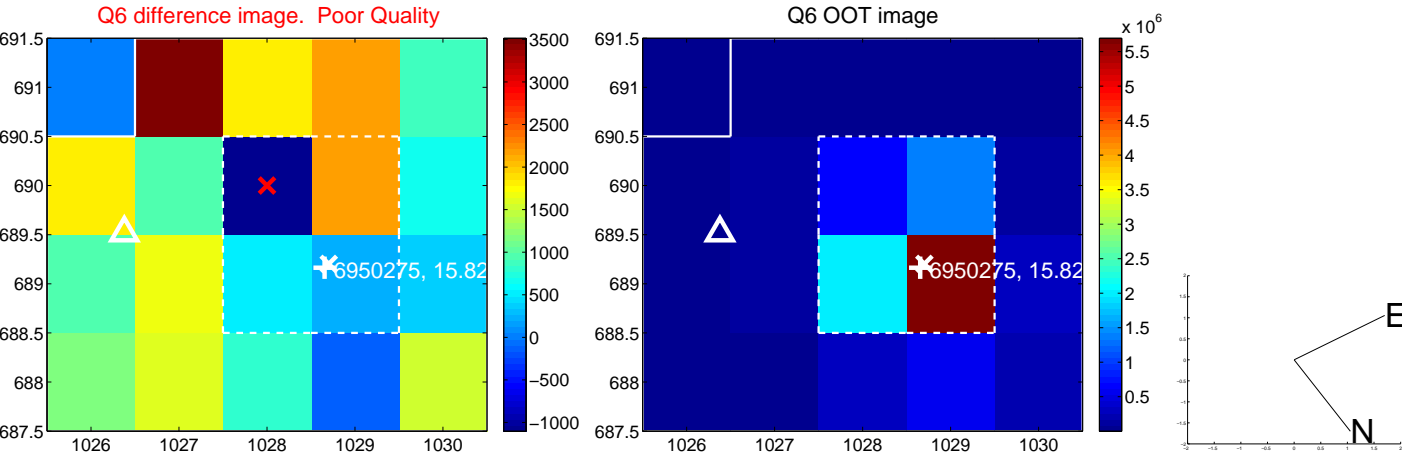
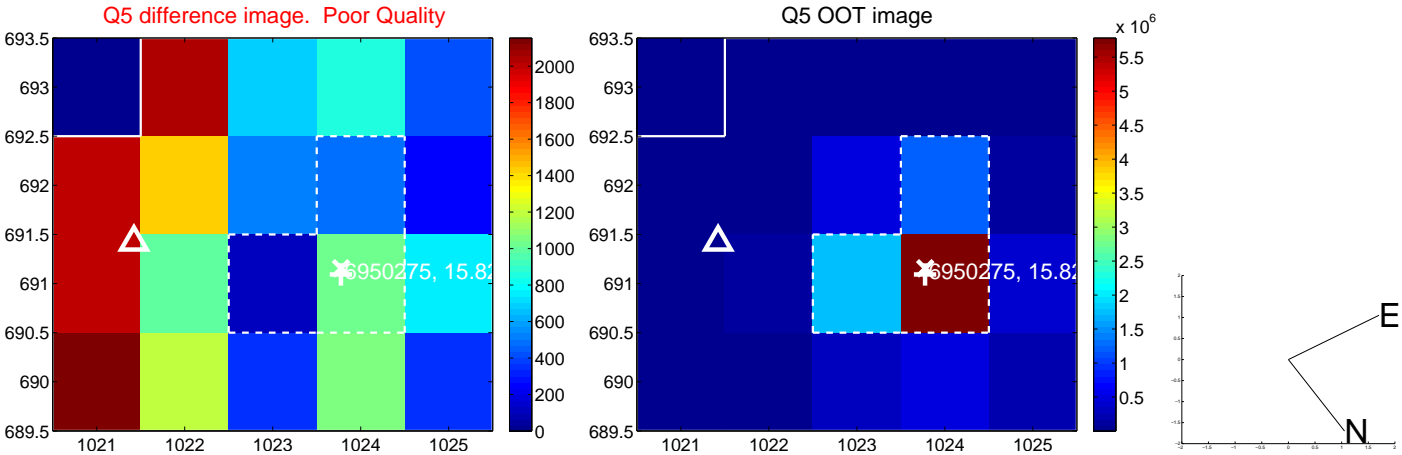


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

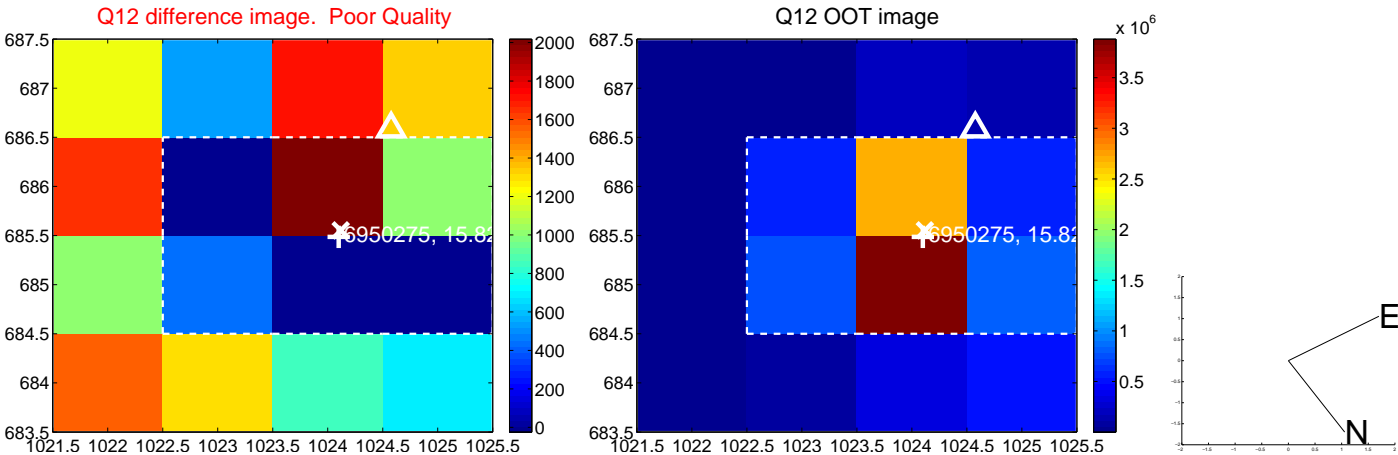
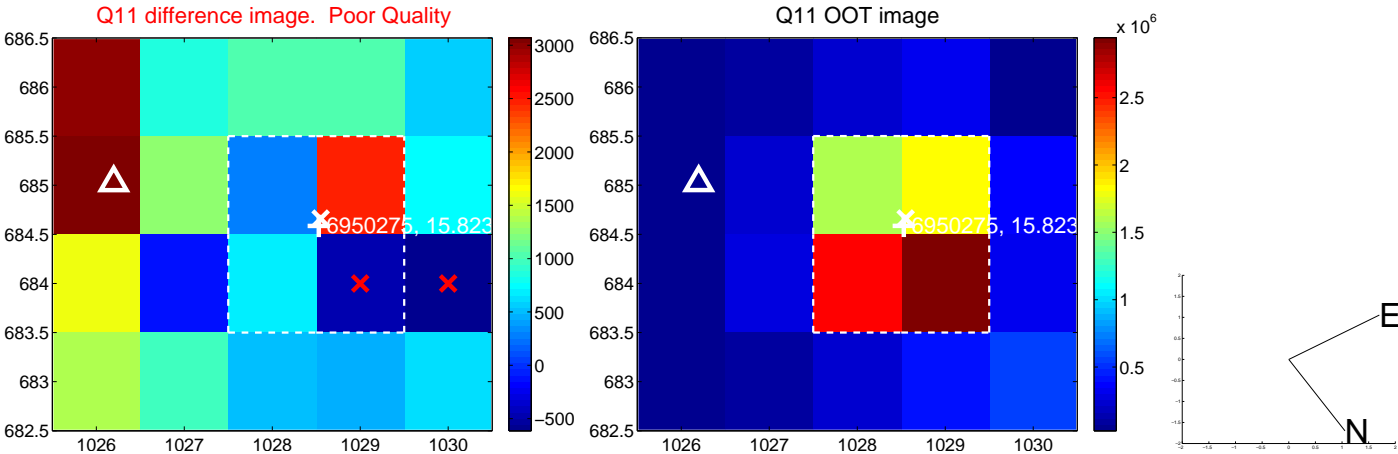
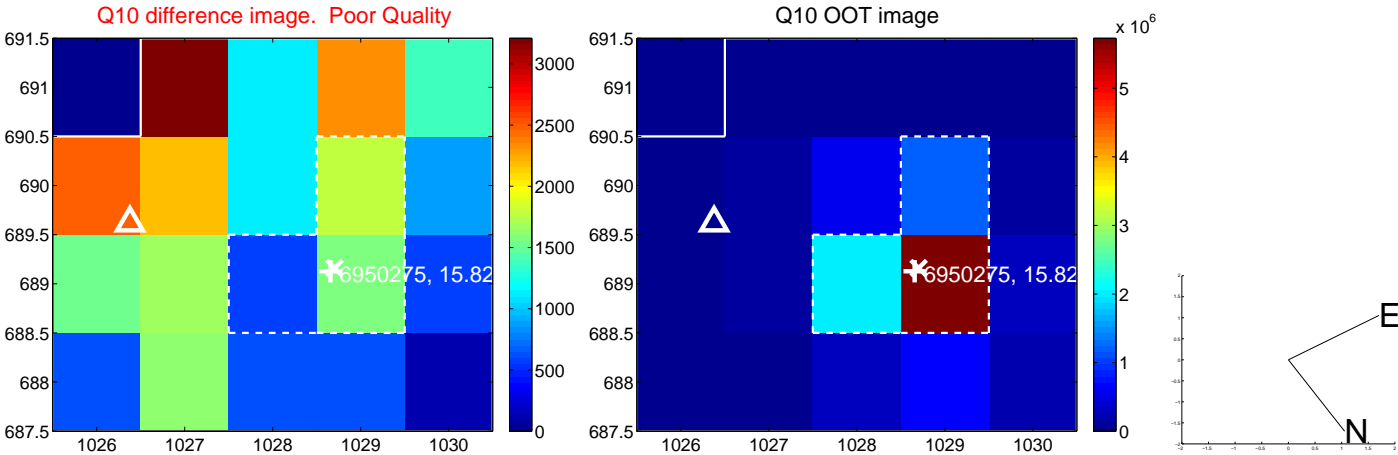
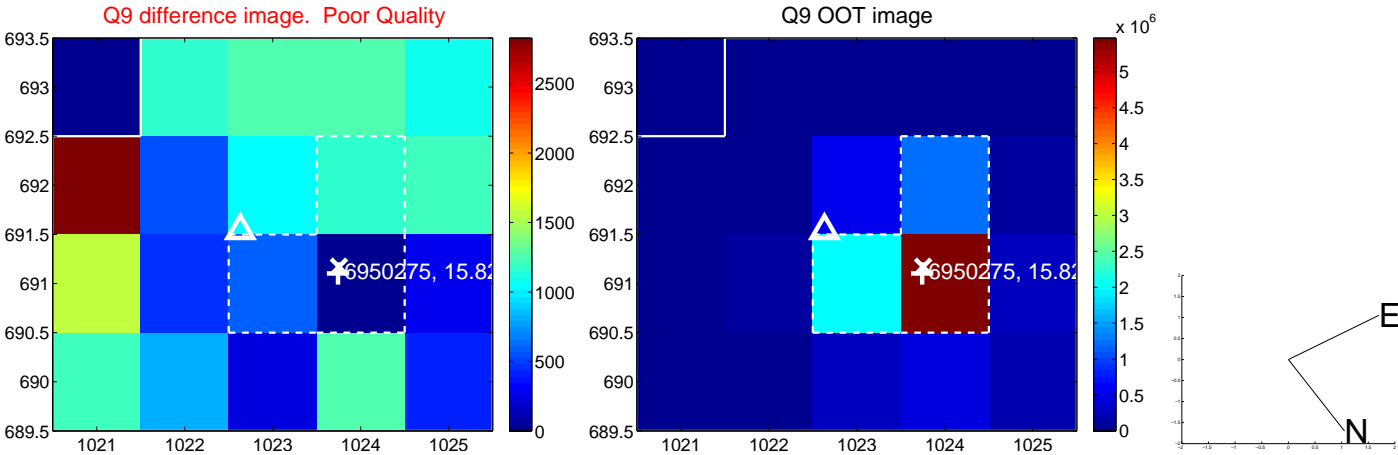
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



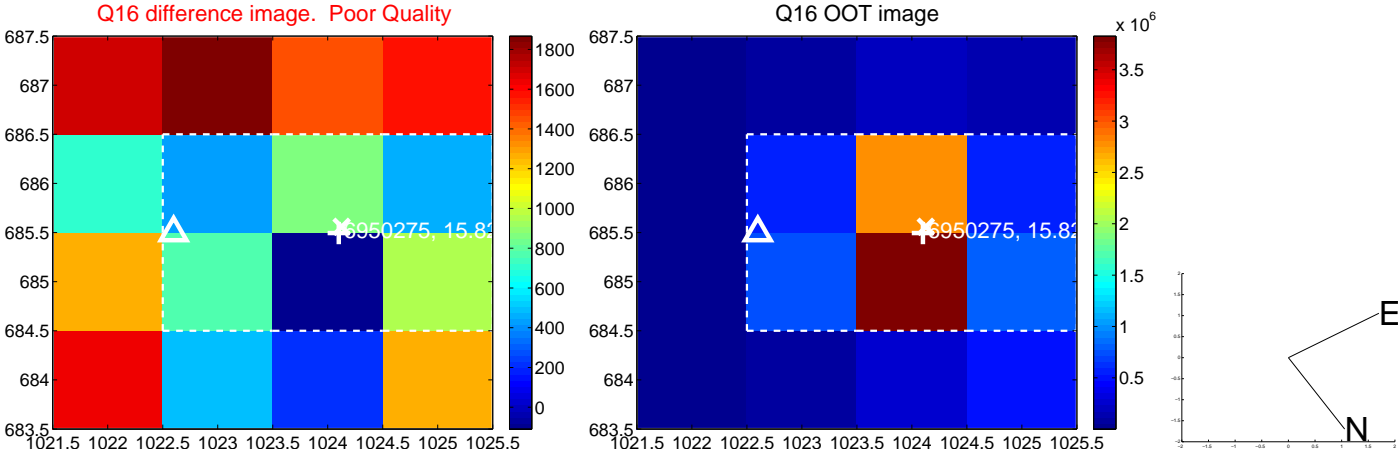
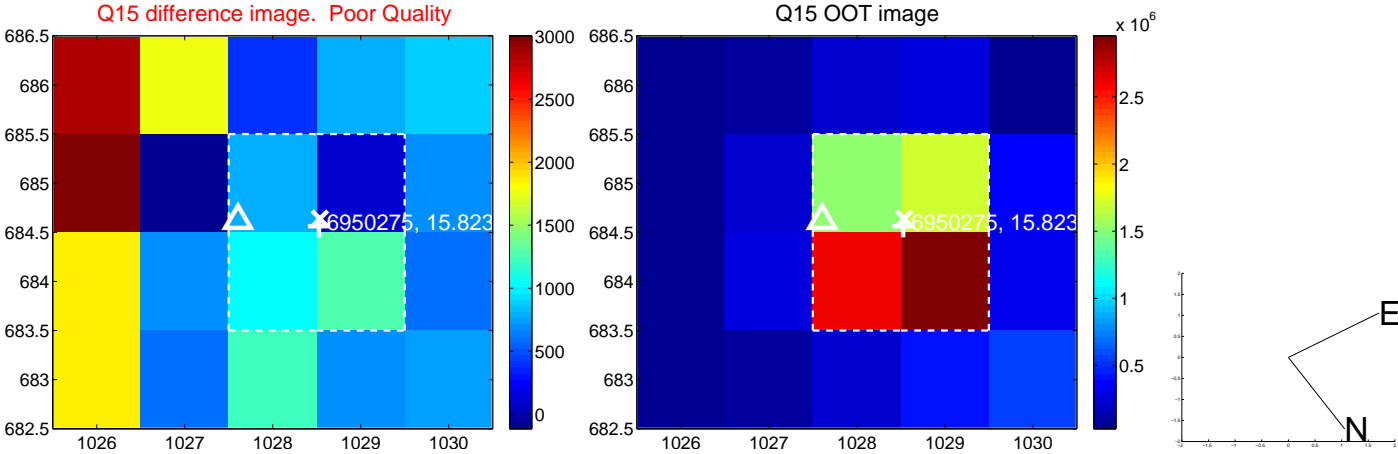
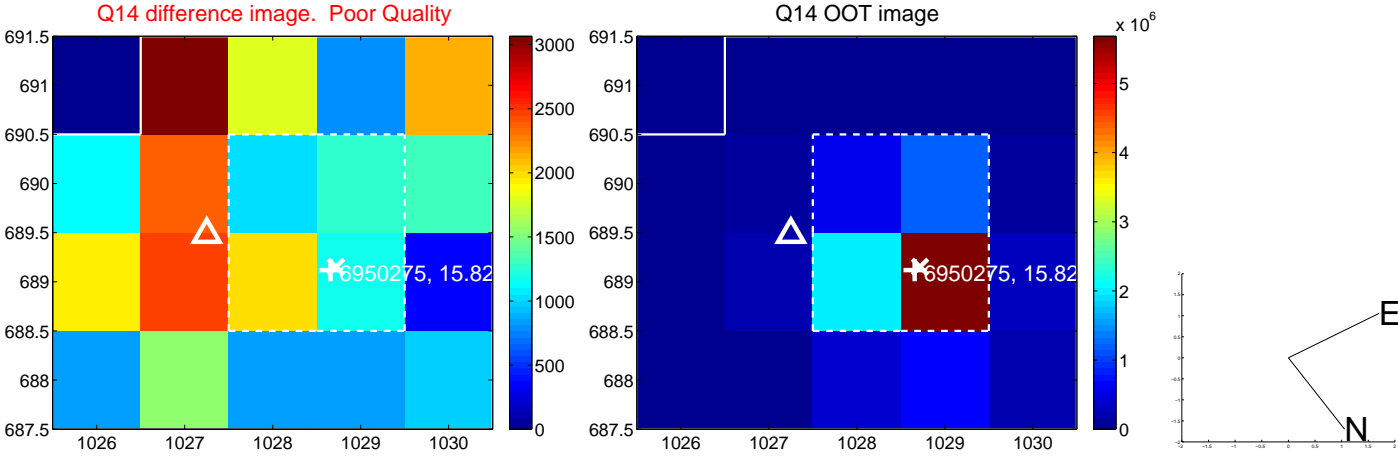
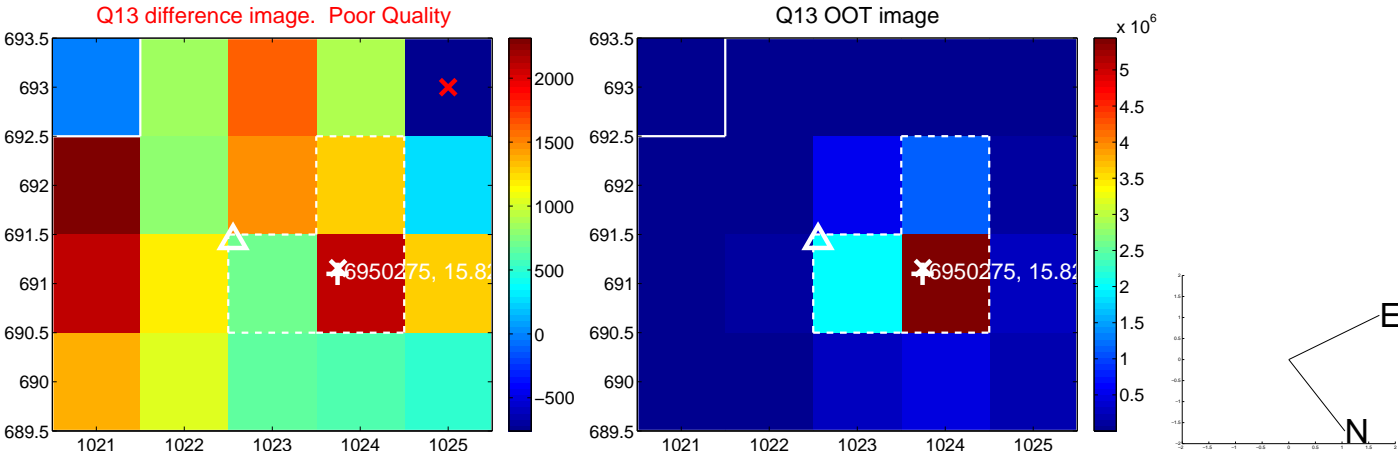
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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.



UKIRT Image

Declination

