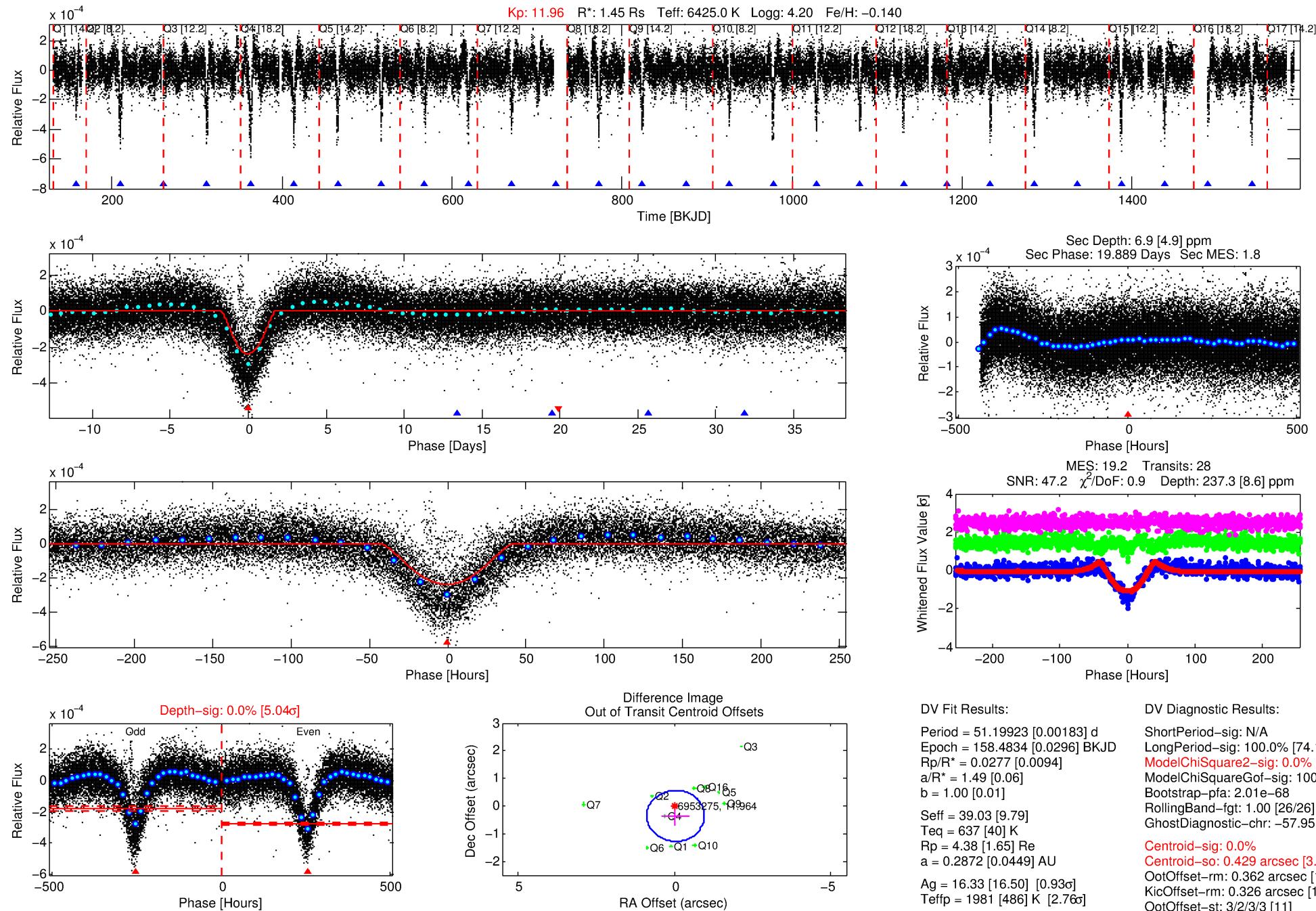


**WARNING: THIS DATA IS
SIMULATED, NOT OBSERVED**

DV One-Page Summary

KIC: 6953275 Candidate: 1 of 2 Period: 51.199 d



**WARNING: THIS DATA IS
SIMULATED, NOT OBSERVED**

Software Revision: svn+ssh://murzim/repo/soc/branches/integ/ksop-2320@61025 -- Date Generated: 11-Mar-2016 12:30:00 Z

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

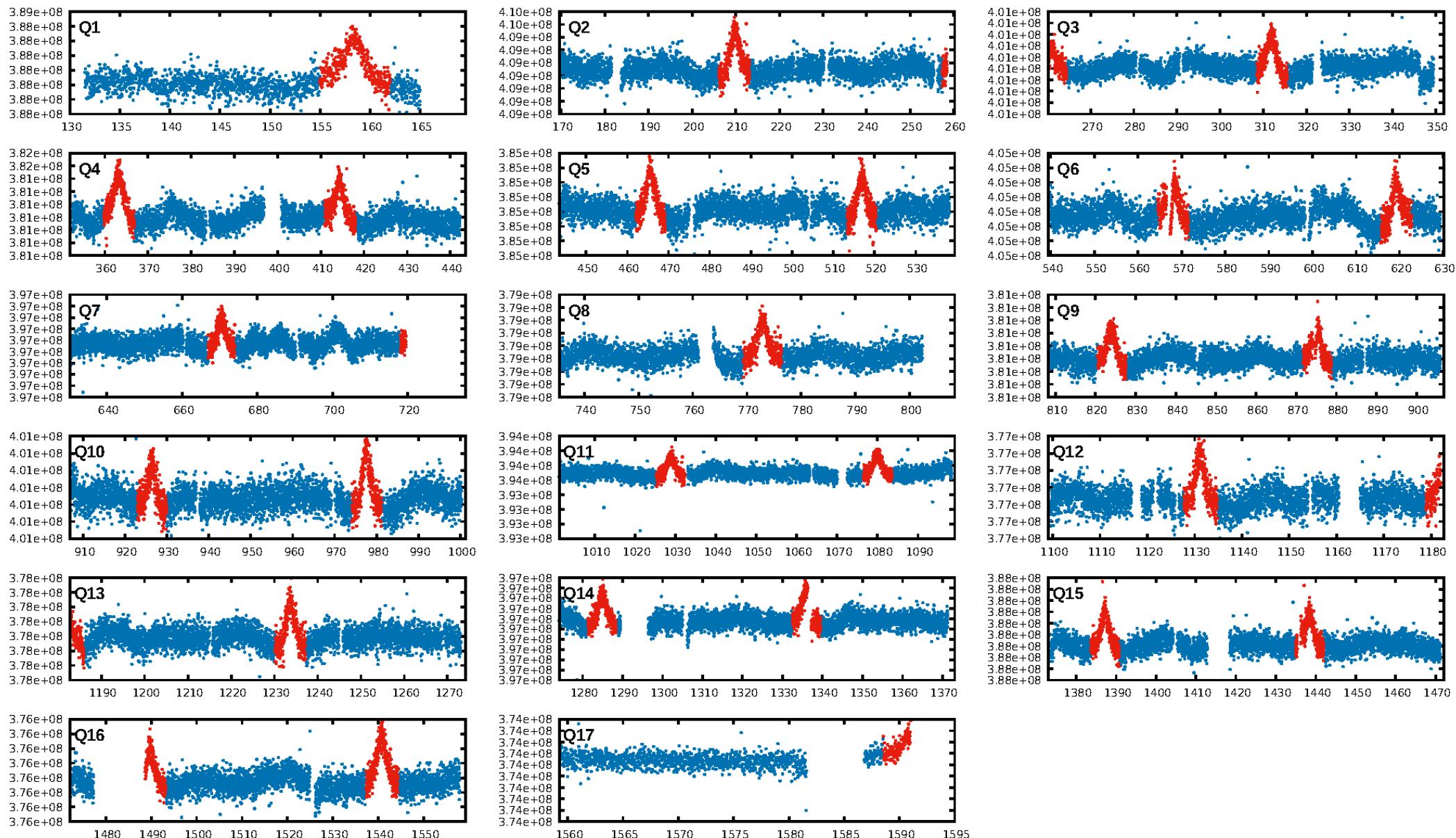
DV Fit Results:

Period = 51.19923 [0.00183] d
Epoch = 158.4834 [0.0296] BKJD
Rp/R* = 0.0277 [0.0094]
a/R* = 1.49 [0.06]
b = 1.00 [0.01]
Seff = 39.03 [9.79]
Teq = 637 [40] K
Rp = 4.38 [1.65] Re
a = 0.2872 [0.0449] AU
Ag = 16.33 [16.50] [0.93σ]
Teffp = 1981 [486] K [2.76σ]

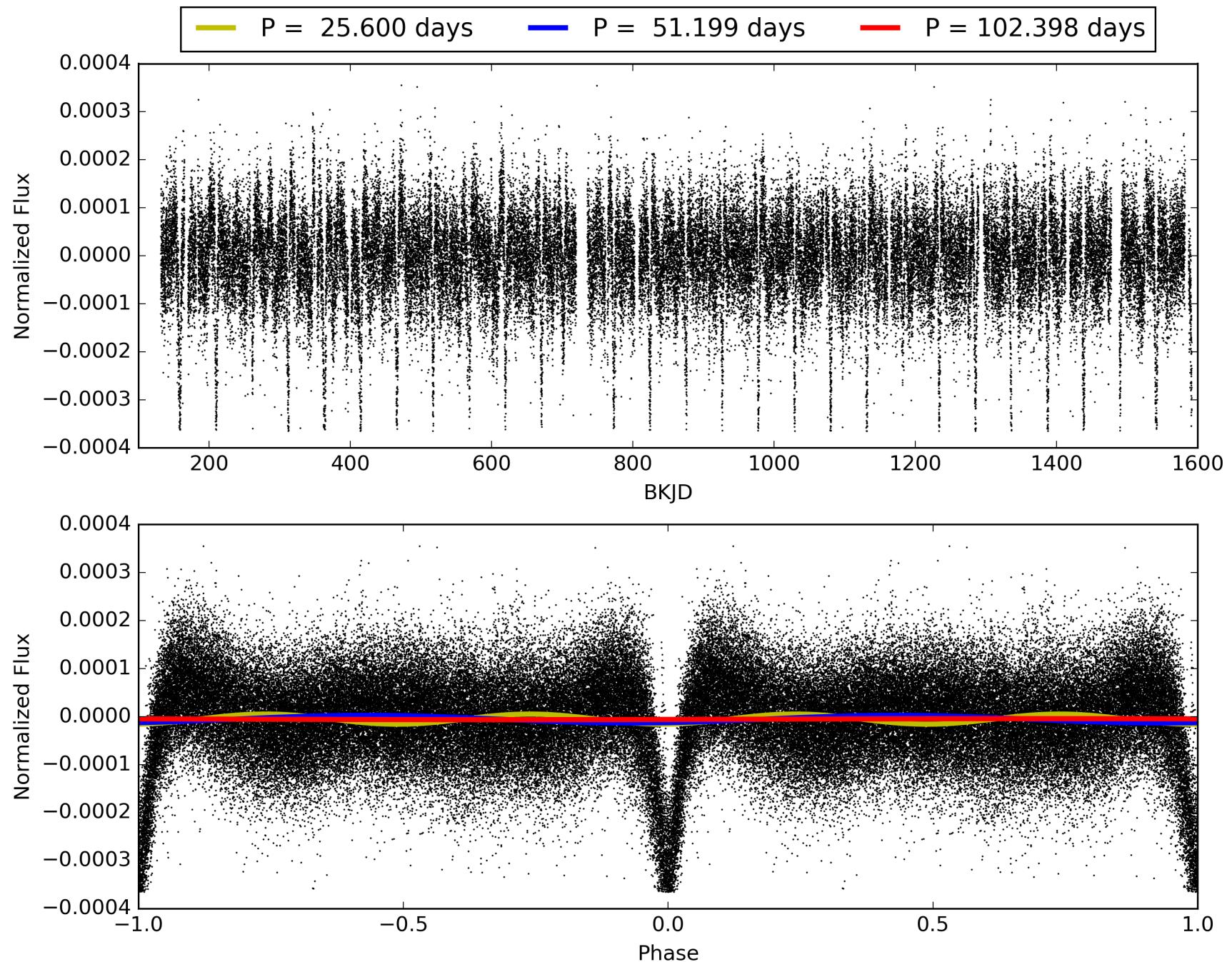
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [74.17σ]
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 2.01e-68
RollingBand-fgt: 1.00 [26/26]
GhostDiagnostic-chr: -57.95
Centroid-sig: 0.0%
Centroid-so: 0.429 arcsec [3.18σ]
OutOffset-rm: 0.362 arcsec [1.18σ]
KicOffset-rm: 0.326 arcsec [1.11σ]
OutOffset-st: 3/2/3/3 [11]
KicOffset-st: 3/2/3/3 [11]
DiffImageQuality-fgm: 0.82 [9/11]
DiffImageOverlap-fno: 1.00 [11/11]

TCE 006953275-01, PDC Light Curves

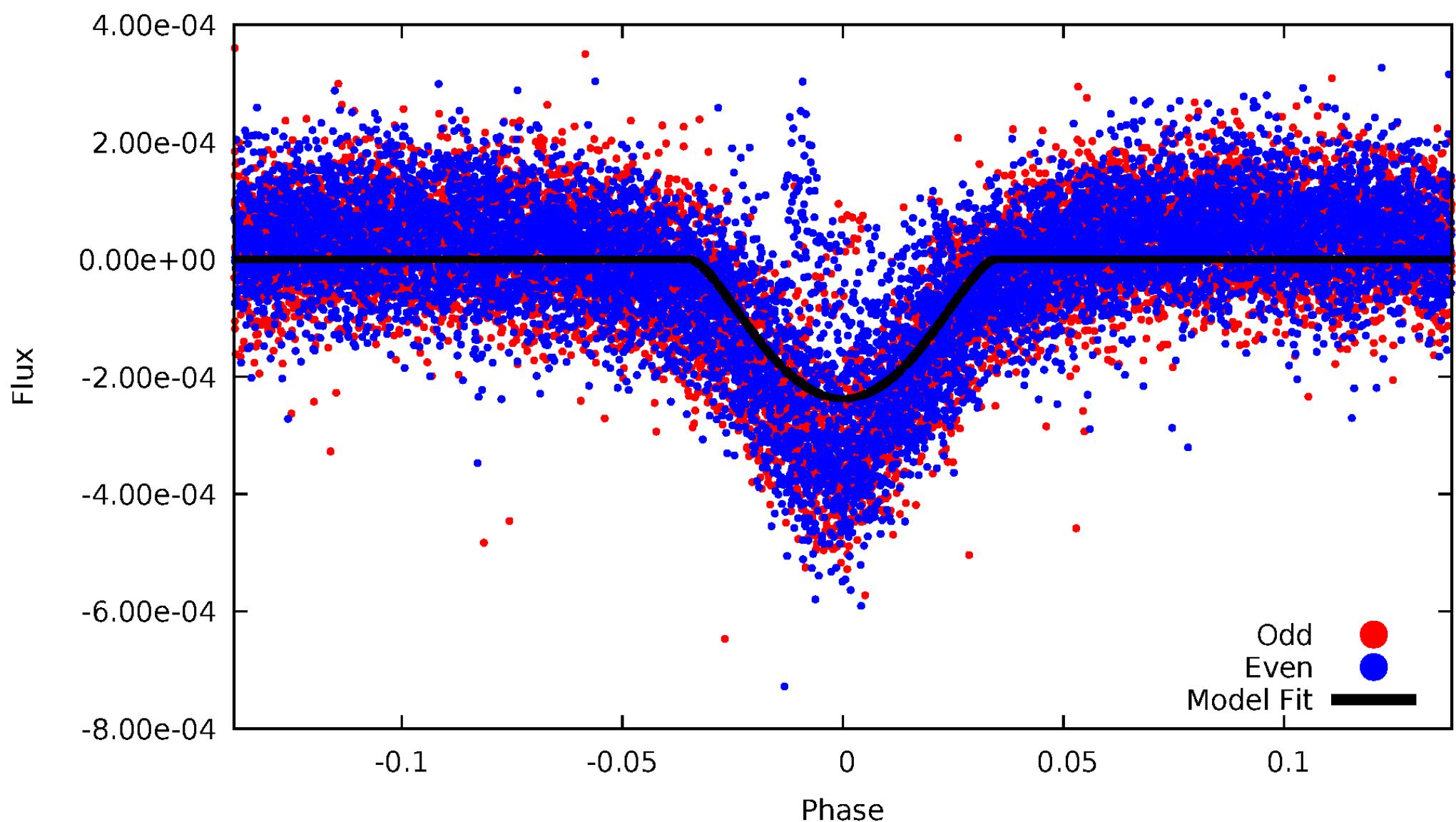


TCE 006953275-01



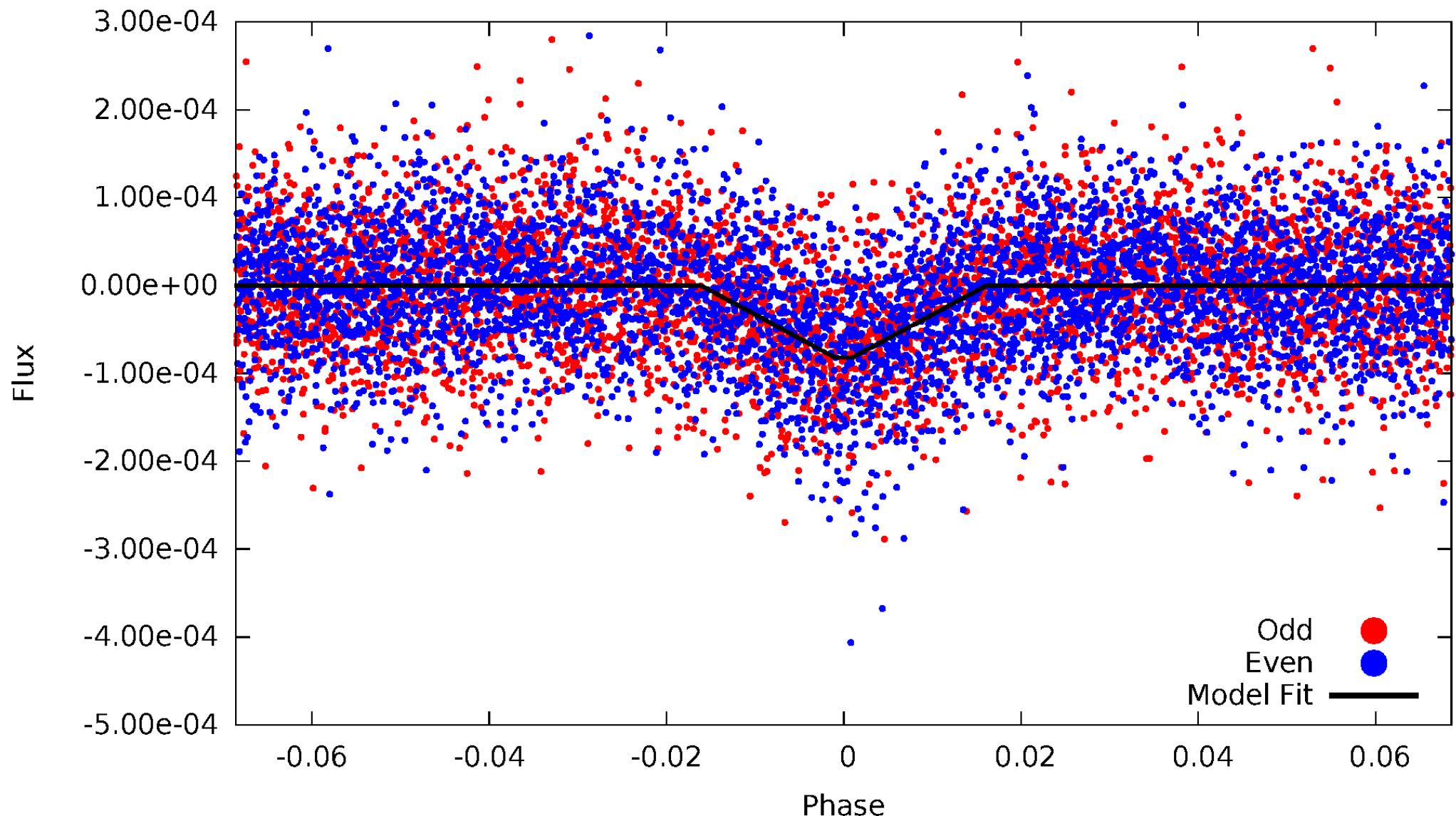
DV Odd/Even

TCE 006953275-01

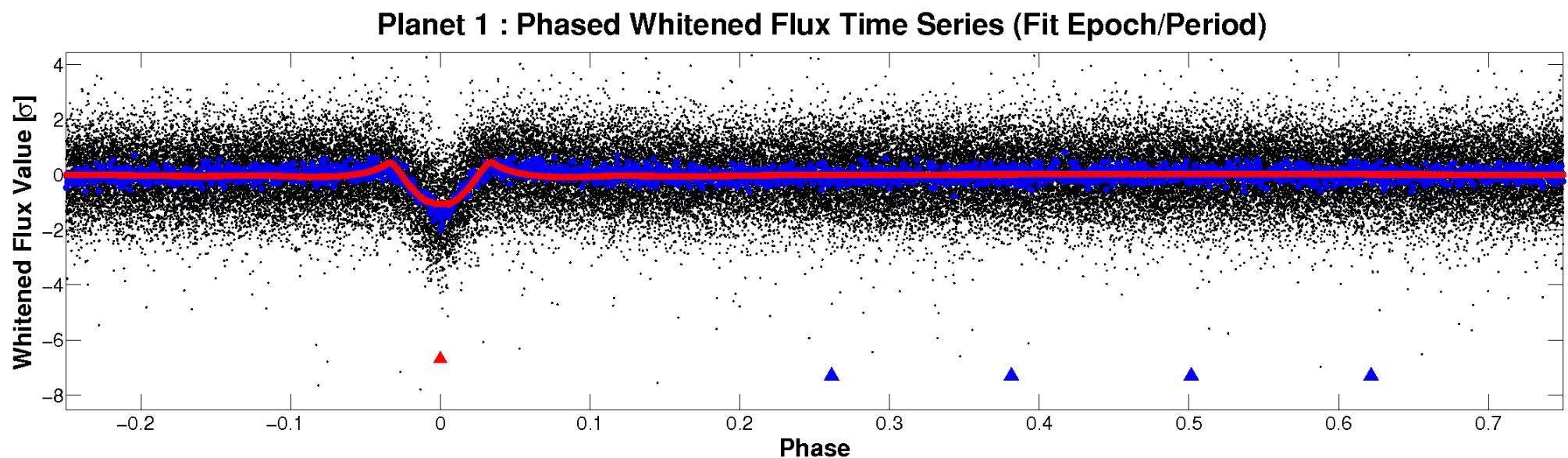
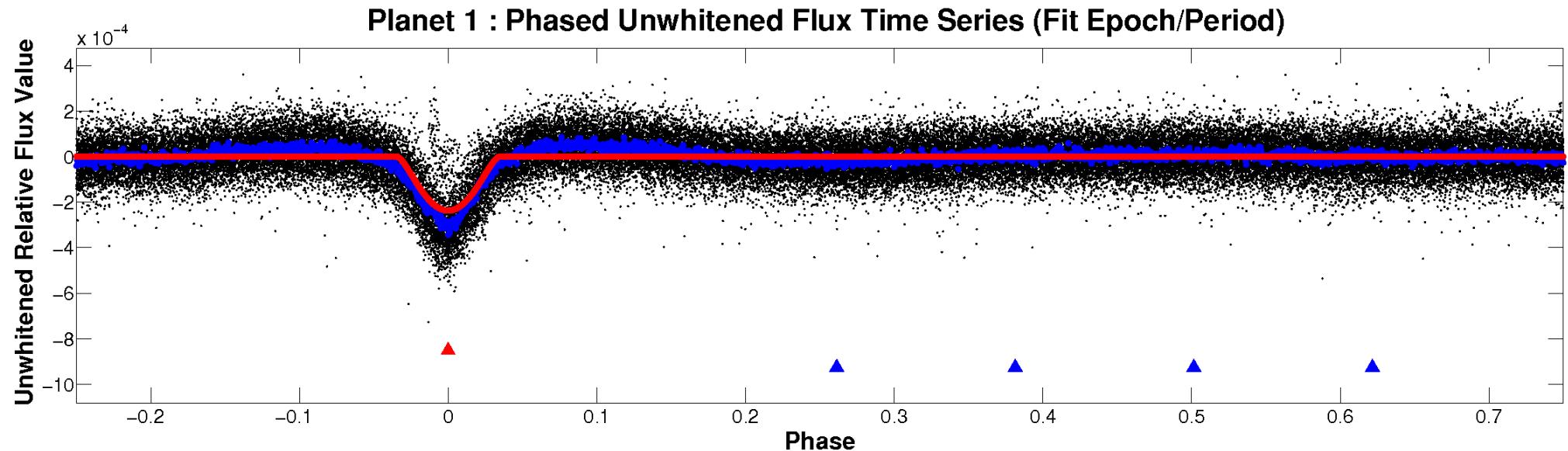


ALT Odd/Even

TCE 006953275-01

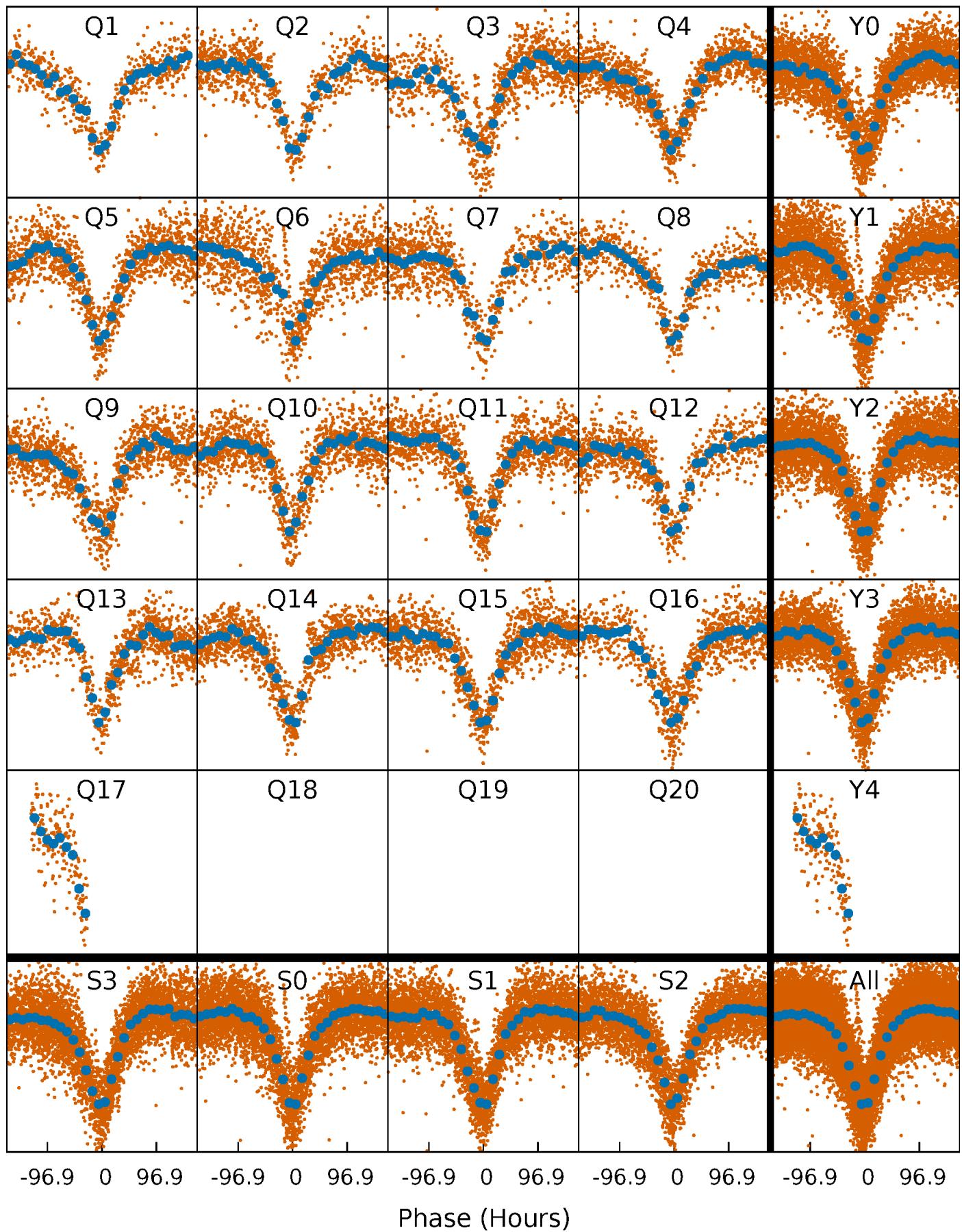


Non-Whitened Vs. Whitened Light Curve



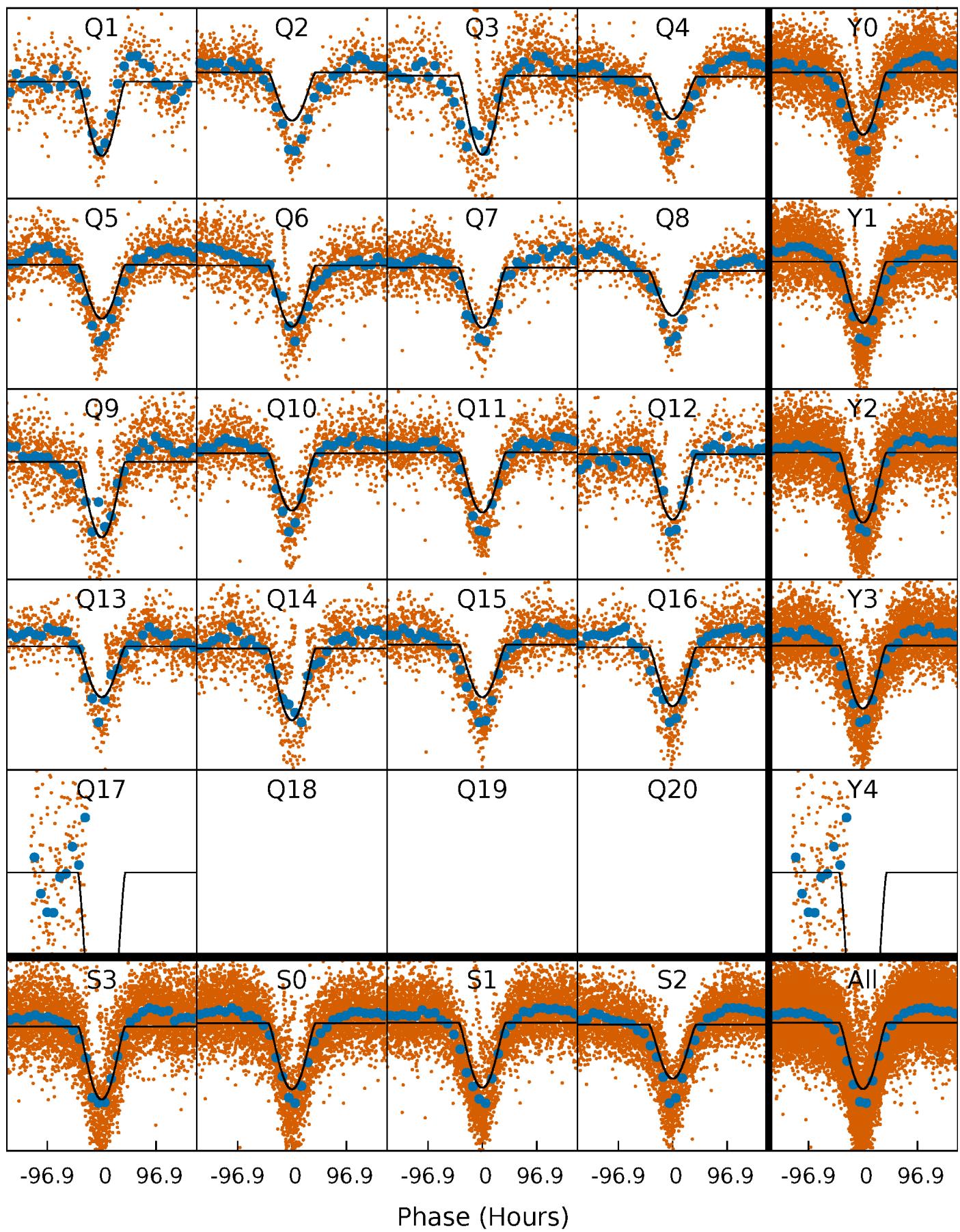
PDC Quarter-Phased Transit Curves

TCE 006953275-01 $P = 51.199226$ Days $T_0 = 158.483396$ (BKJD)



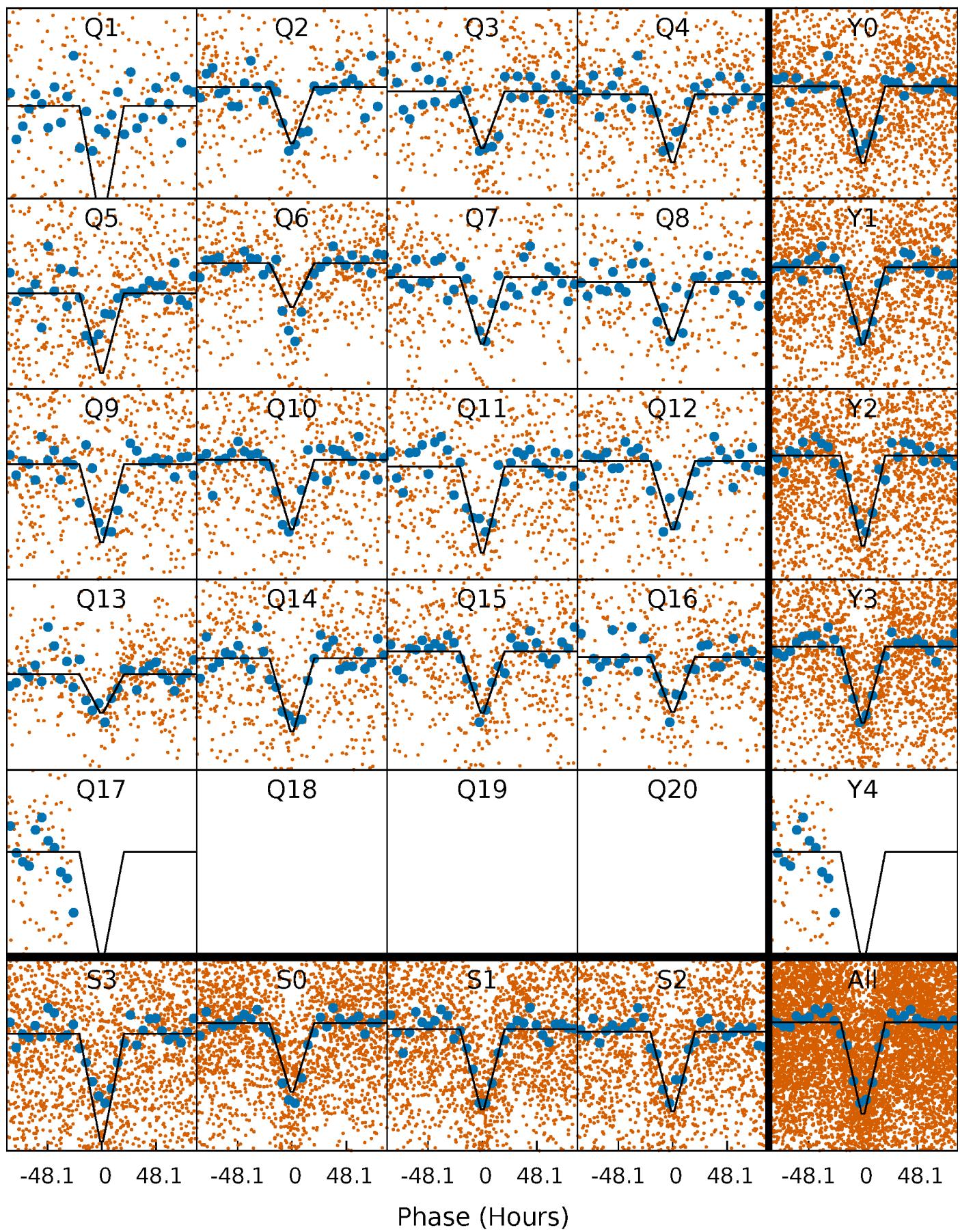
DV Quarter-Phased Transit Curves

TCE 006953275-01 P= 51.199226 Days $T_0=158.483396$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

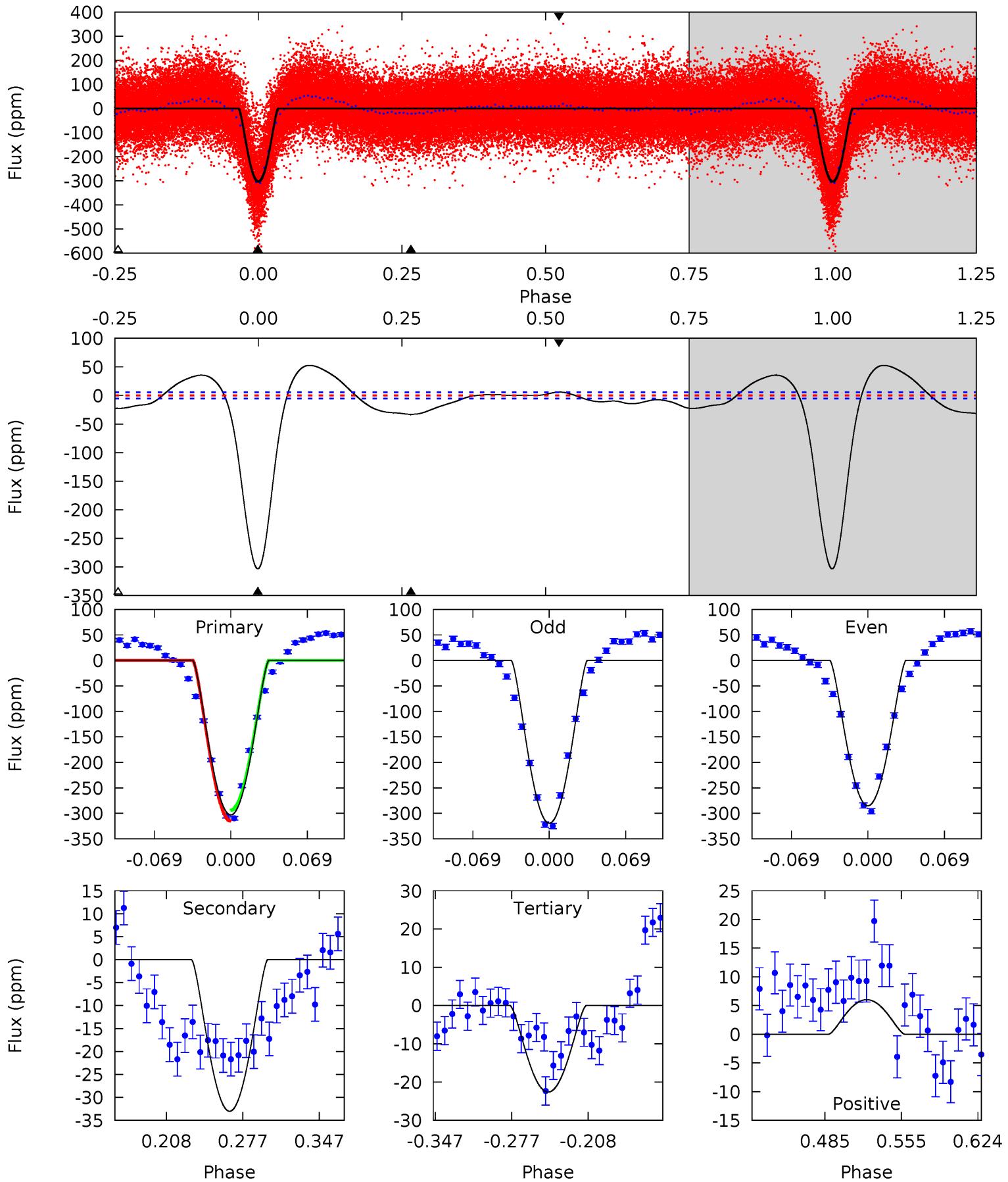
TCE 006953275-01 P= 51.199205 Days $T_0=158.505968$ (BKJD)



DV Model-Shift Uniqueness Test

006953275-01, P = 51.199226 Days, E = 107.284170 Days

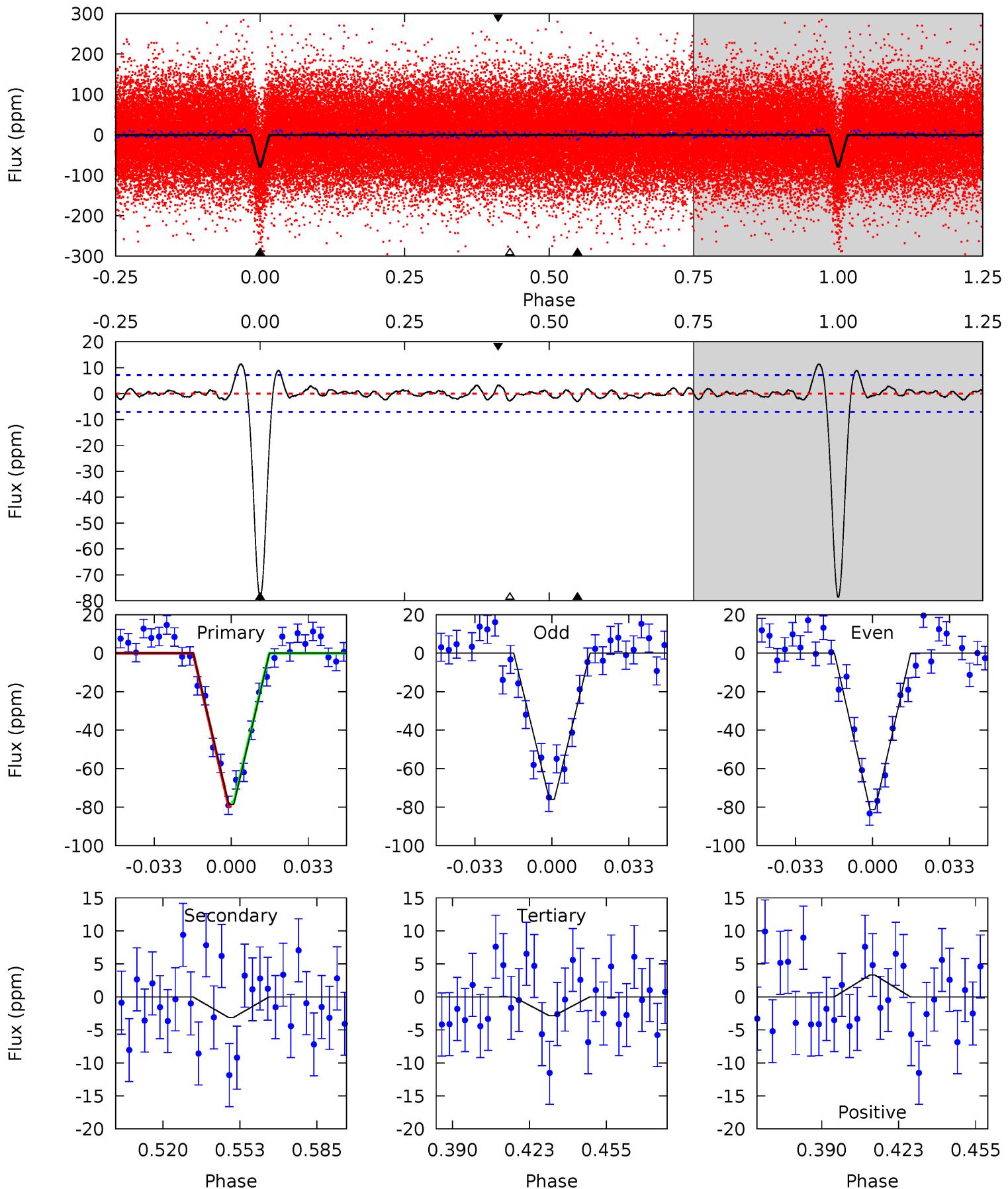
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
257.4	28.0	19.2	5.11	4.64	1.82	16.6	238.2	252.3	8.82	22.9	14.7	0.89	0.15	8.90



Alt Model-Shift Uniqueness Test

006953275-01, $P = 51.199205$ Days, $E = 107.306763$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
52.7	2.09	1.91	2.22	4.80	2.14	1.18	50.8	50.5	0.18	-0.13	1.78	0.96	0.13	0.70



Stellar Parameters For KIC 006953275

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R(R_{\odot})$	$M(M_{\odot})$	$p_{\star}(\text{g}\cdot\text{cm}^{-3})$
	6425^{+70}_{-77}	$4.195^{+0.143}_{-0.117}$	$-0.140^{+0.150}_{-0.150}$	$1.452^{+0.243}_{-0.243}$	$1.206^{+0.090}_{-0.125}$	$0.555^{+0.374}_{-0.190}$
	$+1\%/-1\%$	$+3\%/-3\%$	$+107\%/-107\%$	$+17\%/-17\%$	$+7\%/-10\%$	$+67\%/-34\%$
Source	SPE68	SPE68	SPE68	DSEP		

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

Secondary Eclipse Parameters for KIC 006953275-01 / KOI

Detrend	Depth (ppm)	$R_p(R_{\oplus})$	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-33 ± 1	$4.22^{+1.57}_{-1.46}$	889^{+37}_{-43}	3457^{+506}_{-304}	84^{+112}_{-39}
Alt.	-3 ± 1	$1.73^{+1.34}_{-1.08}$	891^{+41}_{-42}	3132^{+1204}_{-510}	45^{+263}_{-34}

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 $A_{obs} \gg 1.0$

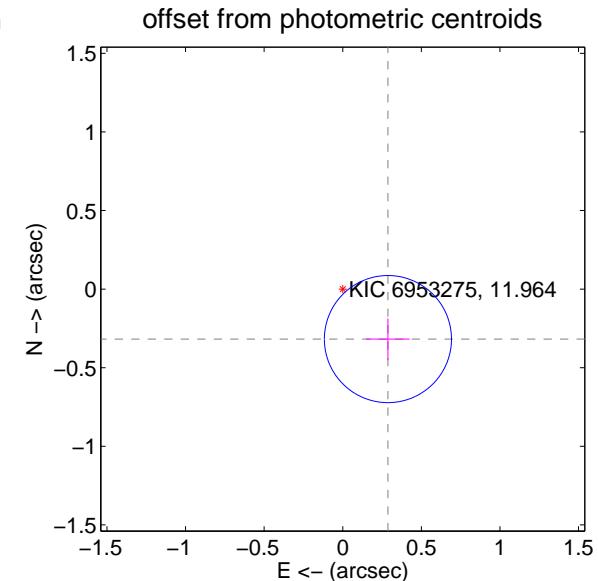
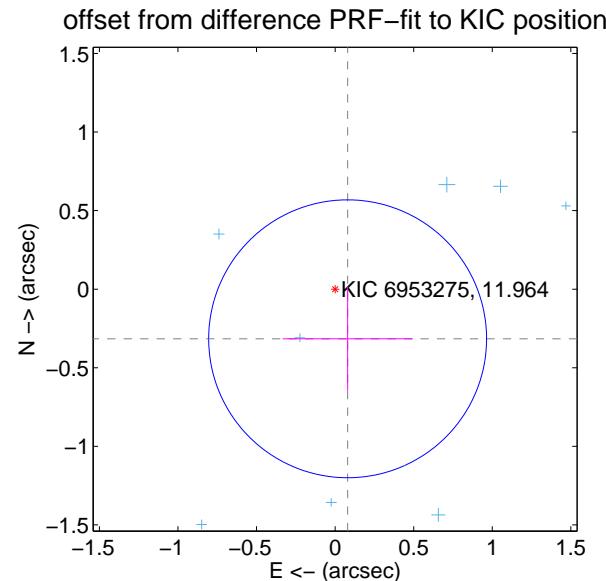
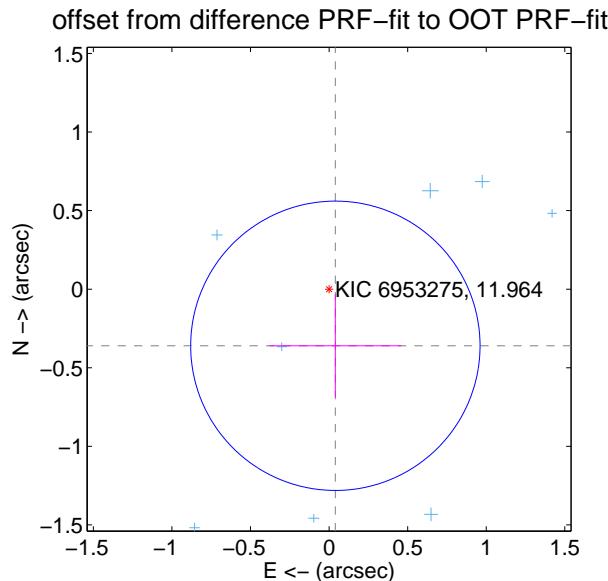
DV Centroid Data

Supplemental centroid analysis for 006953275-01. Kepler magnitude: 11.96. Transit SNR 47.17

There are 9 quarters with good PRF difference image offsets

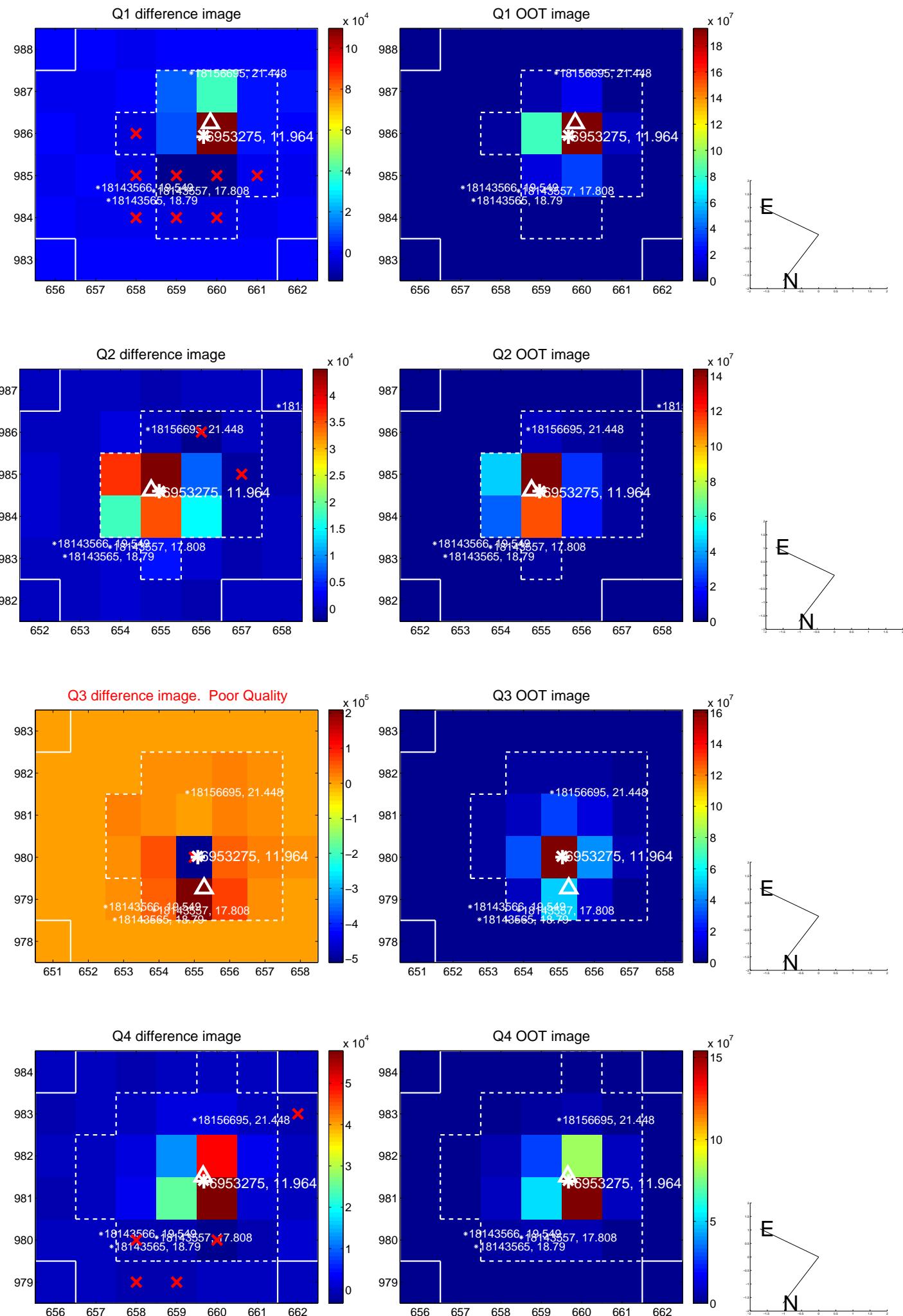
The direct PRF centroid is offset from the target star catalog position by about 0.08 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.362 ± 0.307	1.18	-0.040 ± 0.420	-0.360 ± 0.326
PRF-fit source offset from KIC position	0.326 ± 0.295	1.11	-0.080 ± 0.414	-0.316 ± 0.331
photometric centroid source offset	0.43 ± 0.13	3.18	-0.29 ± 0.14	-0.32 ± 0.13

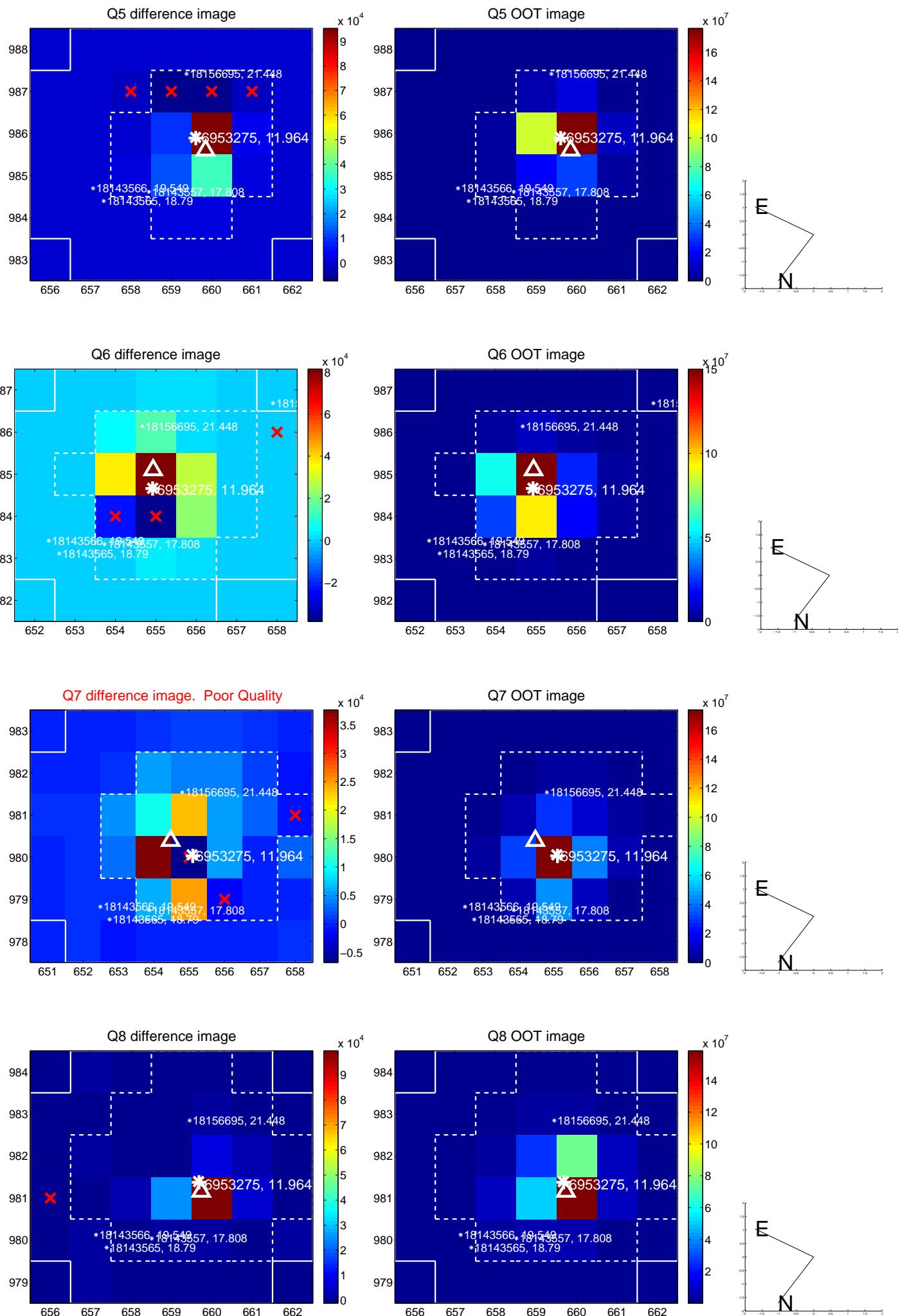


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

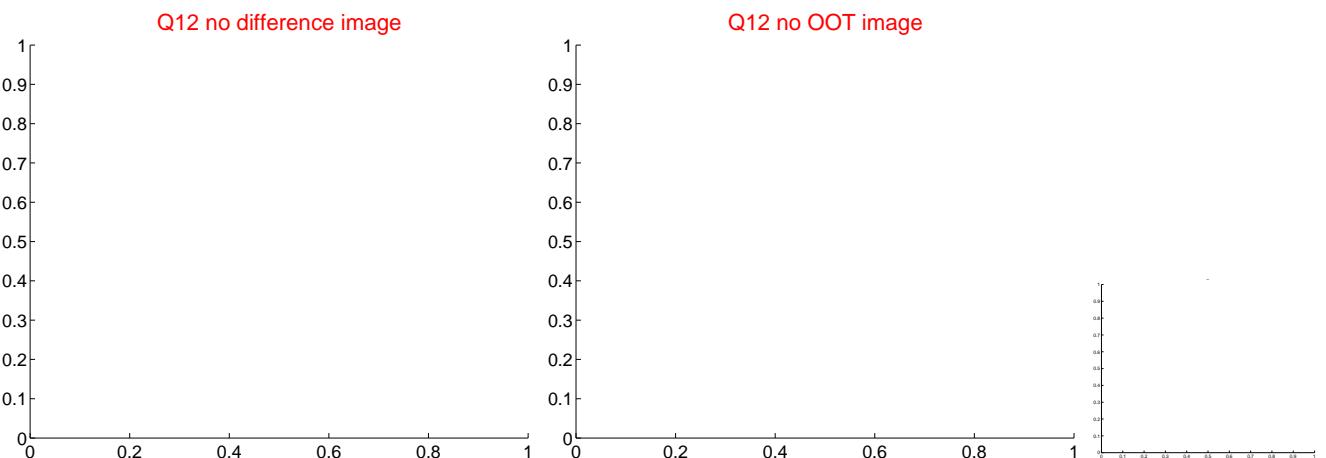
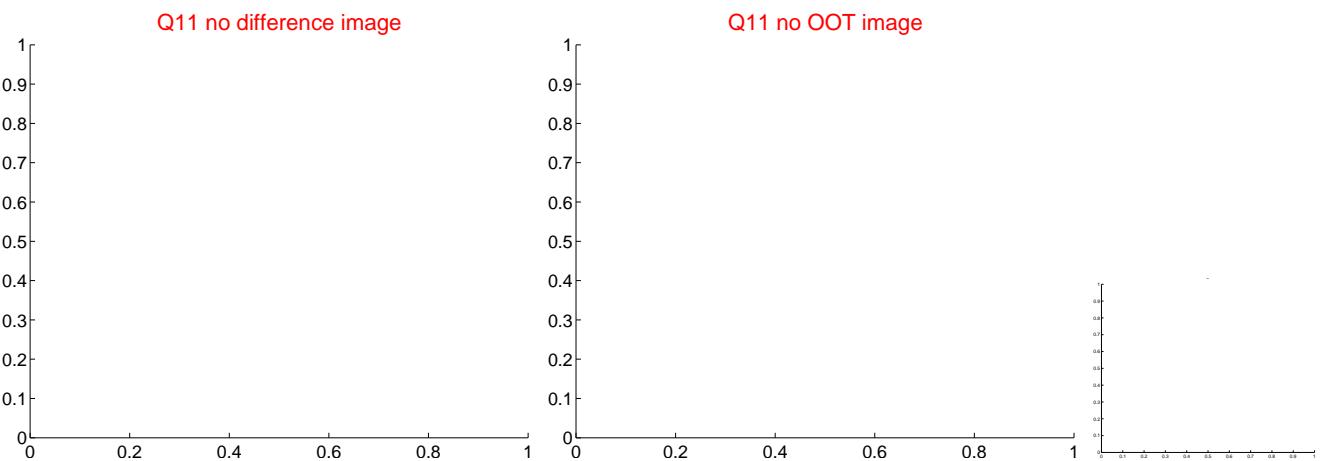
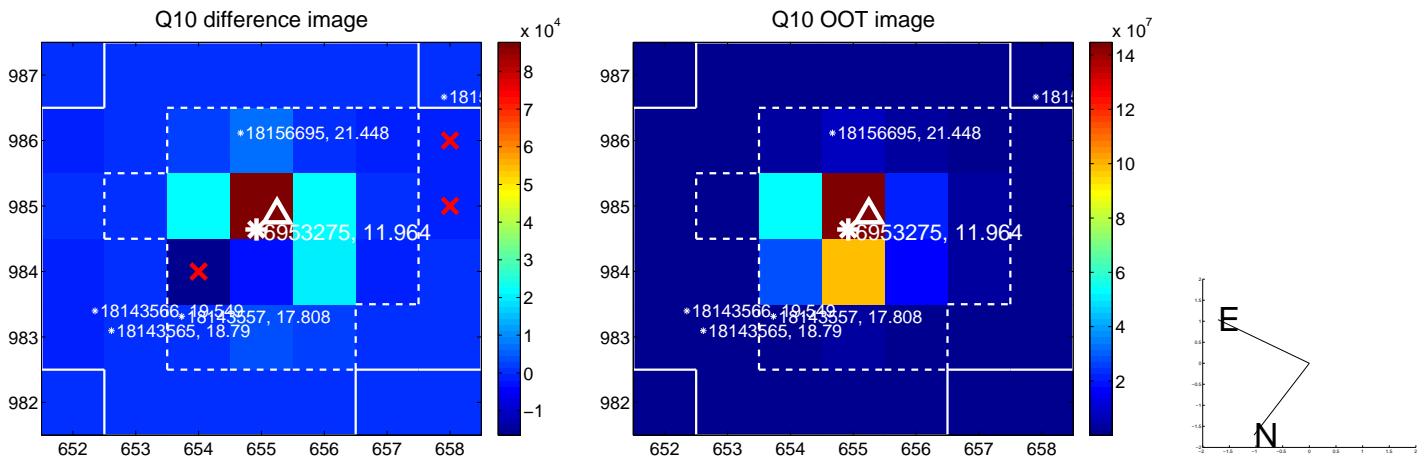
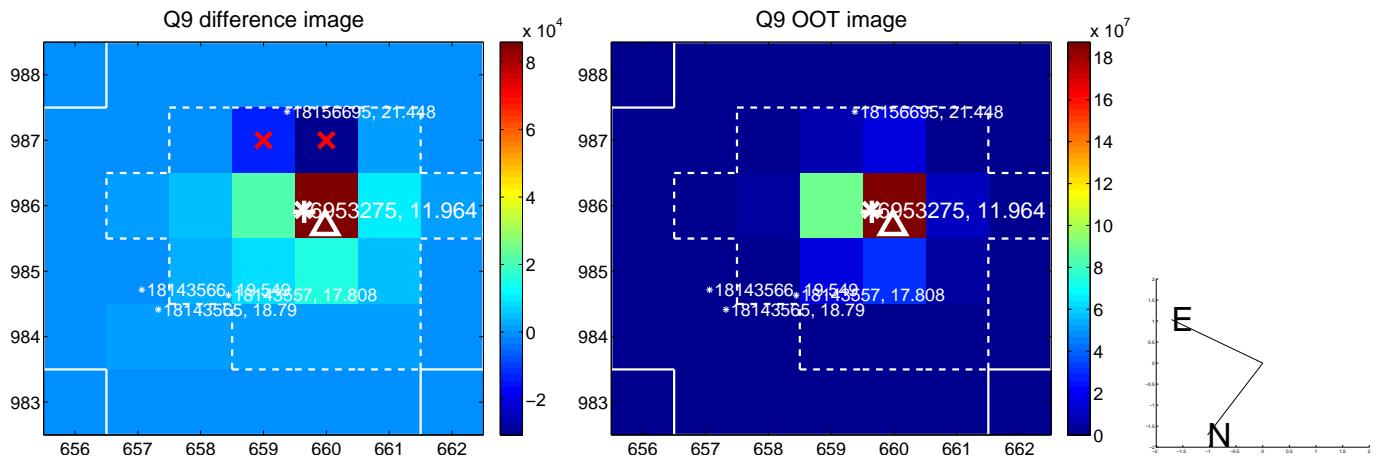
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



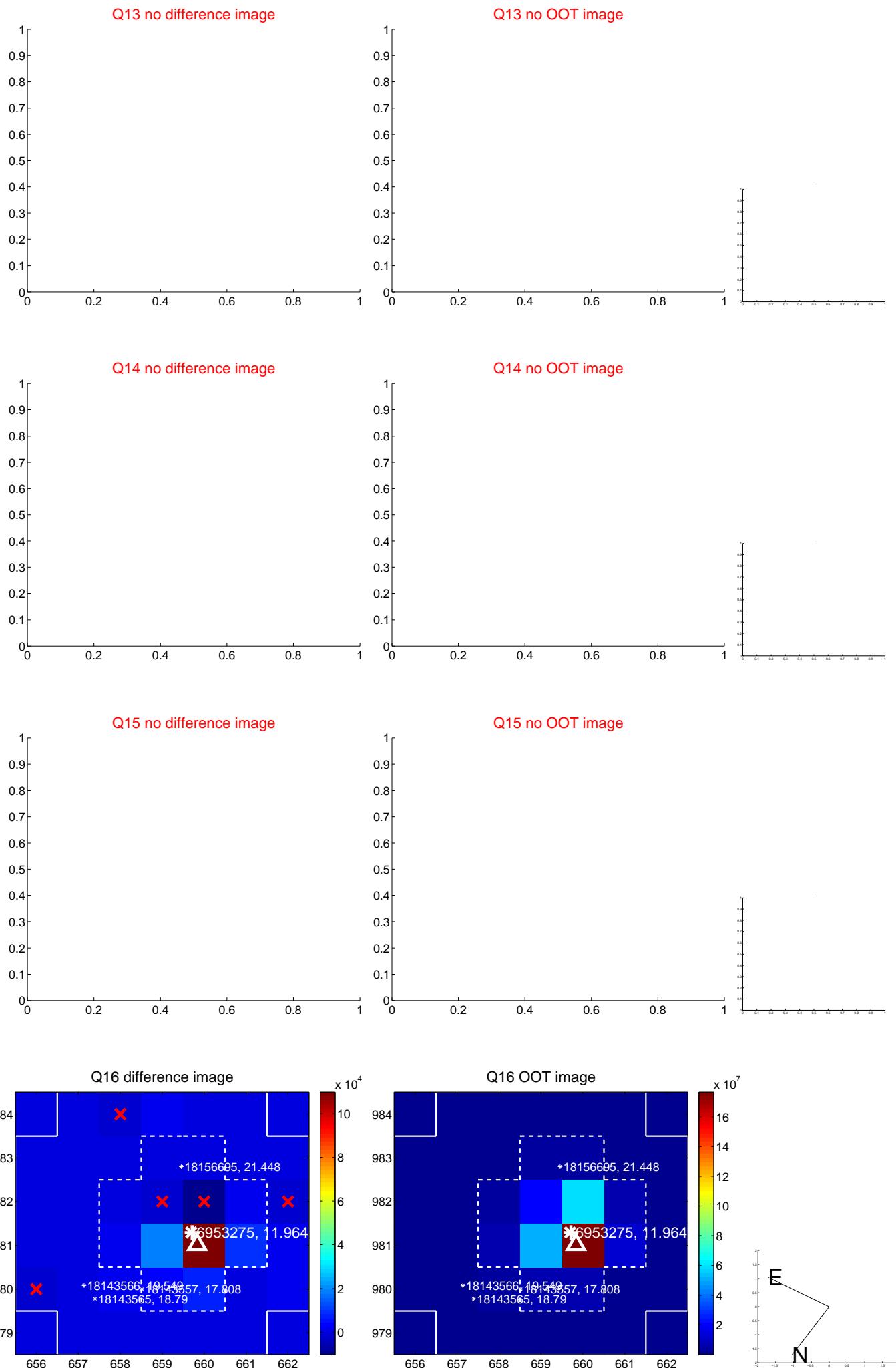
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



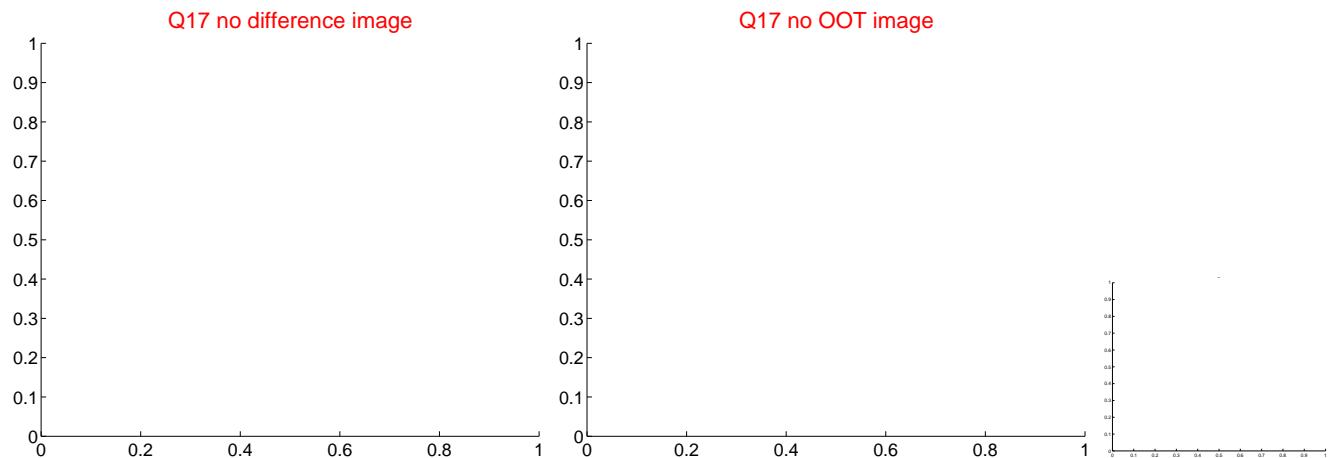
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red X : large negative pixel value.



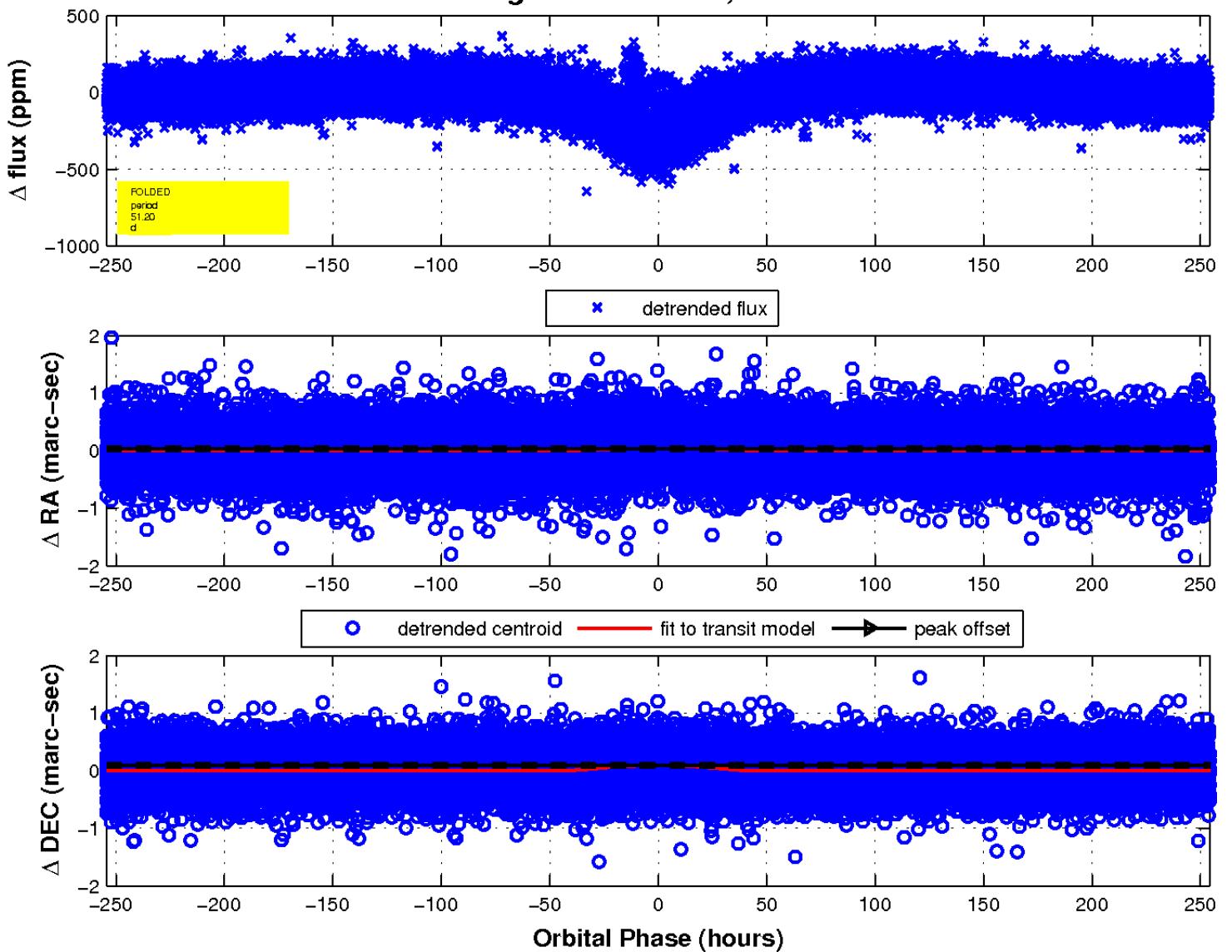
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red X : large negative pixel value.



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

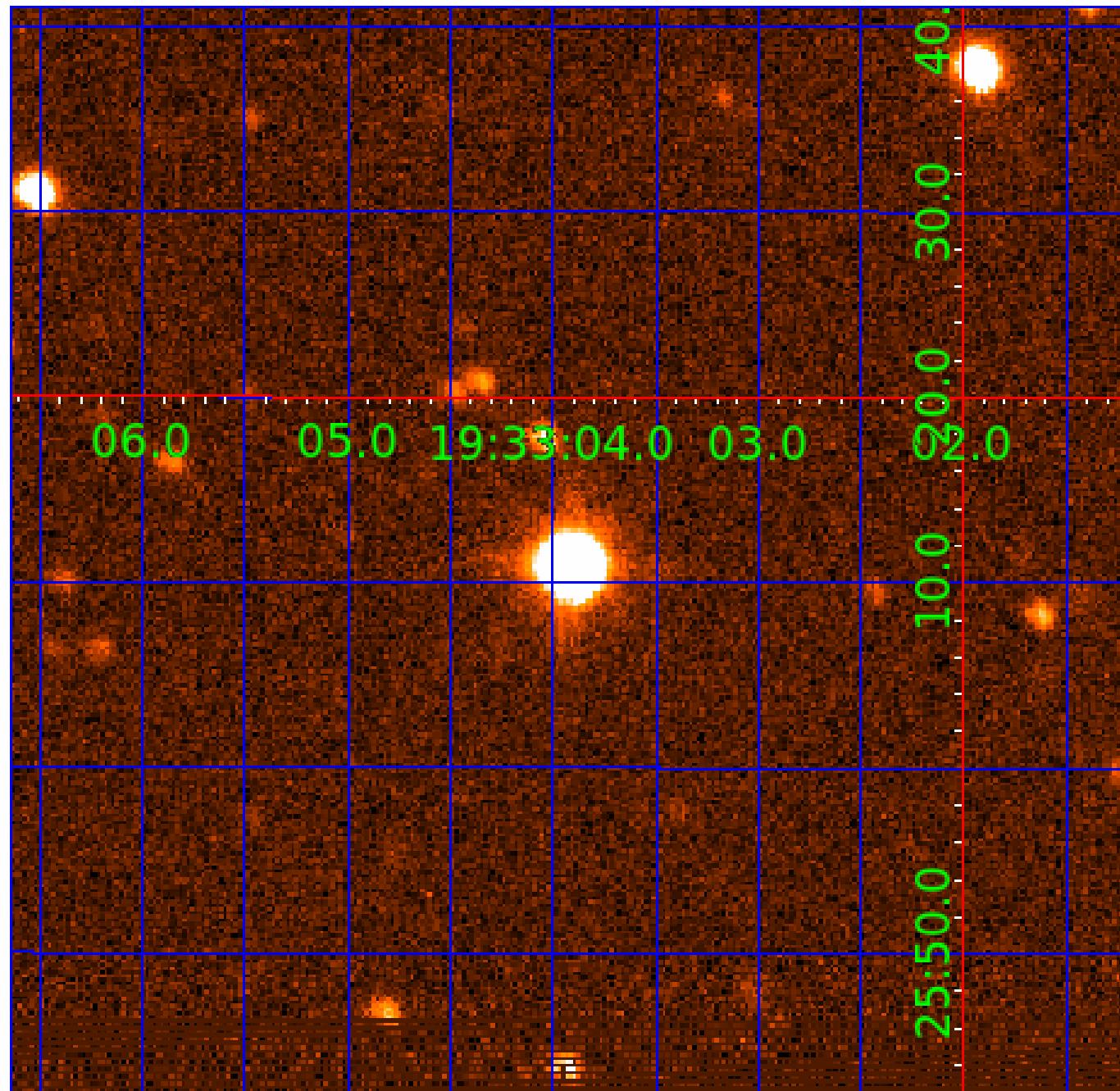


fluxWeightedCentroids, Planet 1 of 2



UKIRT Image

Declination



KIC 006953275

Q1-17 DR25 TCE Parameters

TCE	Run Type	KOI?	Period (Days)	Epoch (BKJD)	Depth (ppm)	Duration (Hours)	MES	SNR	R_* (R_\odot)	T_* (K)	R_p (R_\oplus)	S_p (S_\oplus)
006953275-01	INV	No	51.199226	158.483396	237.3	84.782	19.2	47.2	1.45	6425	4.38	39.02
006953275-02	INV	No	313.344687	427.859107	129.8	2.675	7.2	7.5	1.45	6425	1.91	3.49

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006953275-01	INV	FP	0.00	1	0	0	0	LPP_DV
006953275-02	INV	FP	0.07	1	0	0	0	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 006953275-02

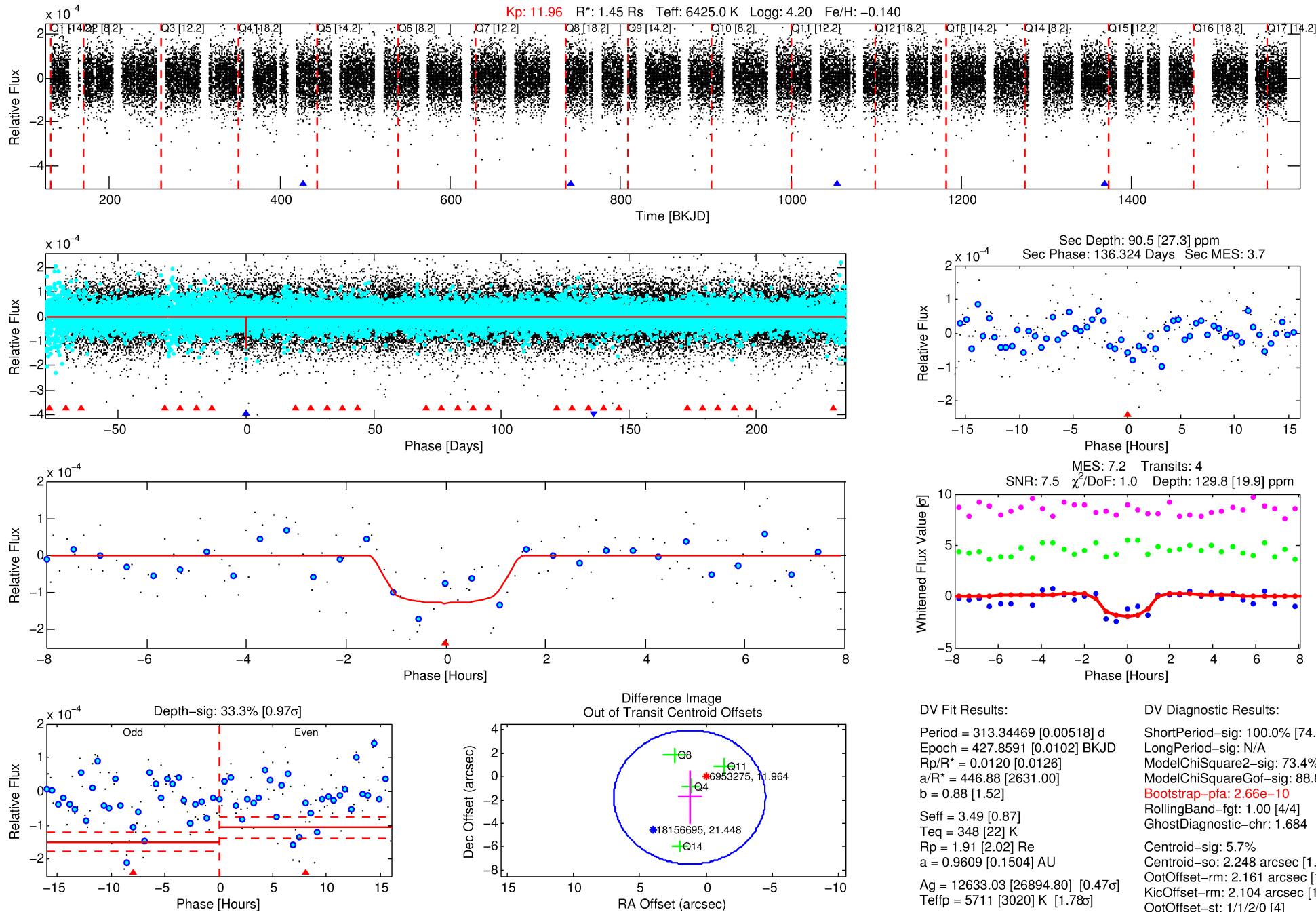
No Significant Match Found

**WARNING: THIS DATA IS
SIMULATED, NOT OBSERVED**

DV One-Page Summary

KIC: 6953275 Candidate: 2 of 2 Period: 313.345 d

**WARNING: THIS DATA IS
SIMULATED, NOT OBSERVED**



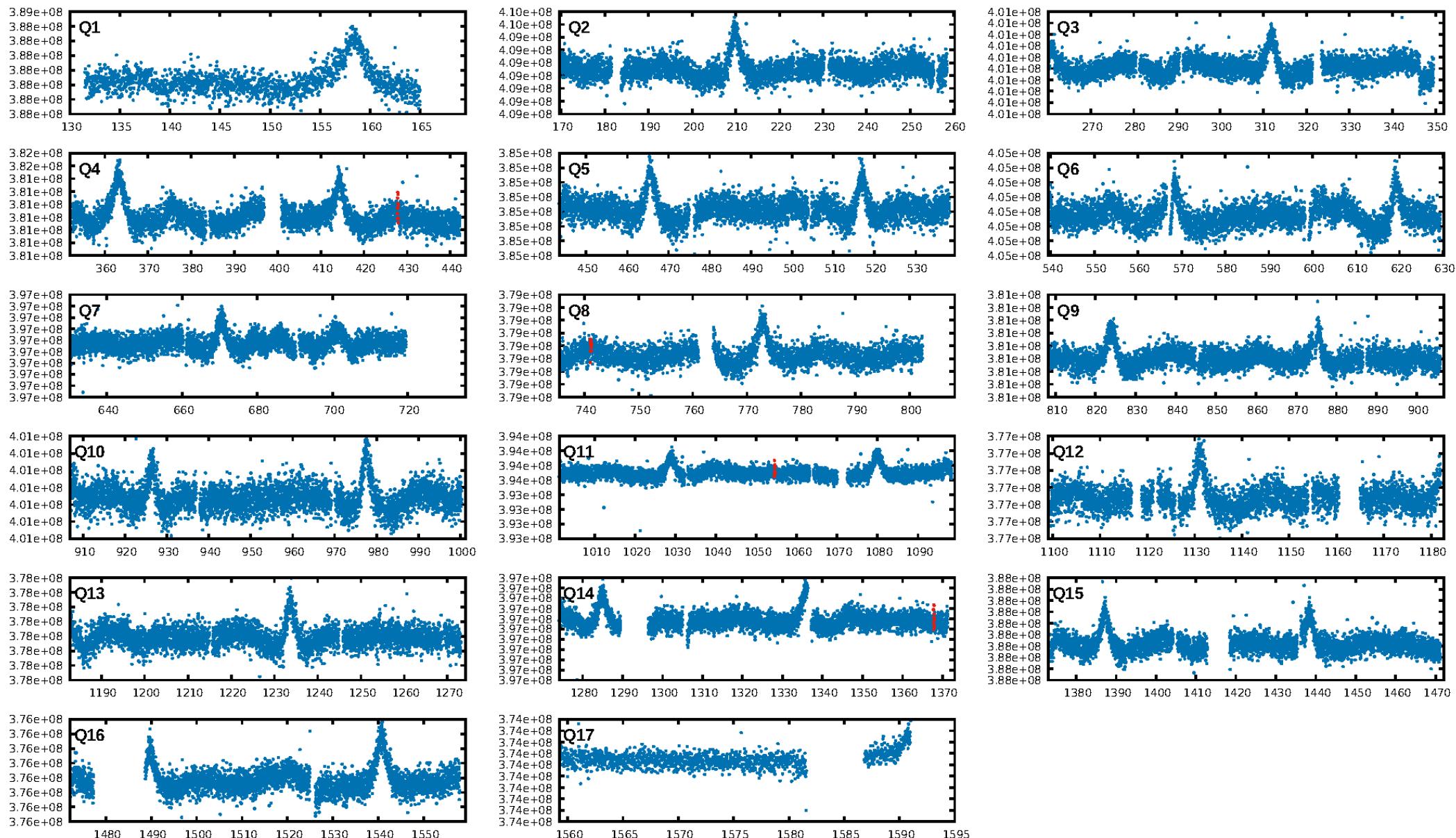
DV Fit Results:

Period = 313.34469 [0.00518] d
Epoch = 427.8591 [0.0102] BKJD
Rp/R* = 0.0120 [0.0126]
a/R* = 446.88 [2631.00]
b = 0.88 [1.52]
Seff = 3.49 [0.87]
Teq = 348 [22] K
Rp = 1.91 [2.02] Re
a = 0.9609 [0.1504] AU
Ag = 12633.03 [26894.80] [0.47d]
Teffp = 5711 [3020] K [1.78 σ]

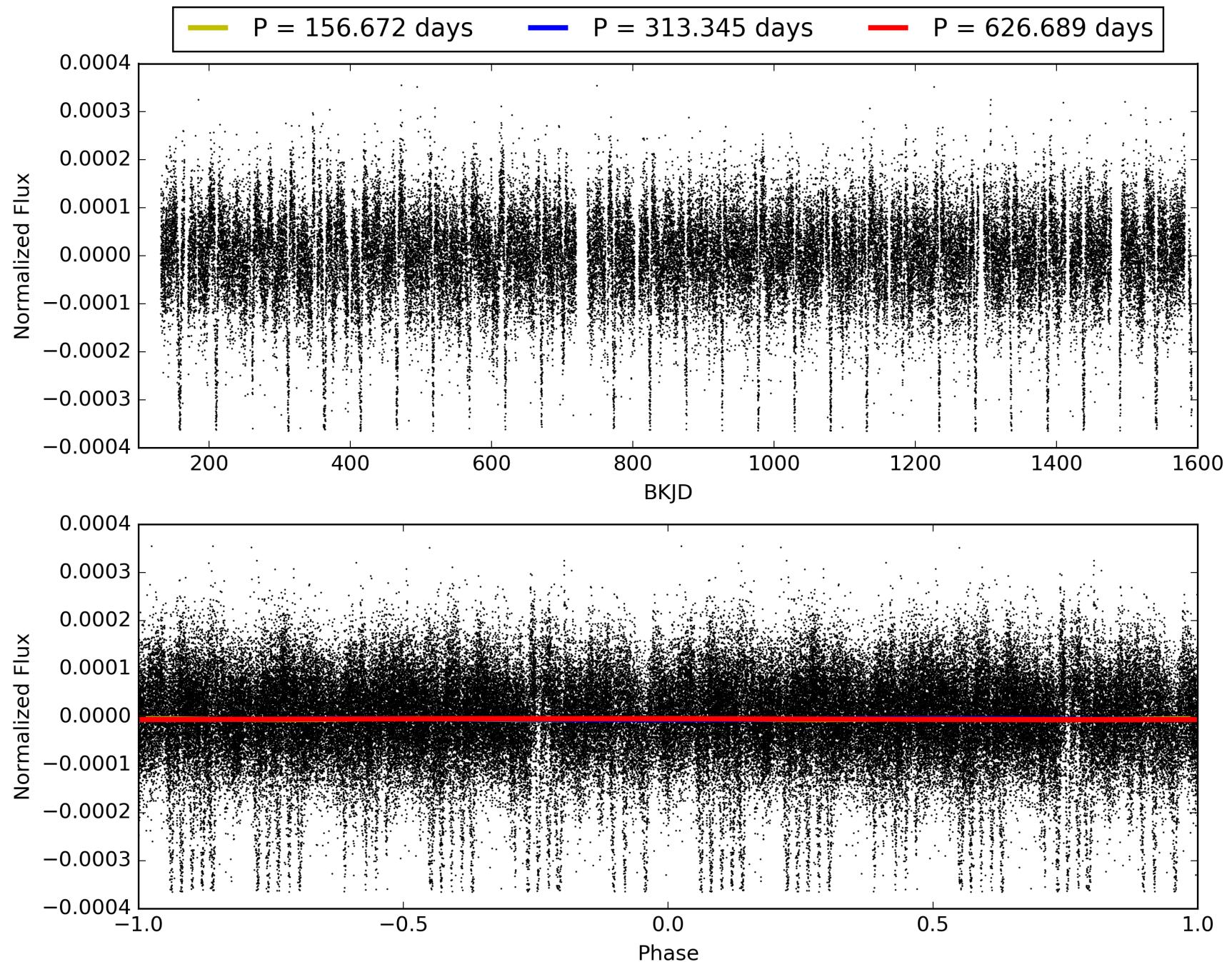
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [74.17 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 73.4%
ModelChiSquareGof-sig: 88.8%
Bootstrap-pfa: 2.66e-10
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: 1.684
Centroid-sig: 5.7%
Centroid-so: 2.248 arcsec [1.18 σ]
OotOffset-rm: 2.161 arcsec [1.13 σ]
KicOffset-rm: 2.104 arcsec [1.08 σ]
OotOffset-st: 1/1/2/0 [4]
KicOffset-st: 1/1/2/0 [4]
DiffImageQuality-fgm: 0.75 [3/4]
DiffImageOverlap-fno: 1.00 [4/4]

TCE 006953275-02, PDC Light Curves

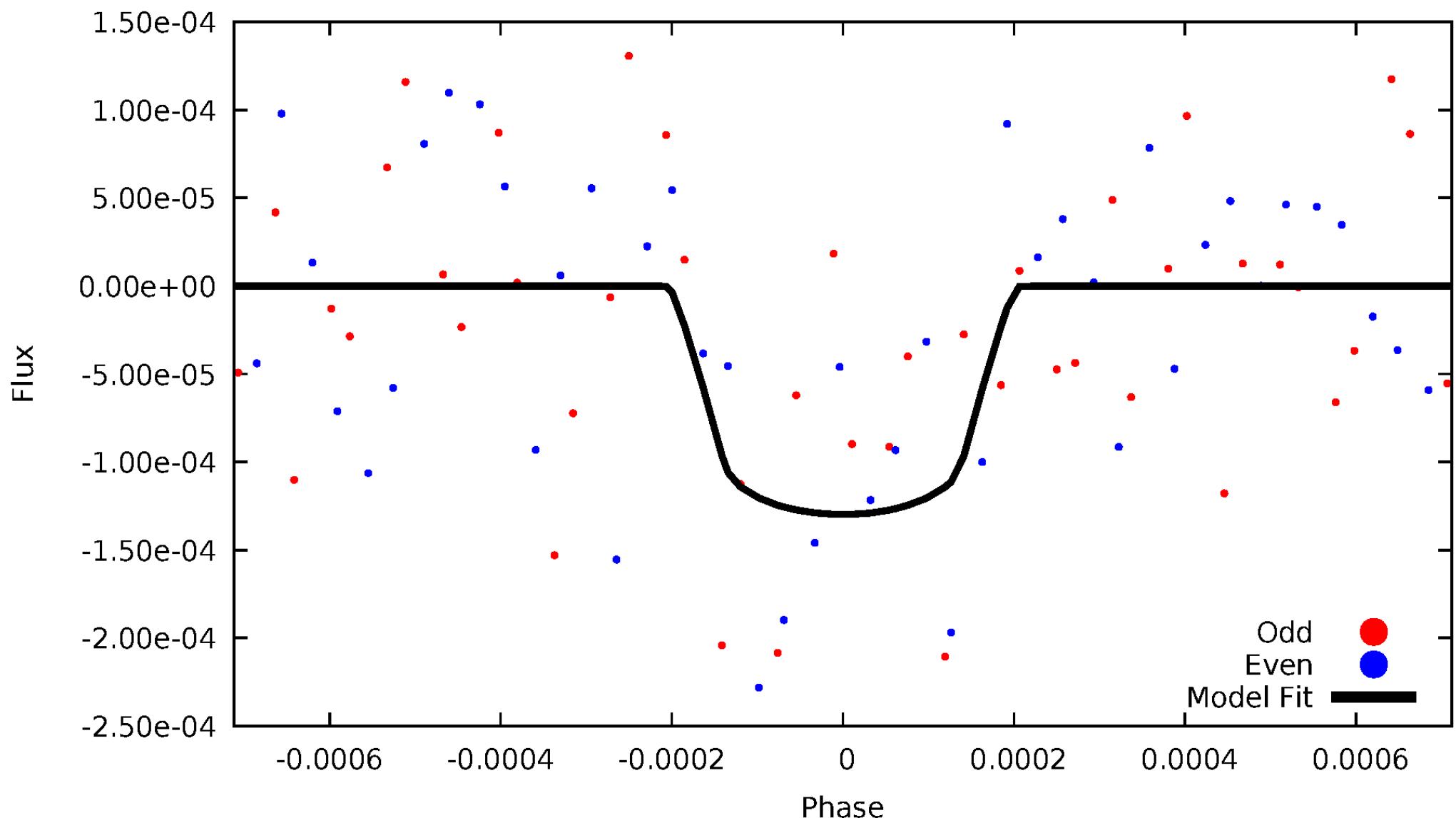


TCE 006953275-02



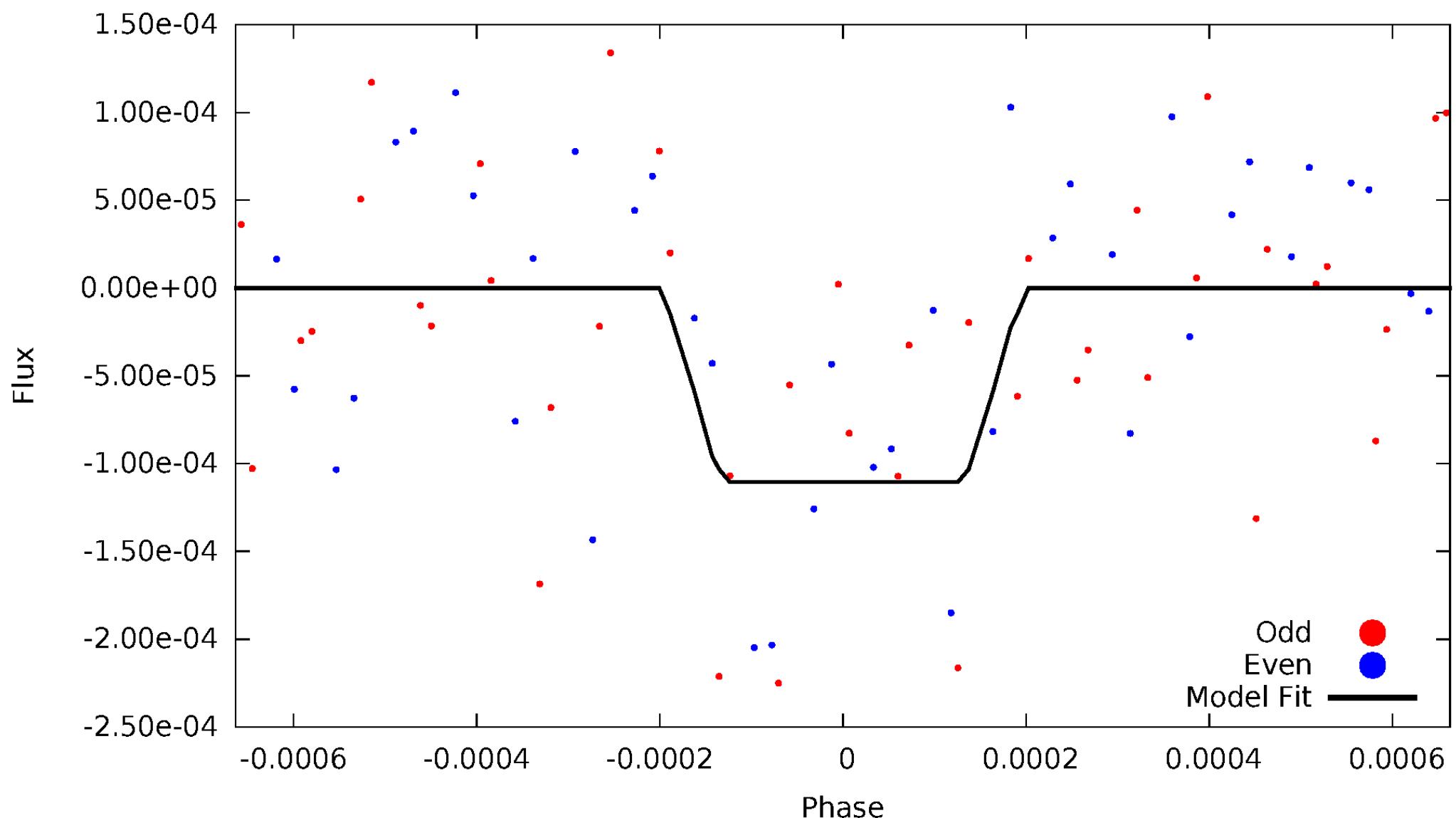
DV Odd/Even

TCE 006953275-02

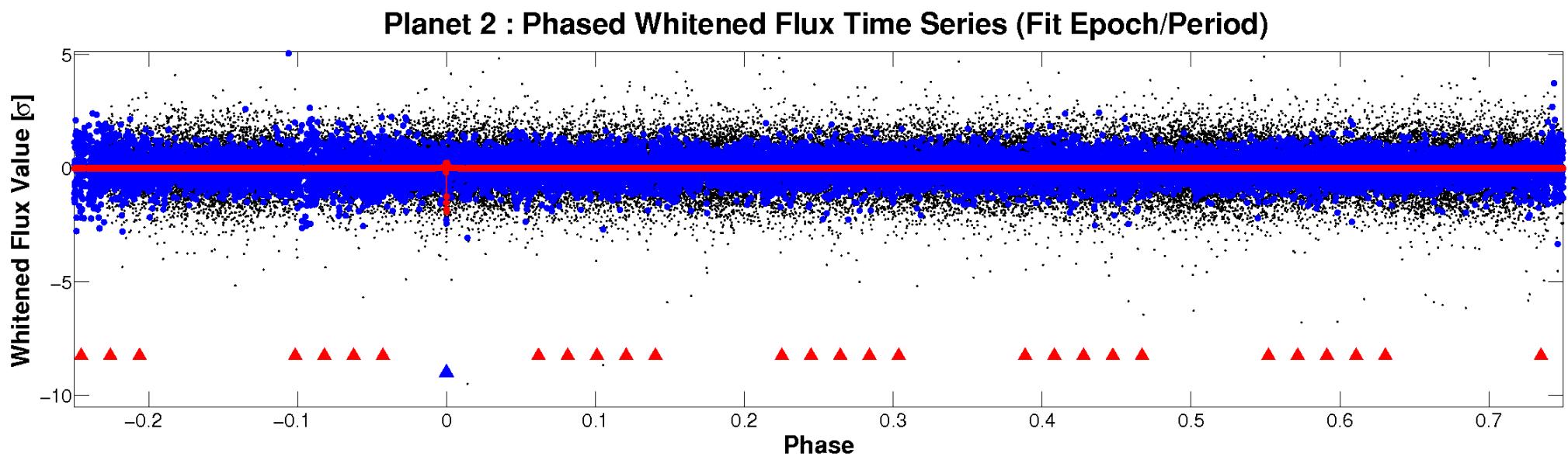
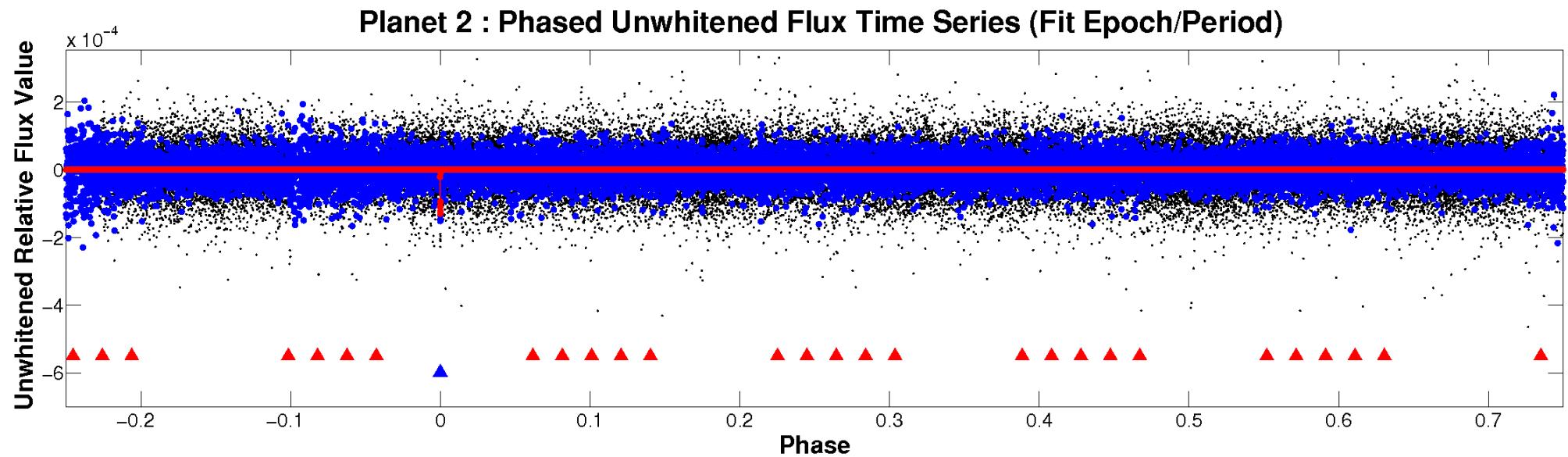


ALT Odd/Even

TCE 006953275-02

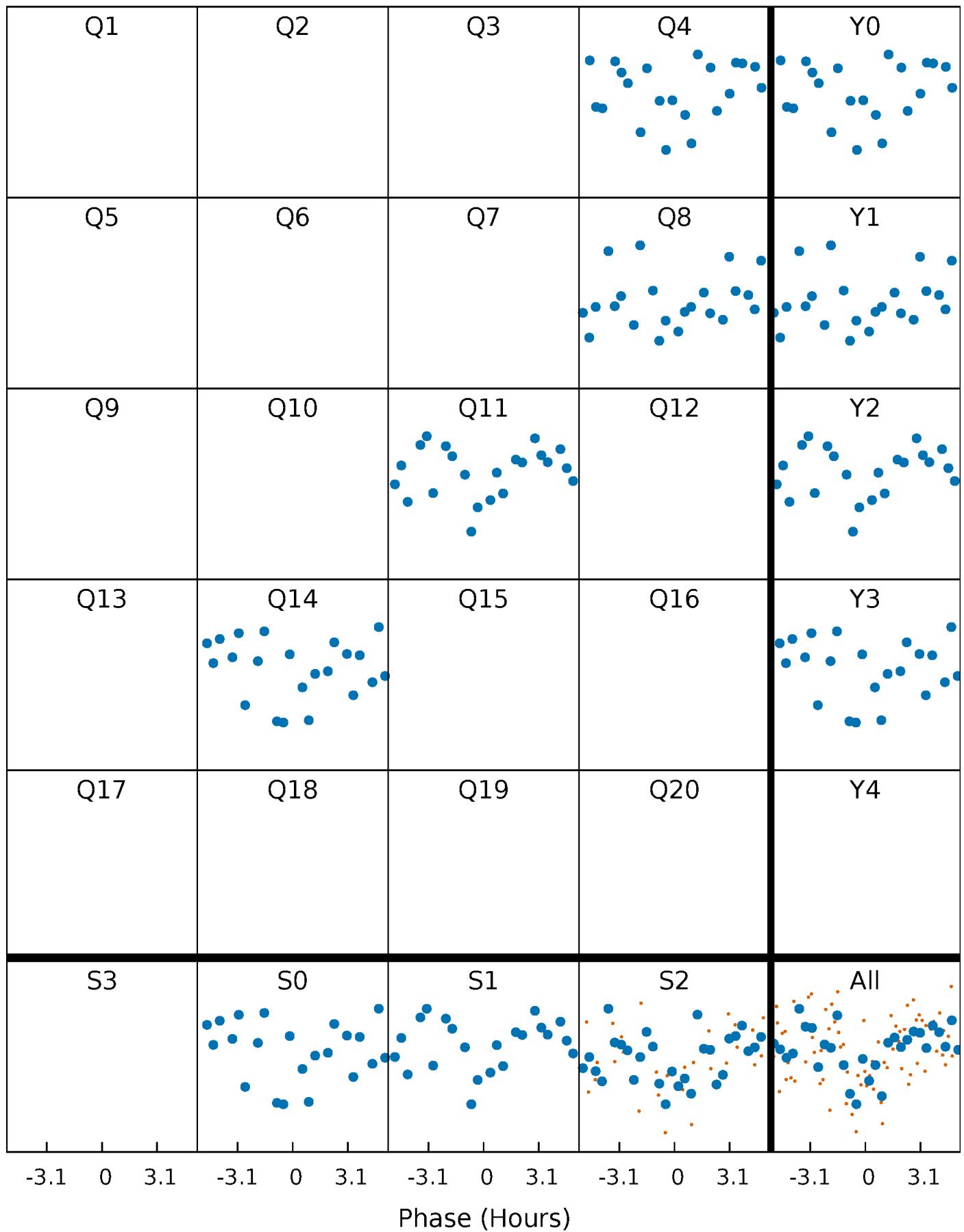


Non-Whitened Vs. Whitened Light Curve



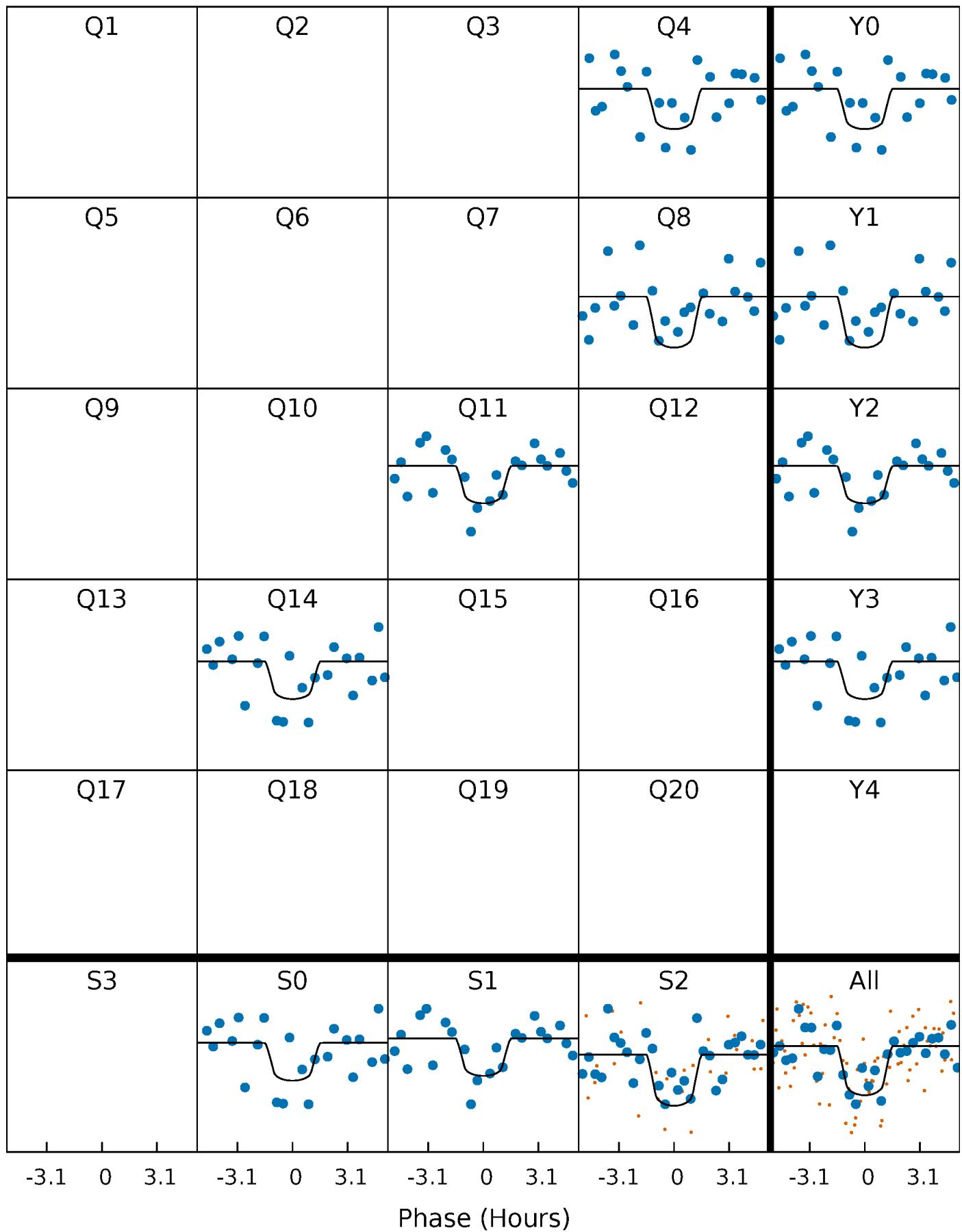
PDC Quarter-Phased Transit Curves

TCE 006953275-02 $P=313.344687$ Days $T_0=427.859107$ (BKJD)



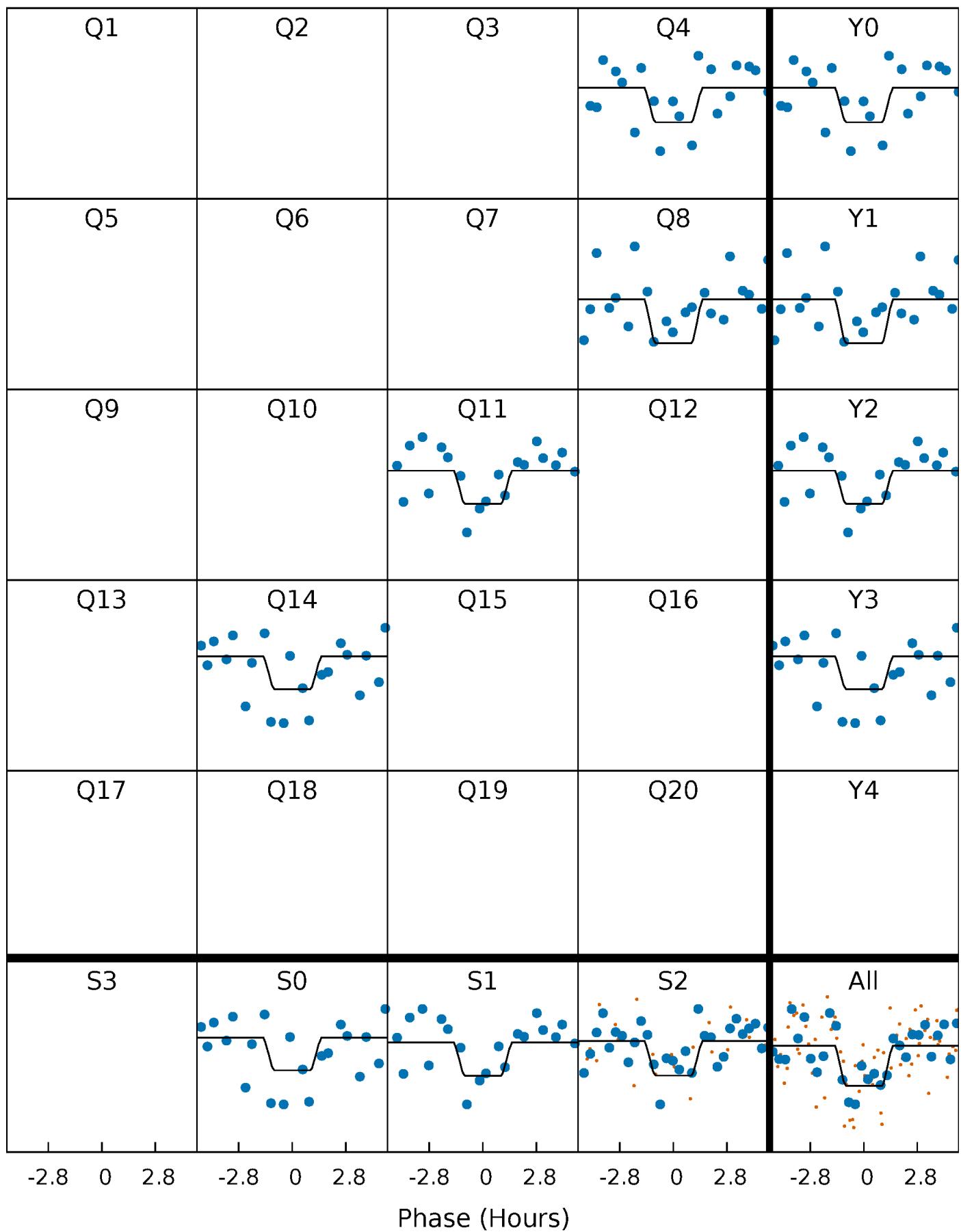
DV Quarter-Phased Transit Curves

TCE 006953275-02 P=313.344687 Days $T_0=427.859107$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

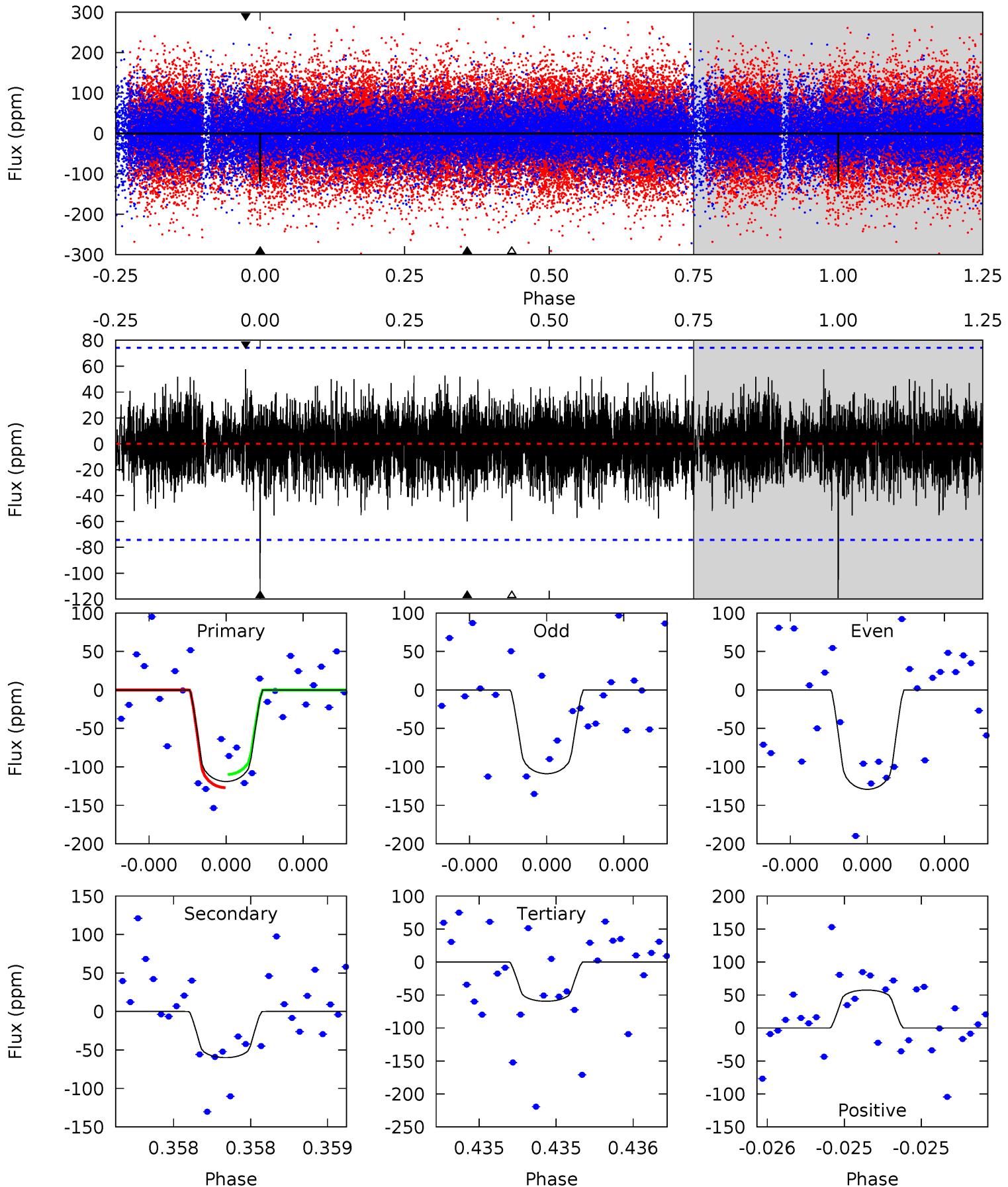
TCE 006953275-02 P=313.343174 Days $T_0=427.861799$ (BKJD)



DV Model-Shift Uniqueness Test

006953275-02, $P = 313.344687$ Days, $E = 114.514420$ Days

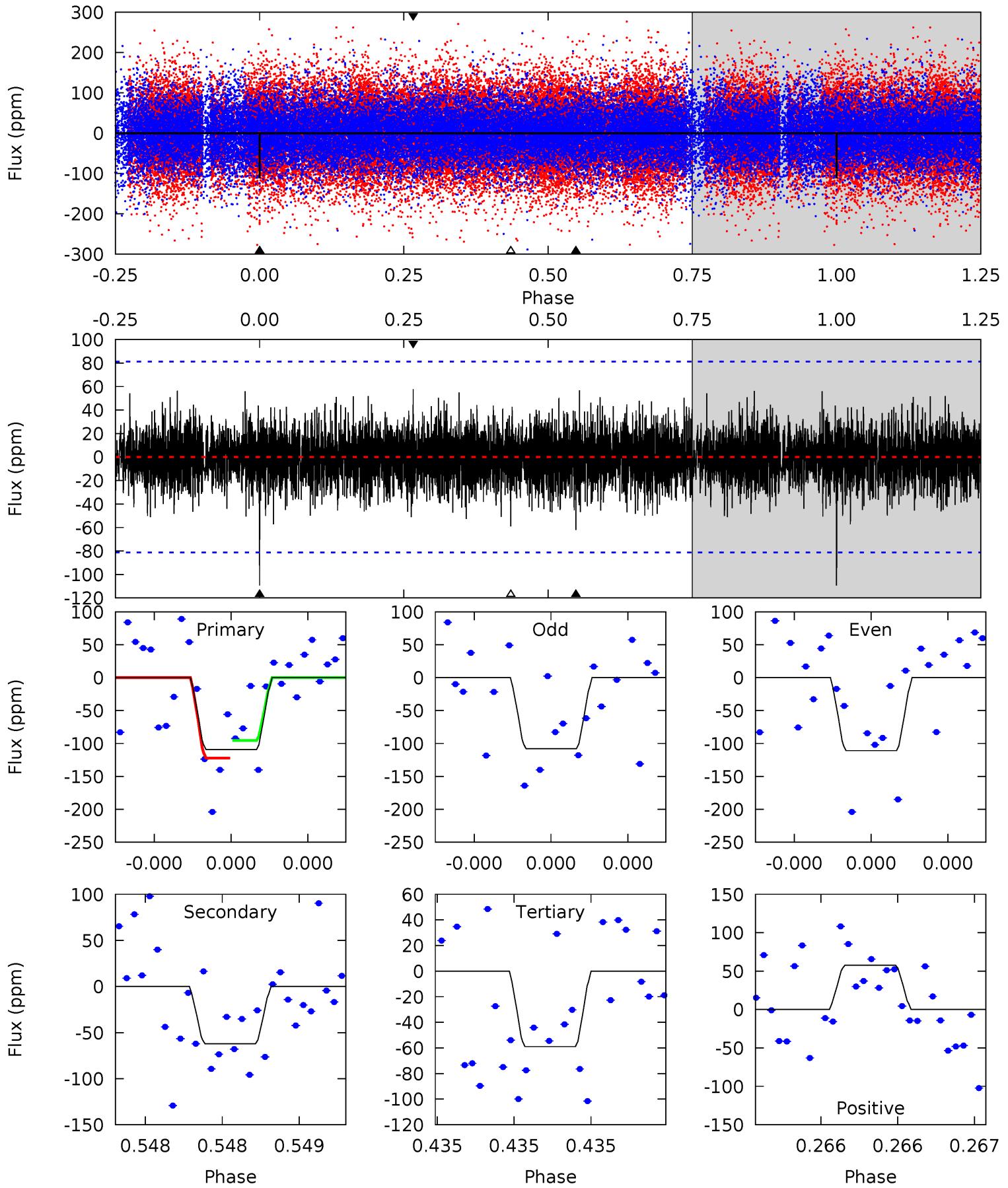
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.97	4.52	4.49	4.34	5.60	3.52	1.21	4.49	4.63	0.04	0.18	0.78	0.92	0.33	0.64



Alt Model-Shift Uniqueness Test

006953275-02, $P = 313.343174$ Days, $E = 114.518625$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.56	4.30	4.07	3.99	5.62	3.55	1.09	3.48	3.56	0.22	0.30	0.11	0.99	0.35	0.92



Stellar Parameters For KIC 006953275

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$	
	6425^{+70}_{-77}	$4.195^{+0.143}_{-0.117}$	$-0.140^{+0.150}_{-0.150}$	$1.452^{+0.243}_{-0.243}$	$1.206^{+0.090}_{-0.125}$	$0.555^{+0.374}_{-0.190}$	
	$+1\%/-1\%$	$+3\%/-3\%$	$+107\%/-107\%$	$+17\%/-17\%$	$+7\%/-10\%$	$+67\%/-34\%$	
Source	SPE68	SPE68	SPE68	DSEP			

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

Secondary Eclipse Parameters for KIC 006953275-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (\text{K})$	$T_{obs} (\text{K})$	A_{obs}
DV	-60 ± 13	$2.43^{+1.74}_{-1.50}$	487^{+21}_{-23}	4710^{+2767}_{-883}	5289^{+29436}_{-3557}
Alt.	-62 ± 14	$2.21^{+1.75}_{-1.35}$	486^{+21}_{-22}	4883^{+3102}_{-988}	6204^{+36847}_{-4305}

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

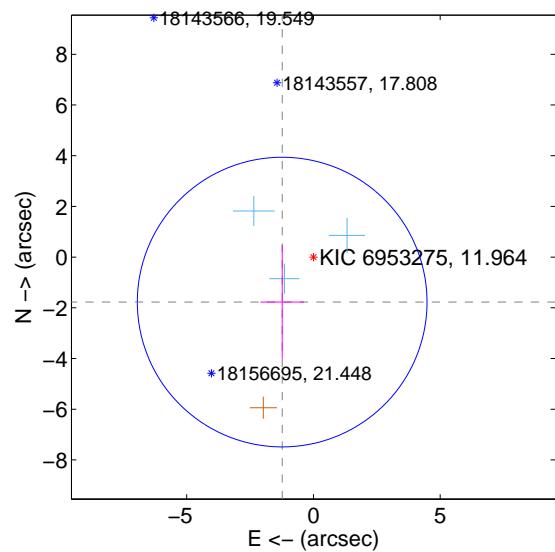
Supplemental centroid analysis for 006953275-02. Kepler magnitude: 11.96. Transit SNR 7.53

There are 3 quarters with good PRF difference image offsets

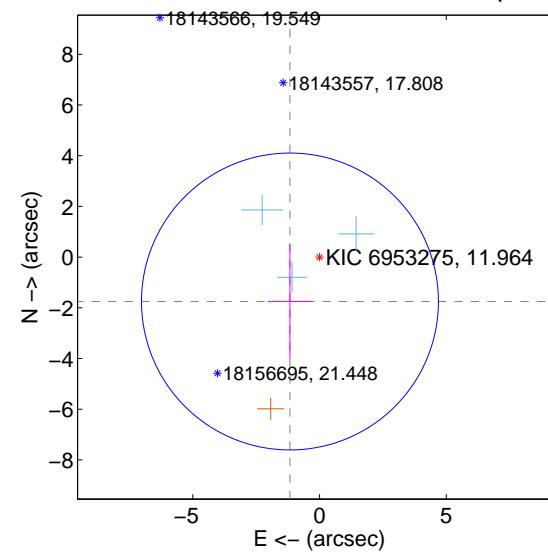
The direct PRF centroid is offset from the target star catalog position by about 0.06 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.161 ± 1.904	1.13	1.233 ± 0.862	-1.774 ± 2.240
PRF-fit source offset from KIC position	2.104 ± 1.952	1.08	1.166 ± 0.875	-1.752 ± 2.271
photometric centroid source offset	2.25 ± 1.90	1.18	-0.13 ± 2.05	2.24 ± 1.90

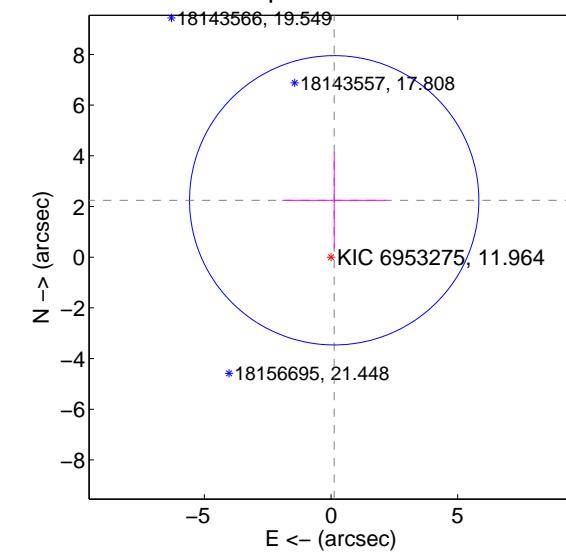
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

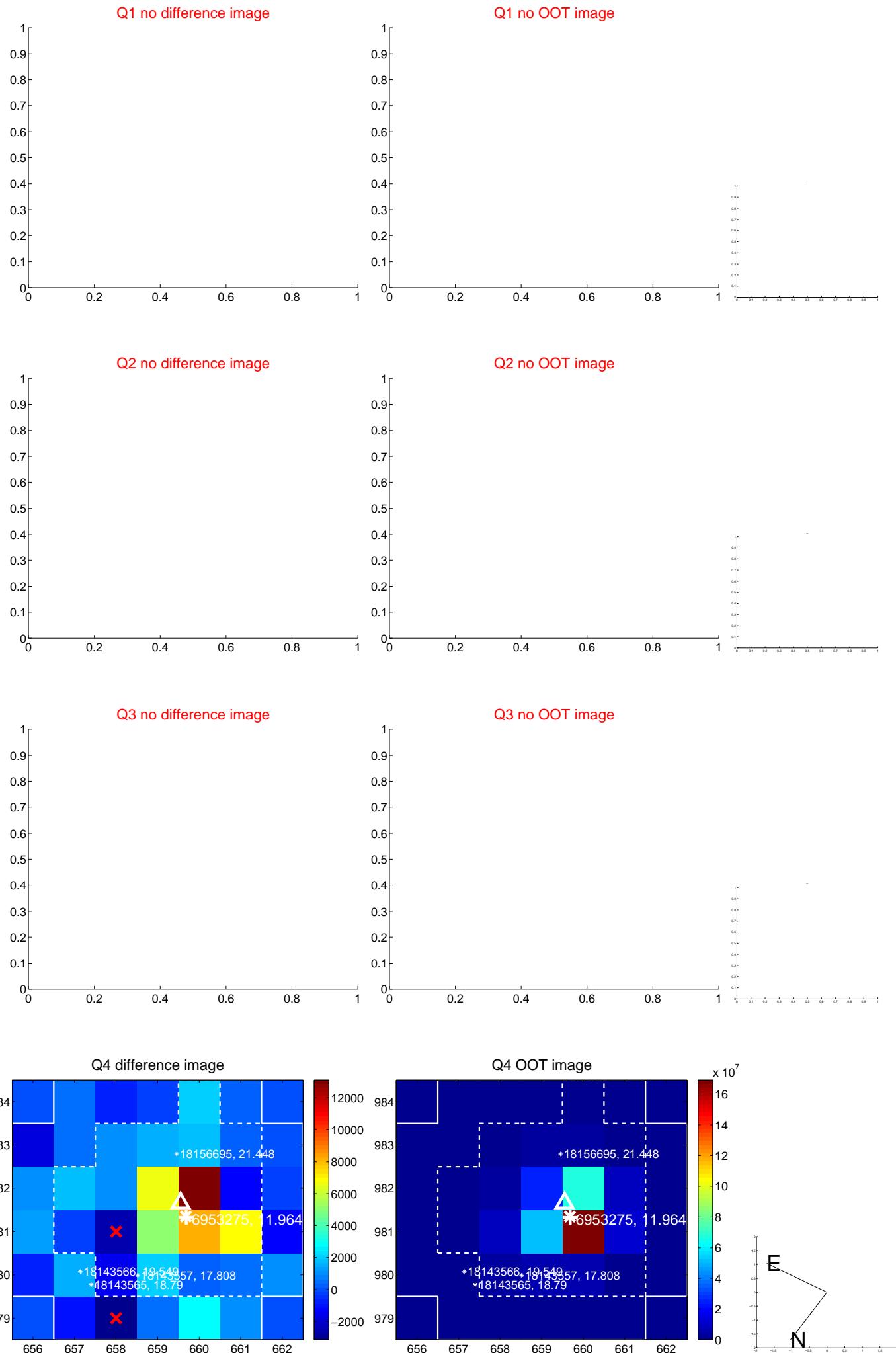


offset from photometric centroids



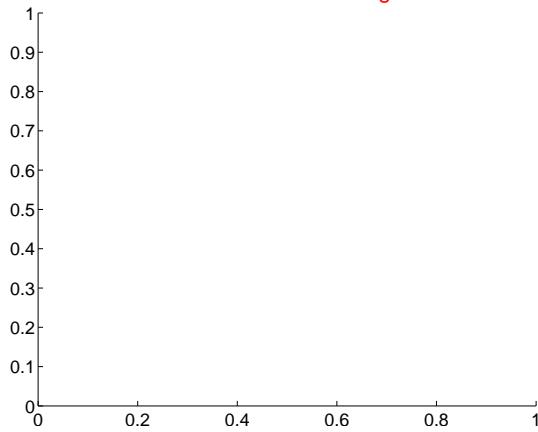
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

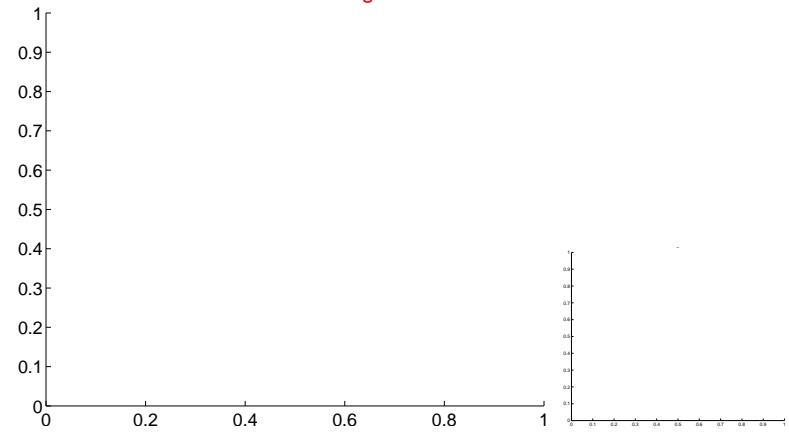


white \times : KIC target position; +: OOT centroid; Δ : difference centroid. red X : large negative pixel value.

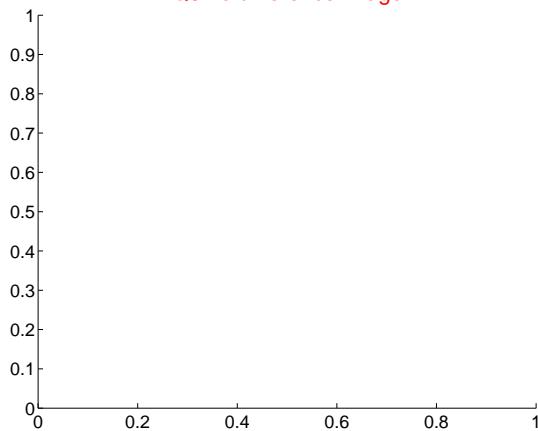
Q5 no difference image



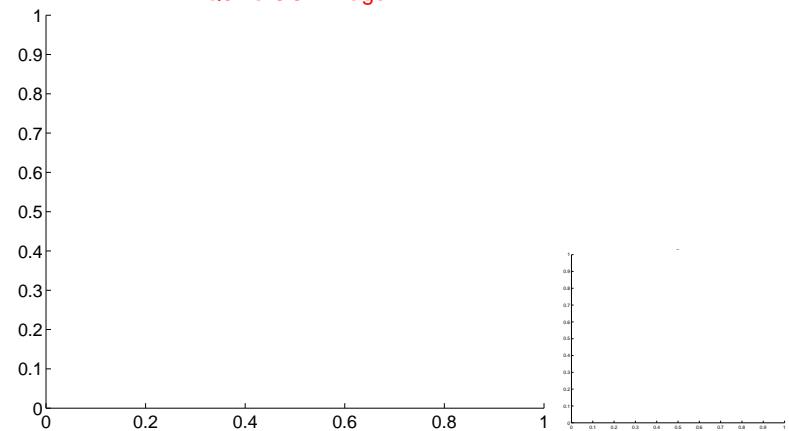
Q5 no OOT image



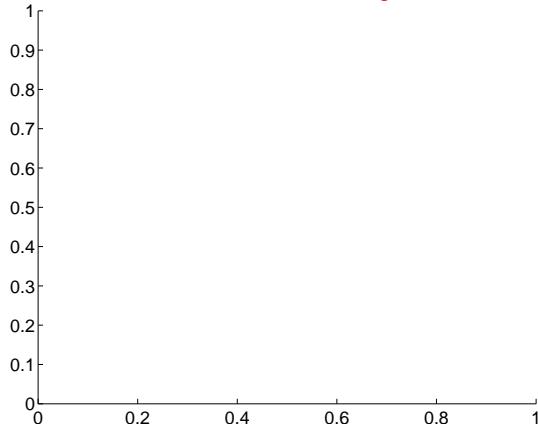
Q6 no difference image



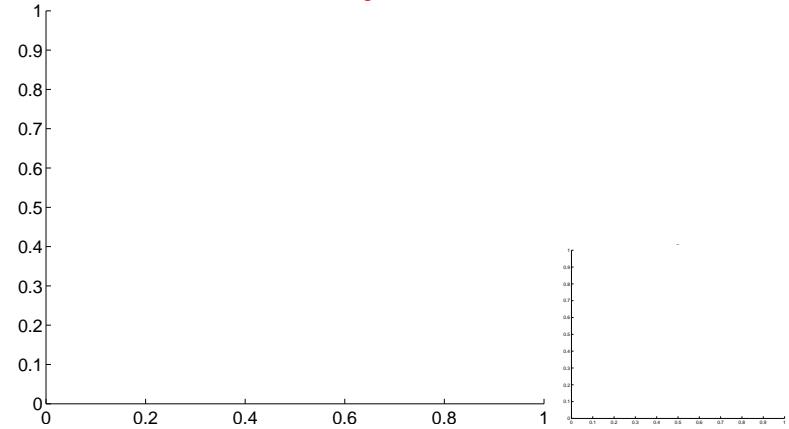
Q6 no OOT image



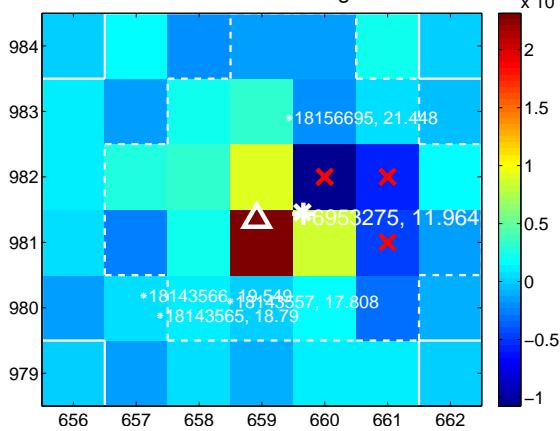
Q7 no difference image



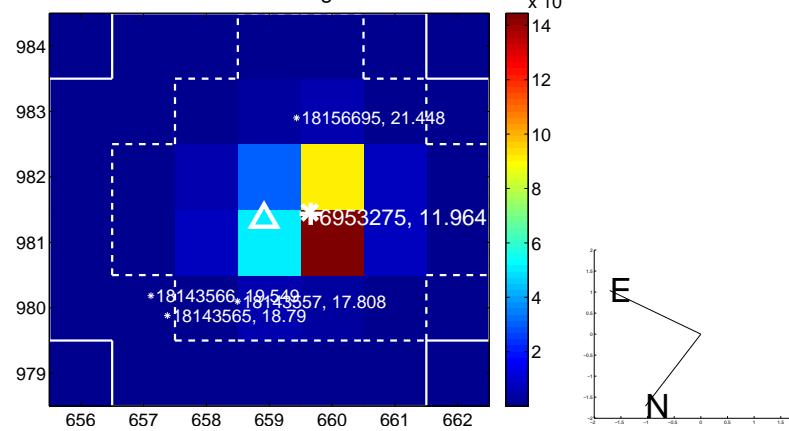
Q7 no OOT image



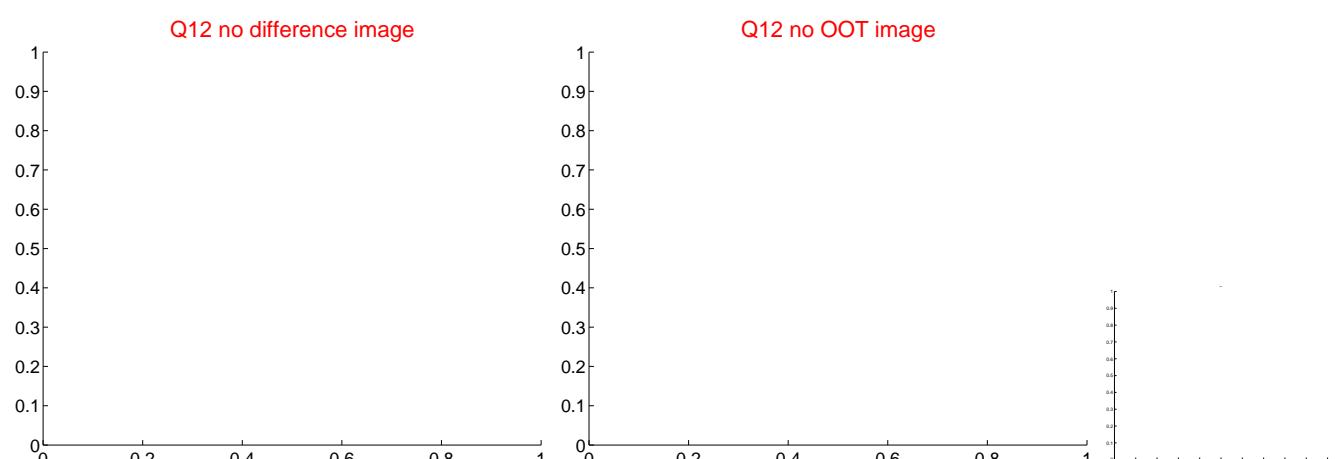
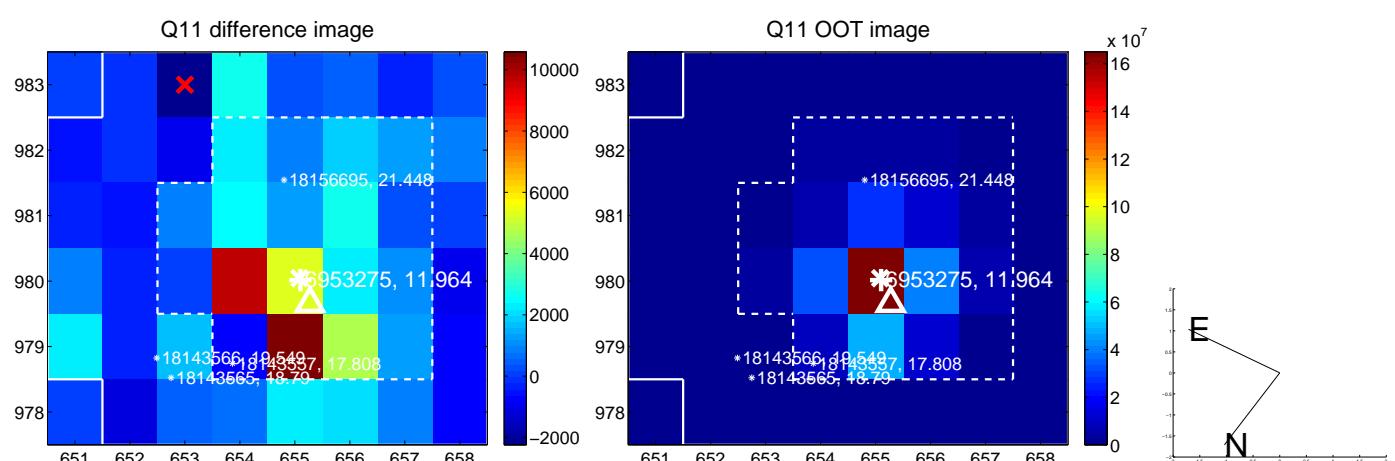
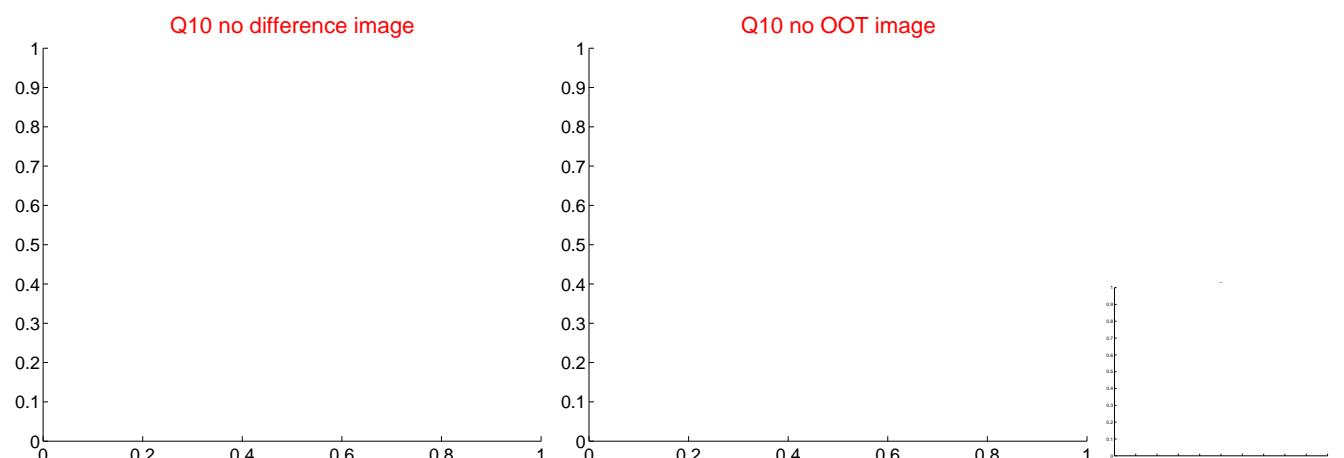
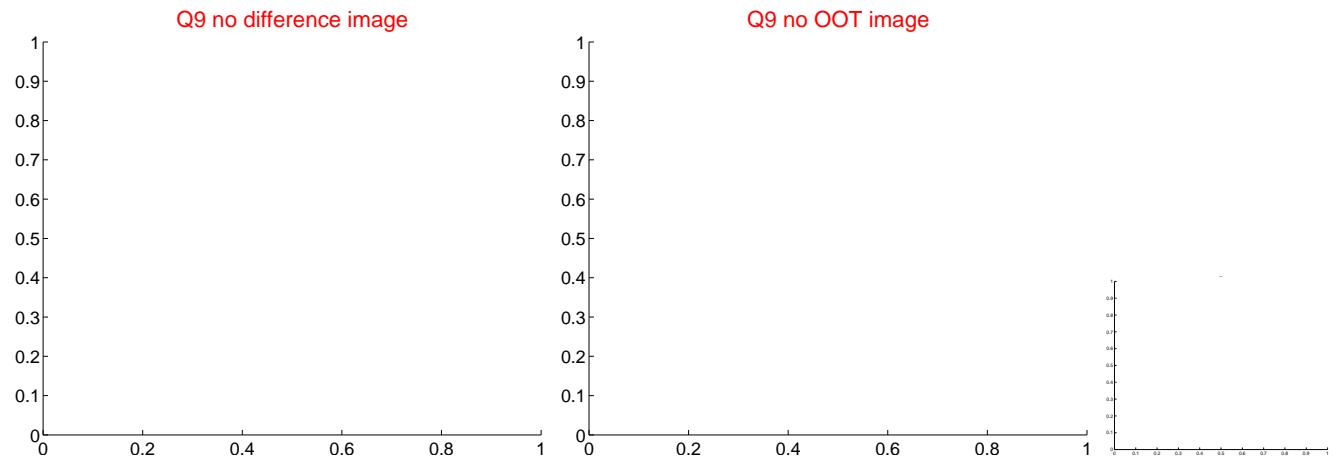
Q8 difference image



Q8 OOT image

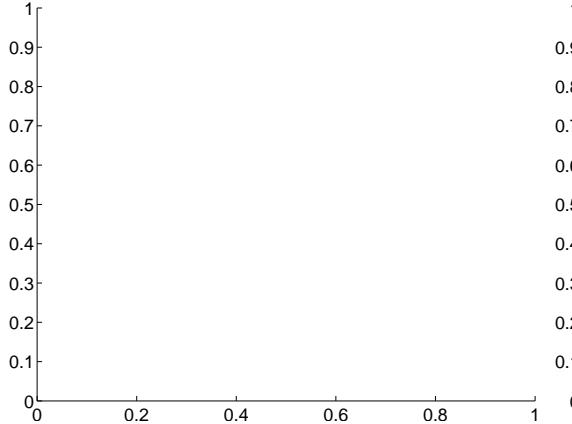


white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red X : large negative pixel value.

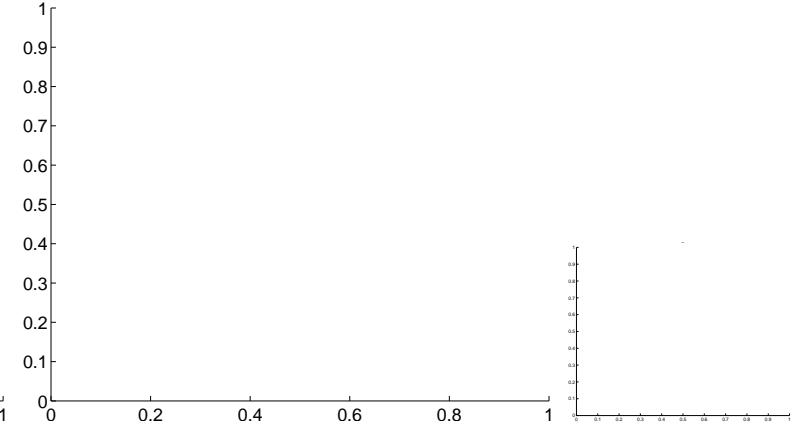


white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red X : large negative pixel value.

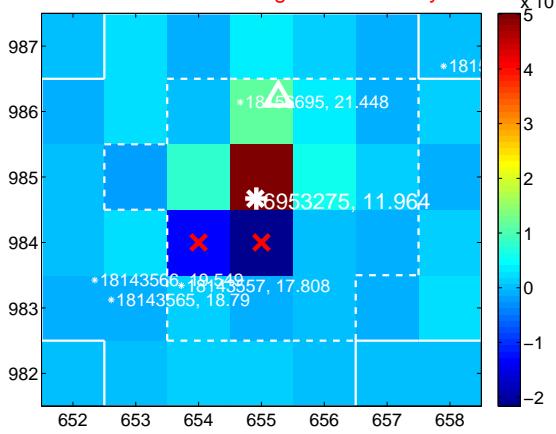
Q13 no difference image



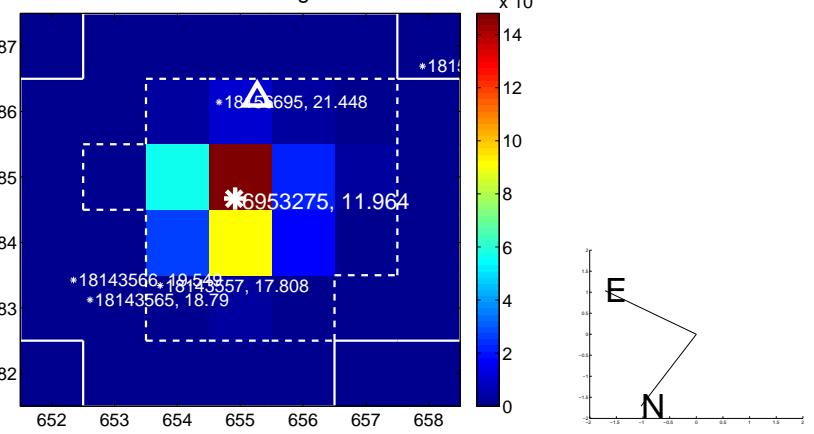
Q13 no OOT image



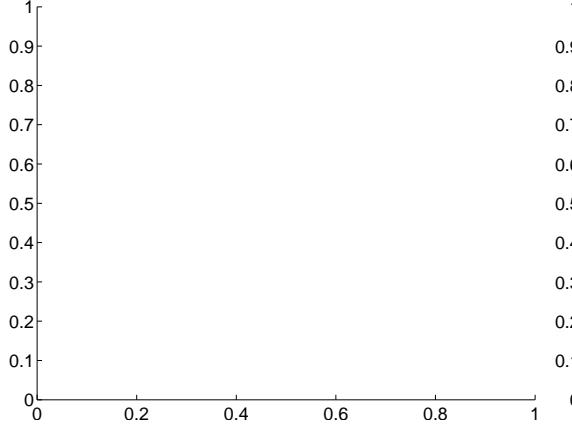
Q14 difference image. Poor Quality



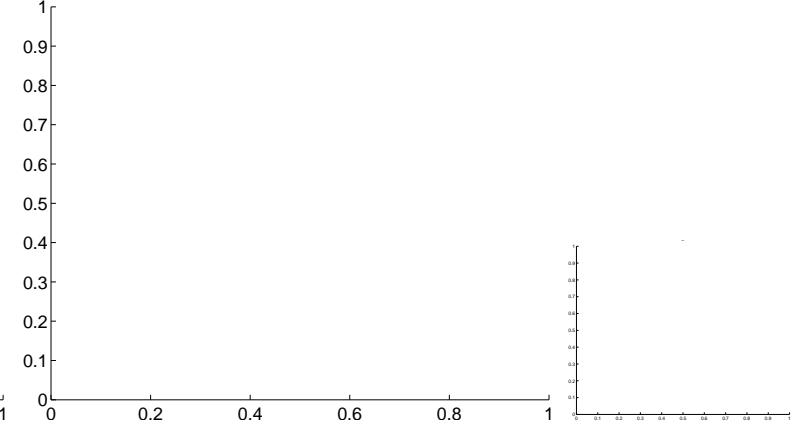
Q14 OOT image



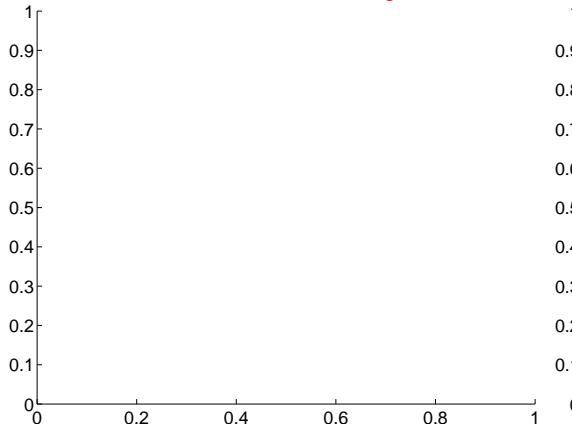
Q15 no difference image



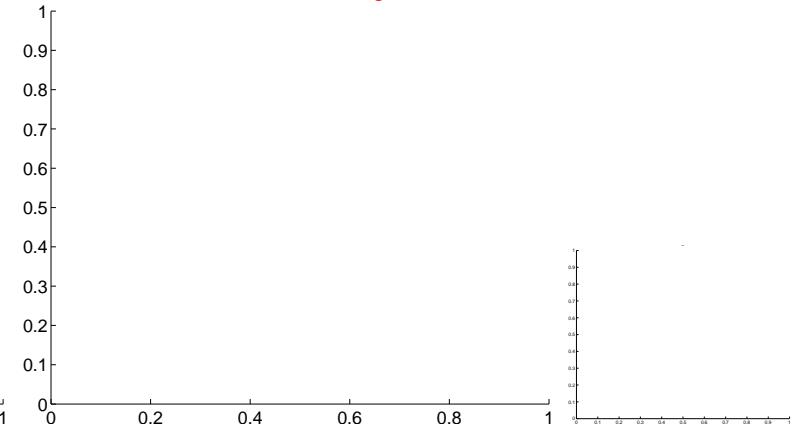
Q15 no OOT image



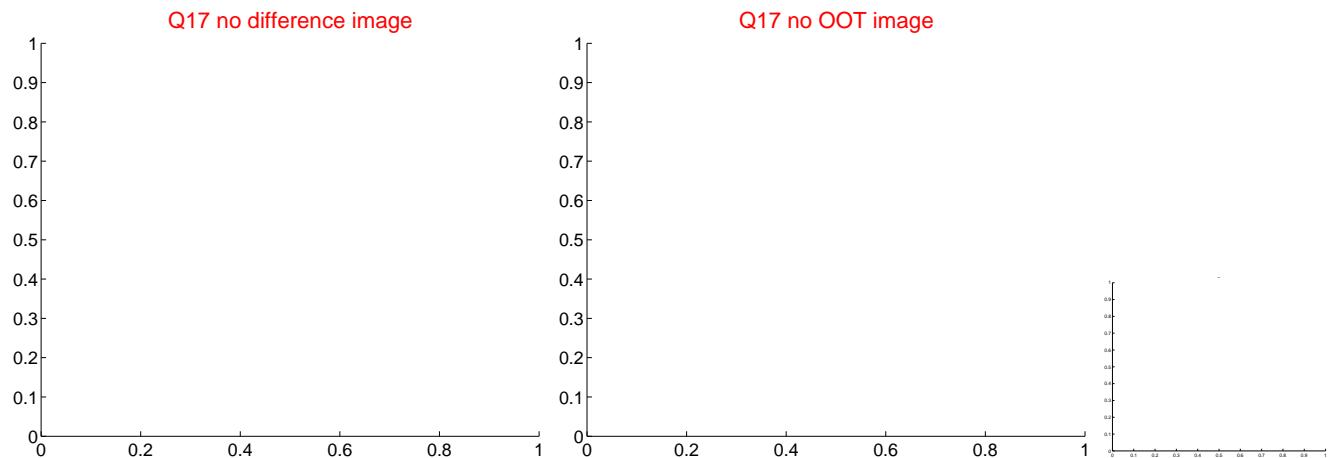
Q16 no difference image



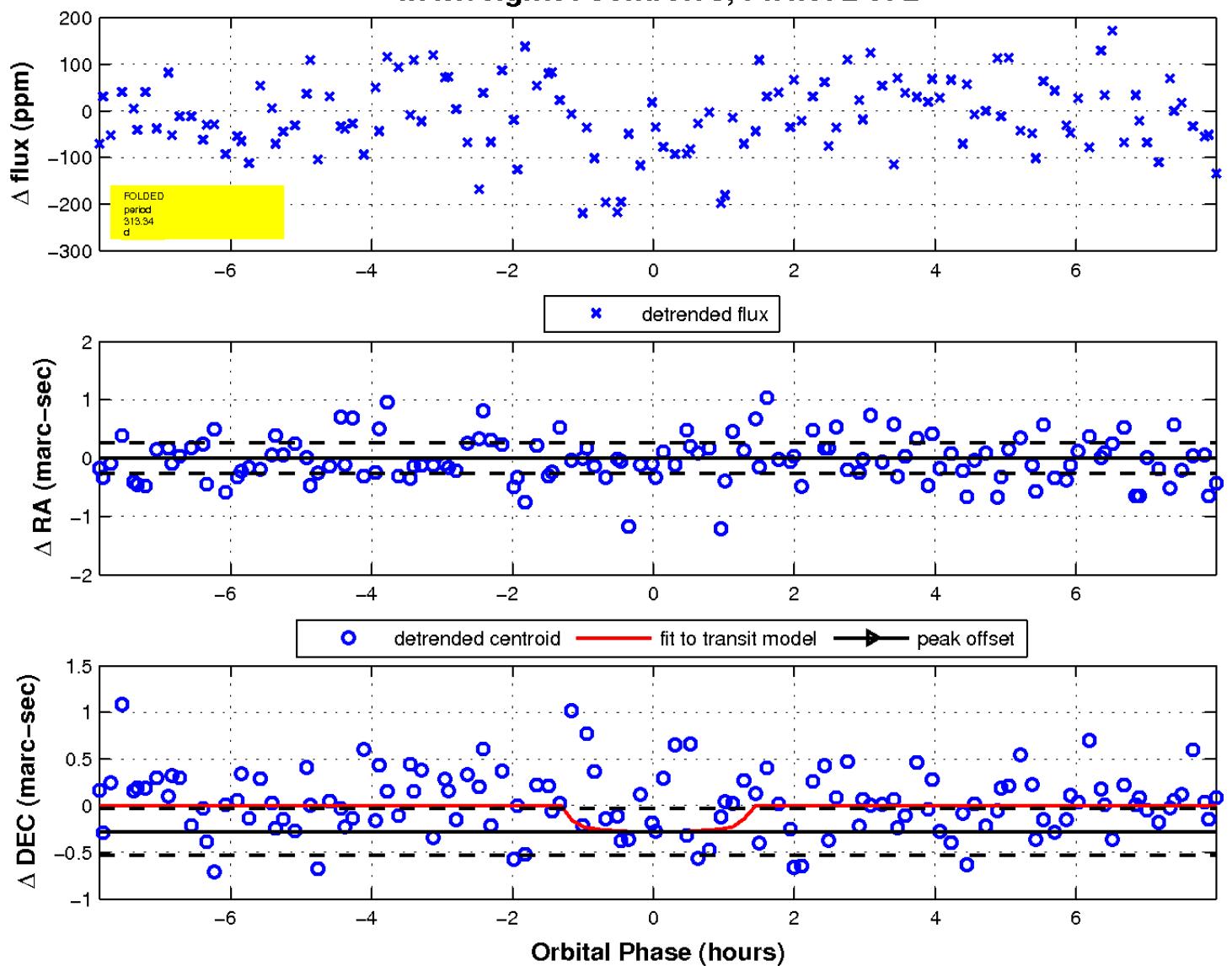
Q16 no OOT image



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



fluxWeightedCentroids, Planet 2 of 2



UKIRT Image

Declination

