

# KIC 005479800

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
005479800-01	OBS	No	415.687992	513.852841	6160.9	3.437	16.7	17.1	1.00	5780	14.35	0.84
005479800-02	OBS	No	1.701477	132.875718	172.9	7.211	13.6	9.3	1.00	5780	1.40	1284.81
005479800-03	OBS	No	474.373573	236.260958	3314.8	6.406	9.3	9.2	1.00	5780	6.84	0.70
005479800-04	OBS	No	1.701159	132.042266	575.7	4.500	9.2	-1.0	1.00	5780	2.38	1285.13

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005479800-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT— INCONSISTENT_TRANS—CENT_FEW_DIFFS
005479800-02	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—SWEET_NTL—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—CENT_RESOLVED_OFFSET
005479800-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT— MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
005479800-04	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—LPP_ALT—SAME_NTL_PERIOD—CENT_NOFITS

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

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

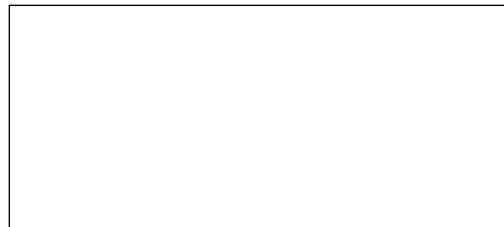
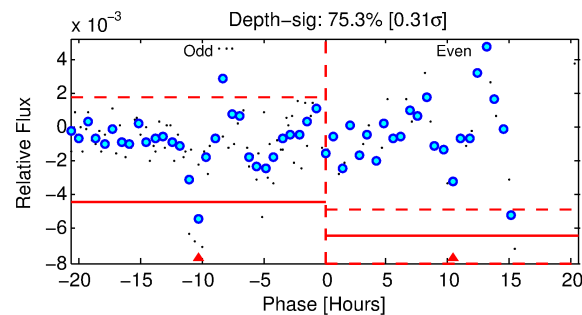
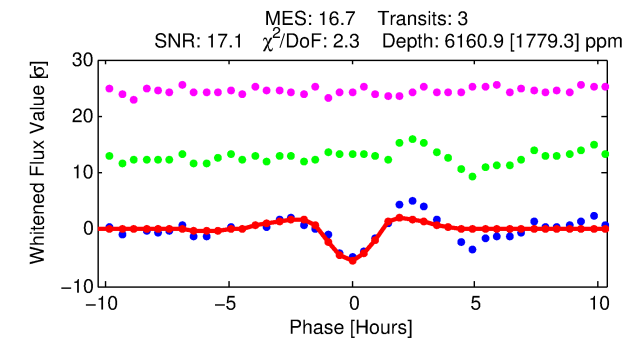
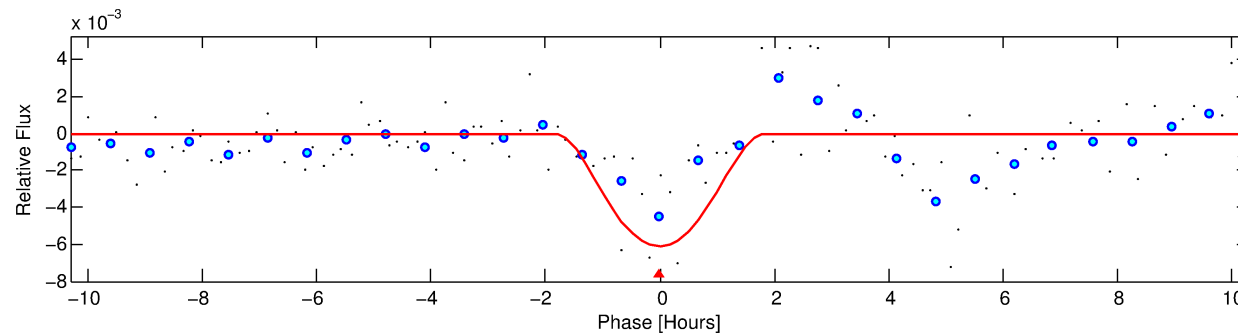
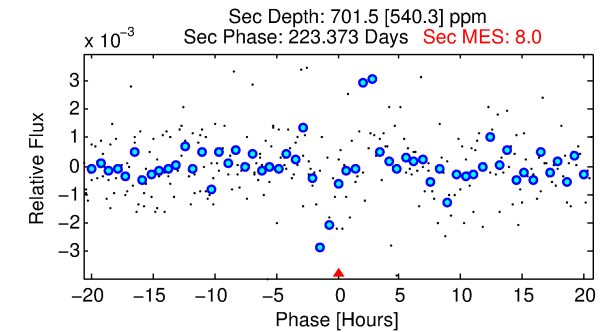
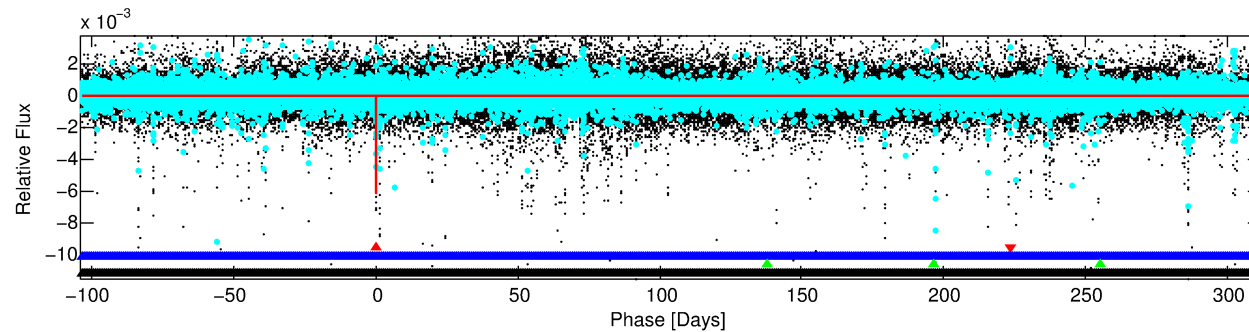
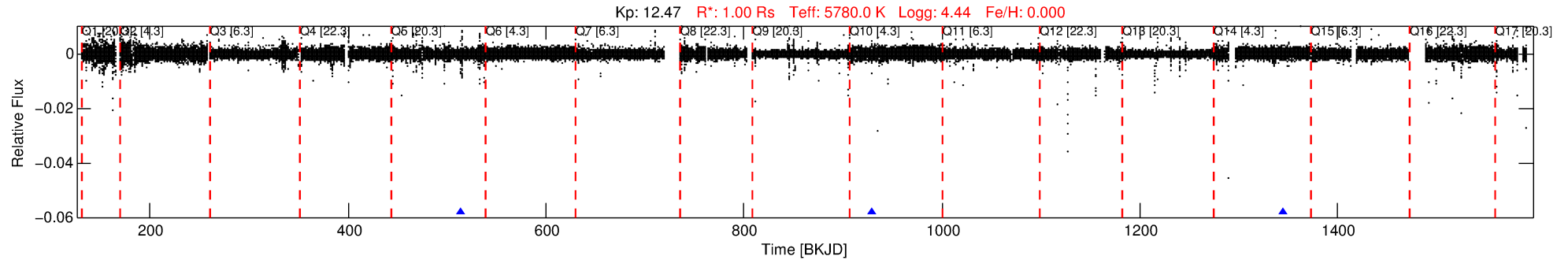
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

Ephemeris Match Information For 005479800-01

No Significant Match Found

# DV One-Page Summary

KIC: 5479800 Candidate: 1 of 4 Period: 415.688 d



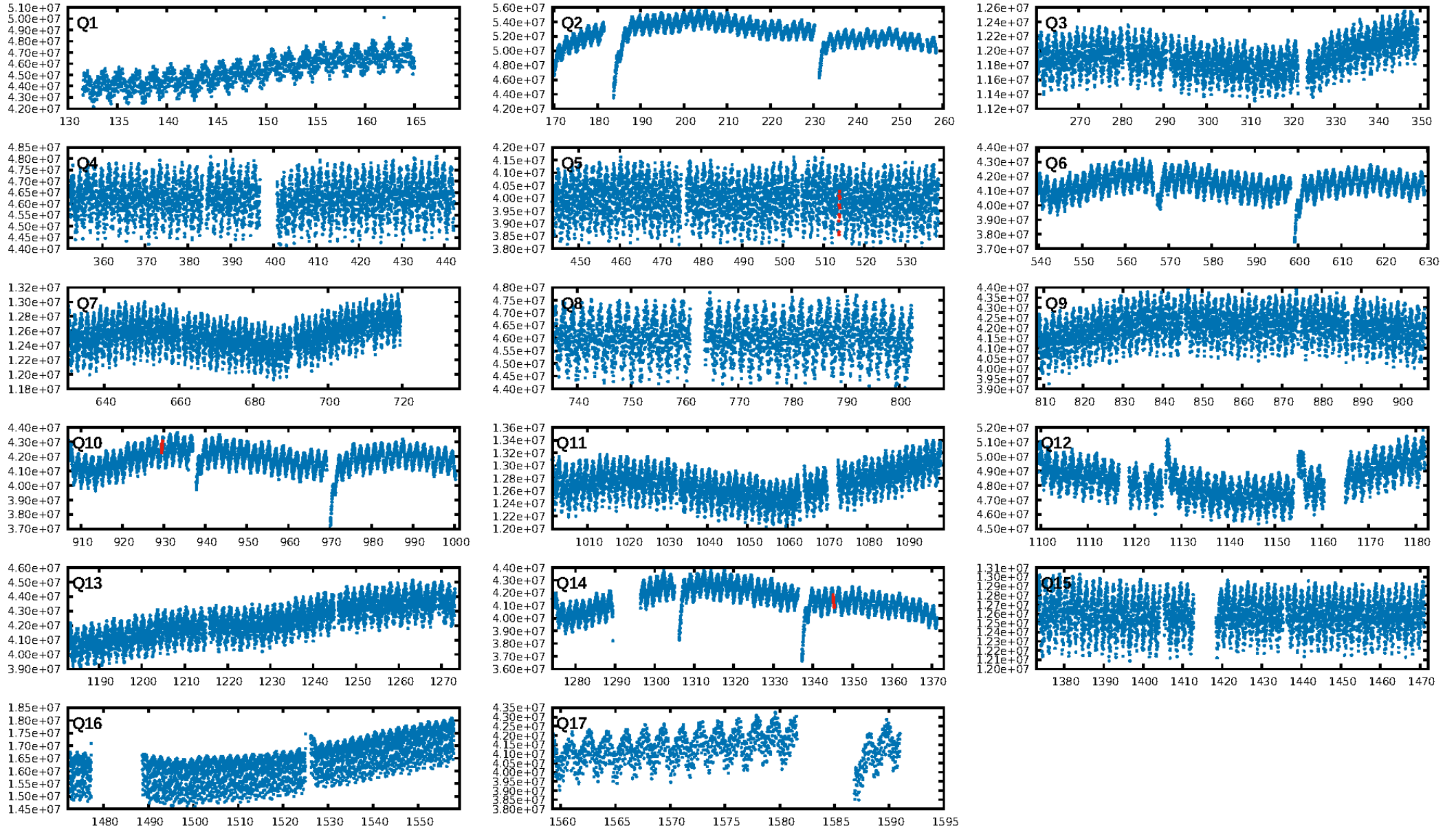
## DV Fit Results:

Period = 415.68799 [0.00533] d  
Epoch = 513.8528 [0.0054] BKJD  
Rp/R\* = 0.1315 [0.7121]  
a/R\* = 492.00 [468.55]  
b = 1.00 [1.03]  
Seff = 0.84 [0.00]  
Teq = 244 [0] K  
Rp = 14.35 [77.71] Re  
a = 1.0903 [0.0000] AU  
Ag = 2226.76 [24173.34] [0.09σ]  
Teffp = 2594 [7039] K [0.33σ]

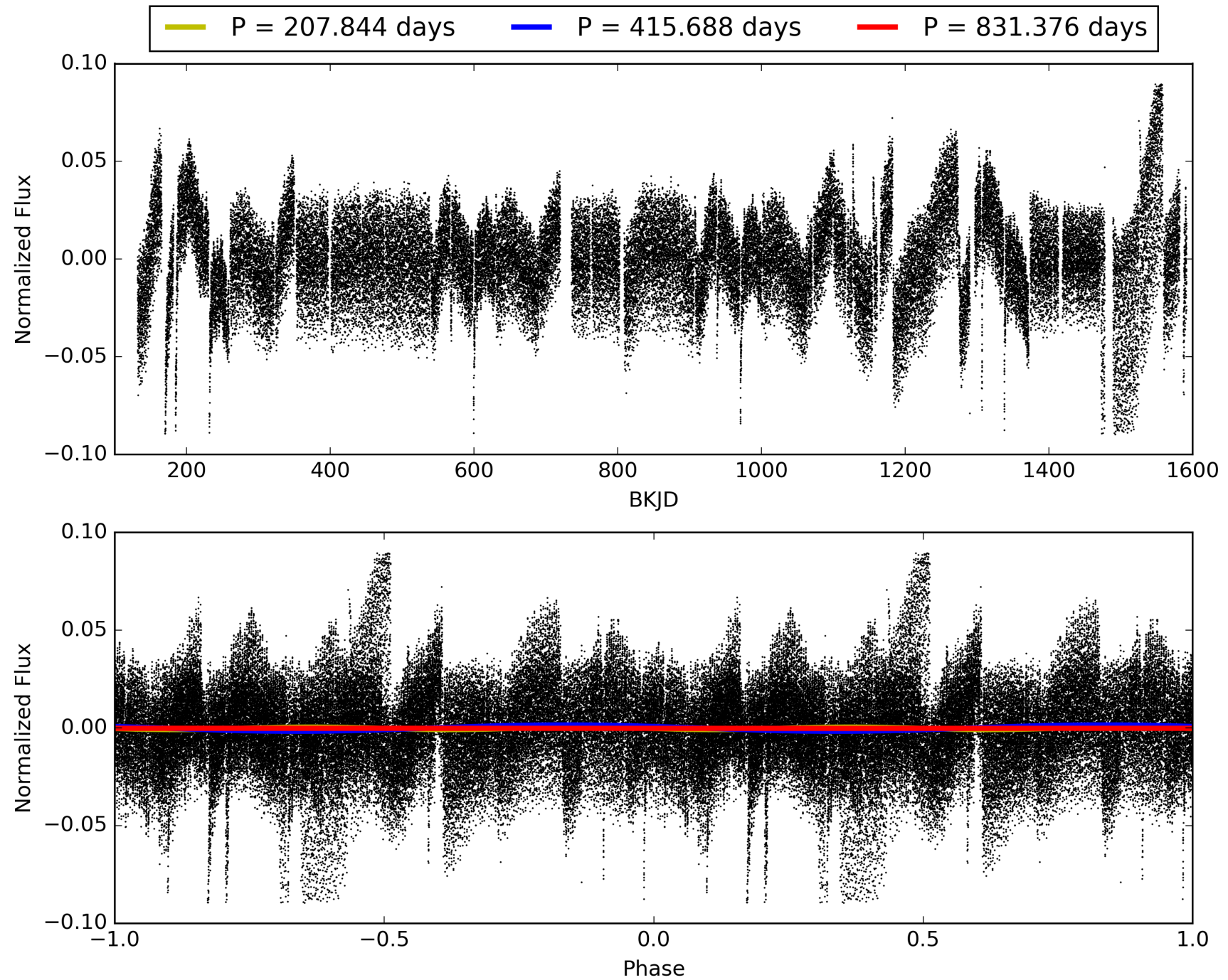
## DV Diagnostic Results:

ShortPeriod-sig: 100.0% [1243.86σ]  
LongPeriod-sig: 100.0% [193.74σ]  
ModelChiSquare2-sig: 0.0%  
ModelChiSquareGoF-sig: 11.1%  
Bootstrap-pfa: N/A  
RollingBand-fgt: 1.00 [3/3]  
GhostDiagnostic-chr: -0.7706  
Centroid-sig: 20.9%  
Centroid-so: 4.773 arcsec [26.54σ]  
OotOffset-rm: N/A  
KicOffset-rm: N/A  
OotOffset-st: 0/0/0 [0]  
KicOffset-st: 0/0/0 [0]  
DiffImageQuality-fgm: N/A  
DiffImageOverlap-fno: 0.00 [0/2]

# TCE 005479800-01, PDC Light Curves



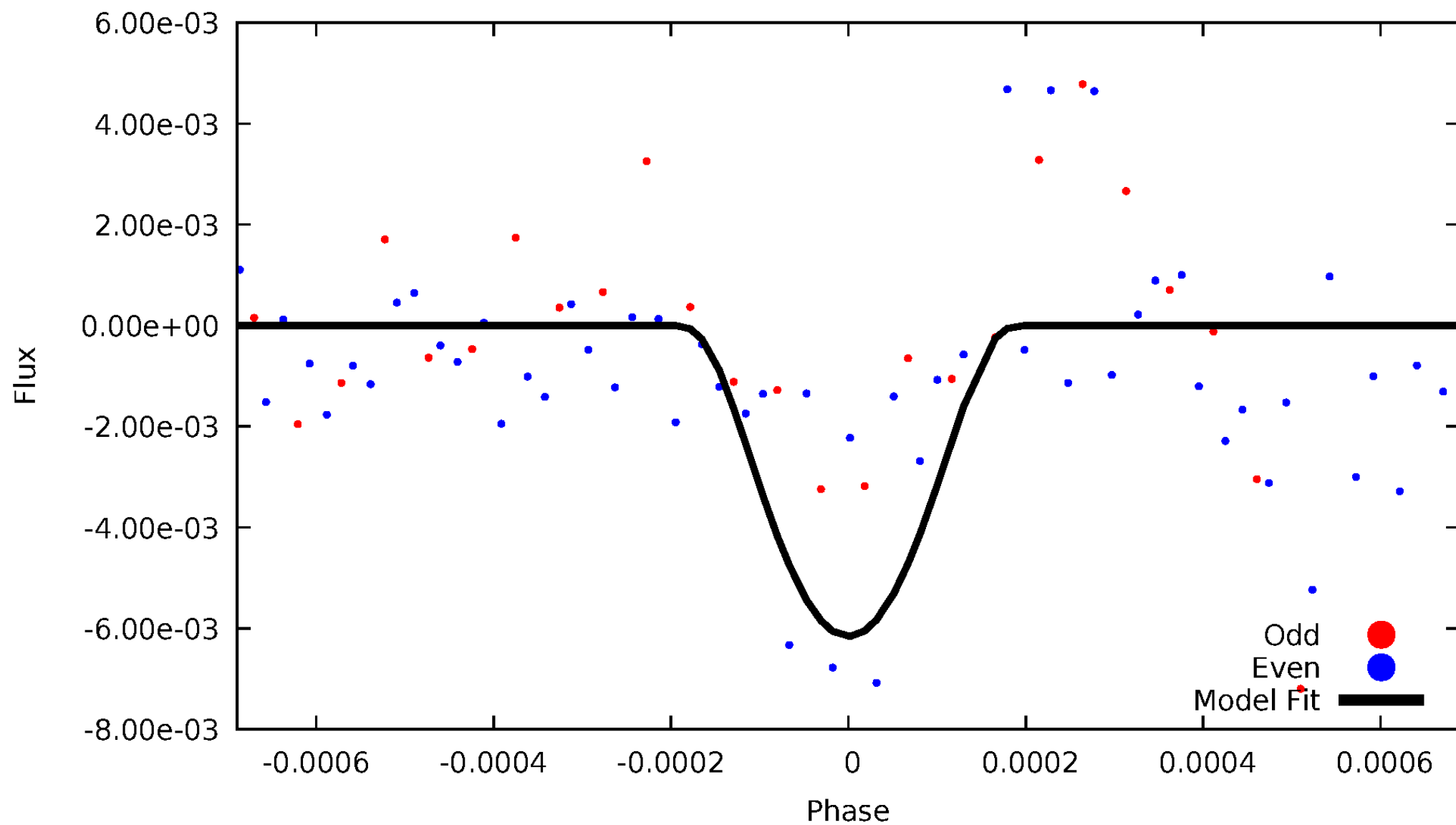
TCE 005479800-01





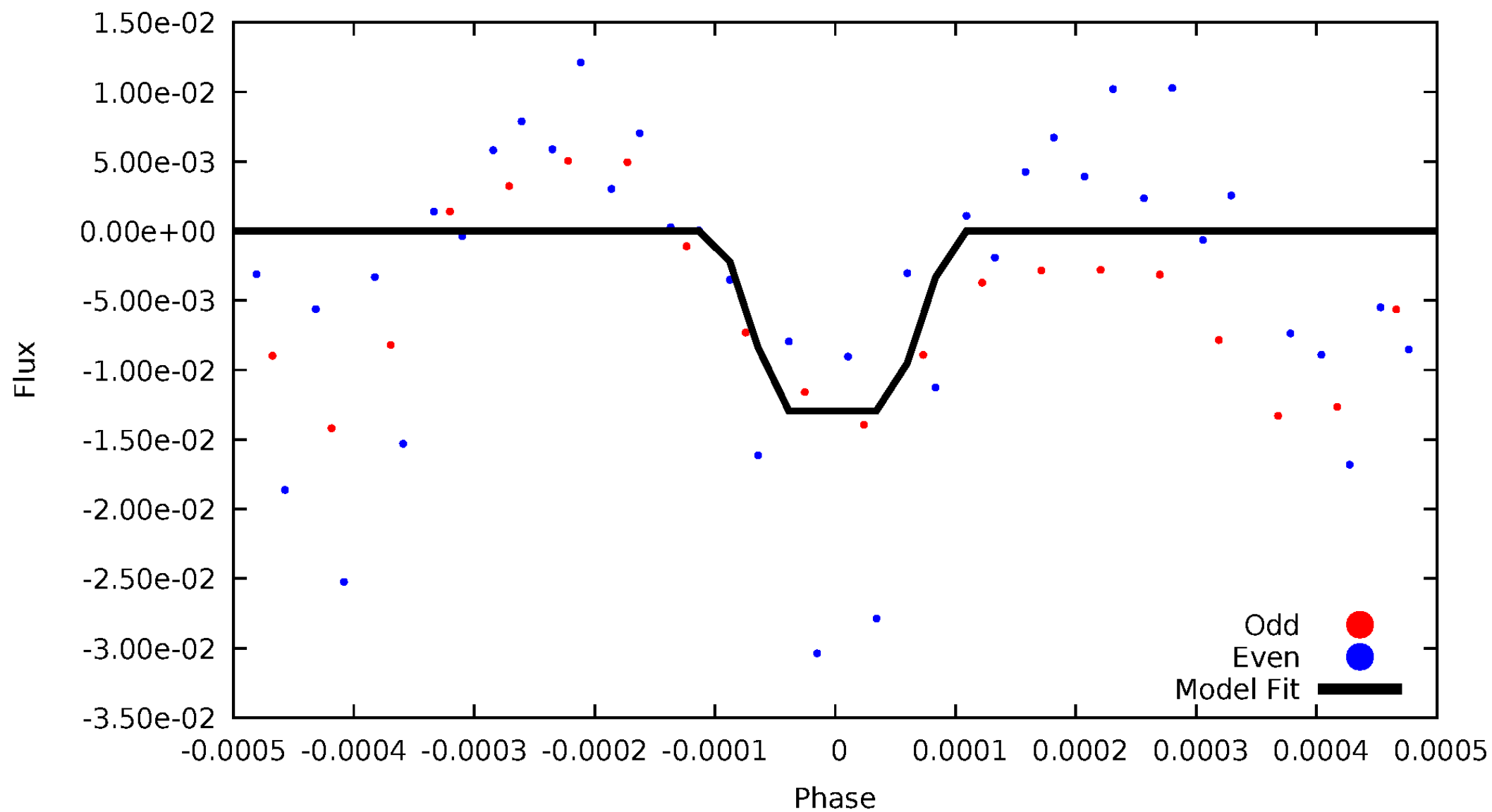
# DV Odd/Even

TCE 005479800-01



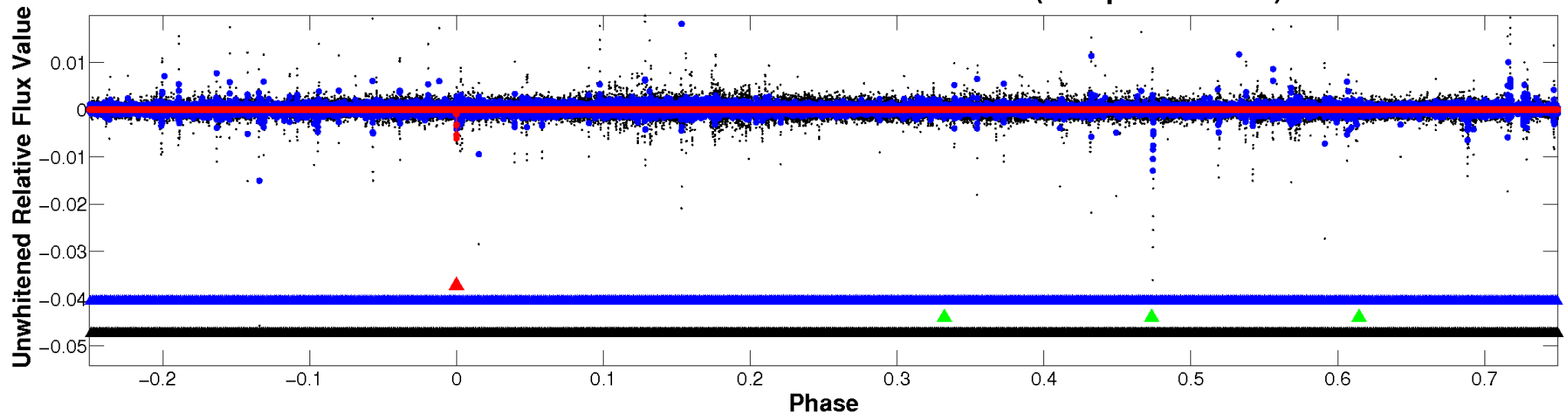
# ALT Odd/Even

TCE 005479800-01

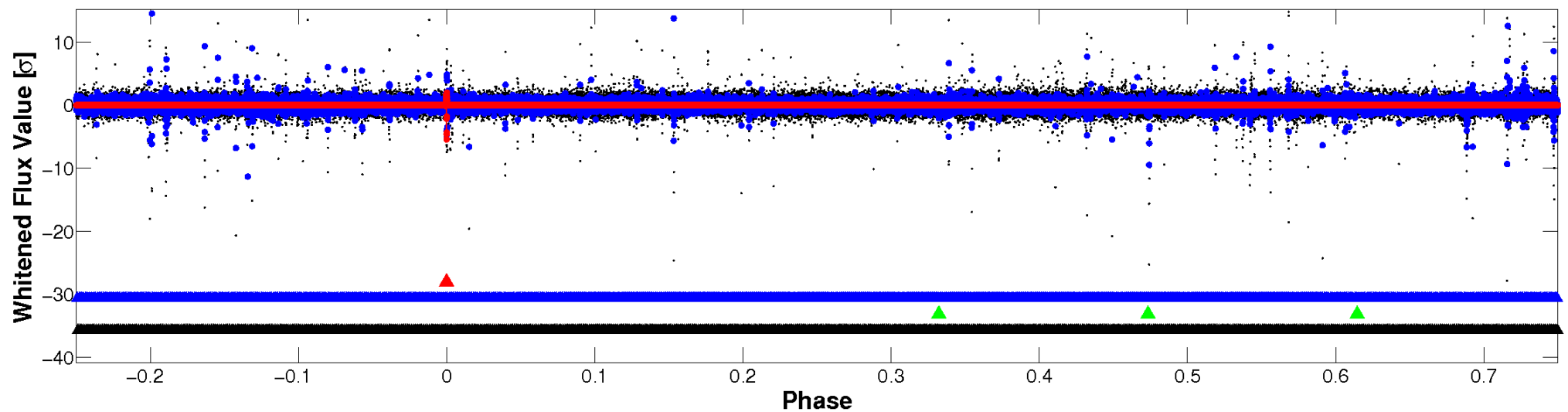


# Non-Whitened Vs. Whitened Light Curve

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

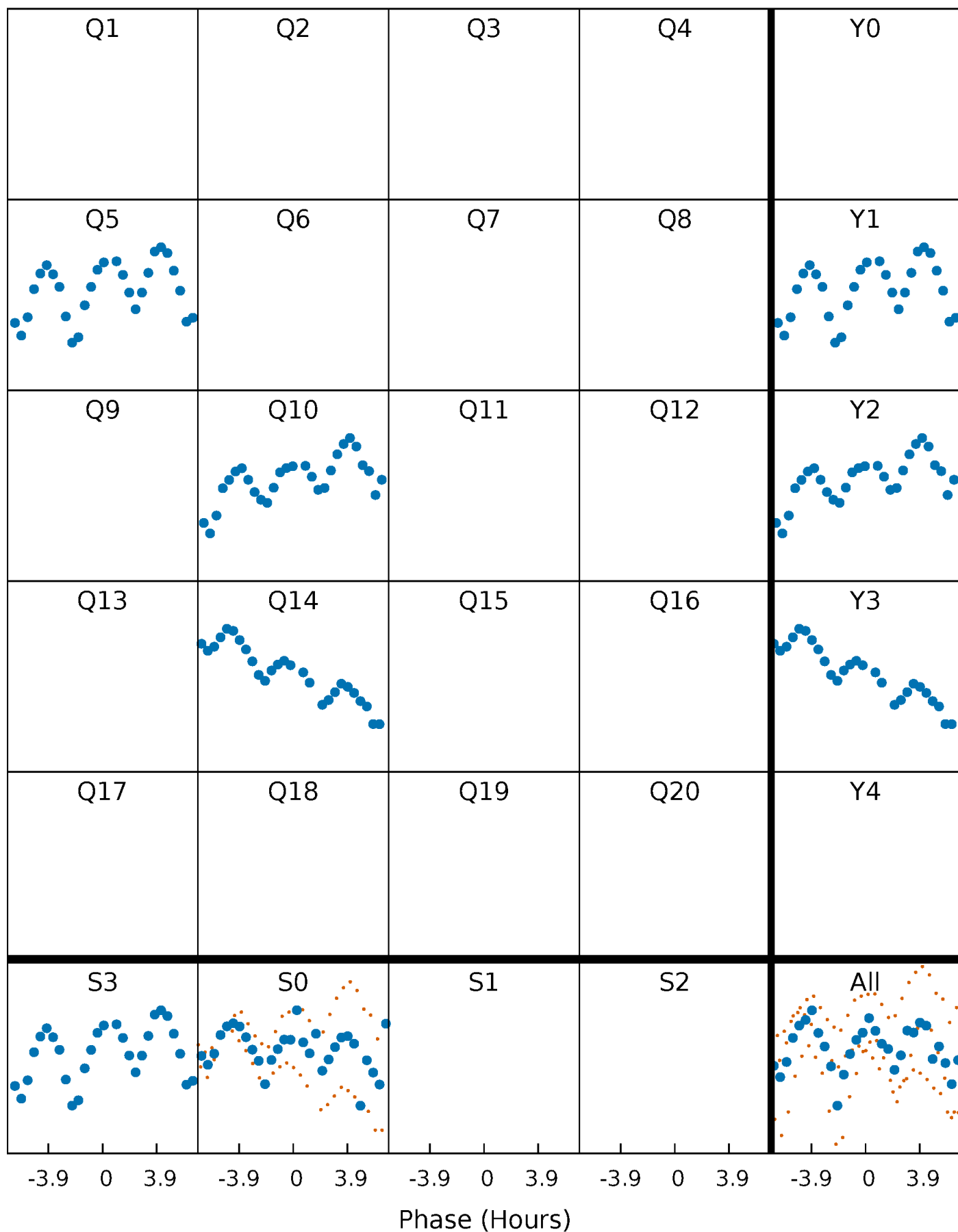


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



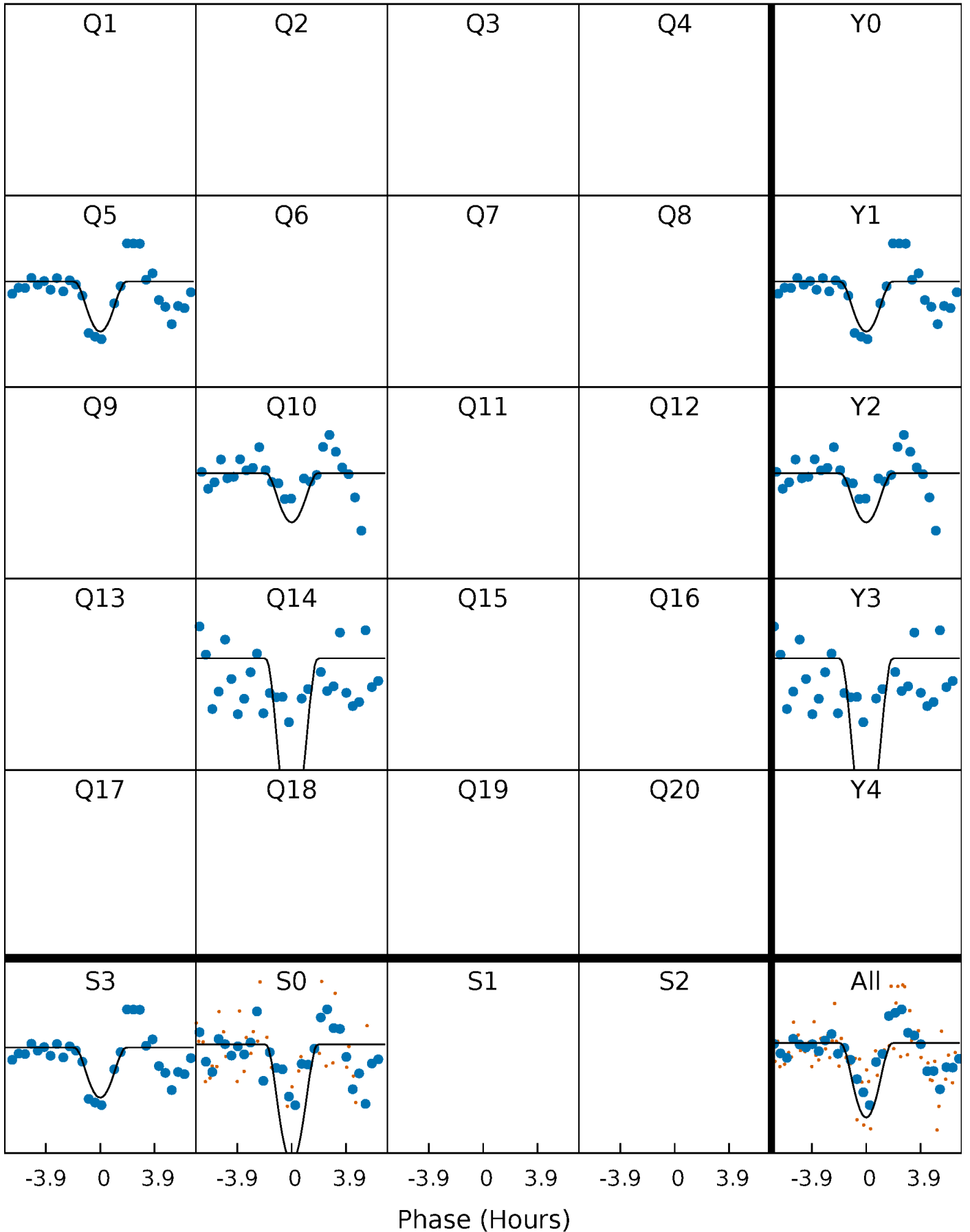
# PDC Quarter-Phased Transit Curves

TCE 005479800-01 P=415.687992 Days  $T_0=513.852841$  (BKJD)



# DV Quarter-Phased Transit Curves

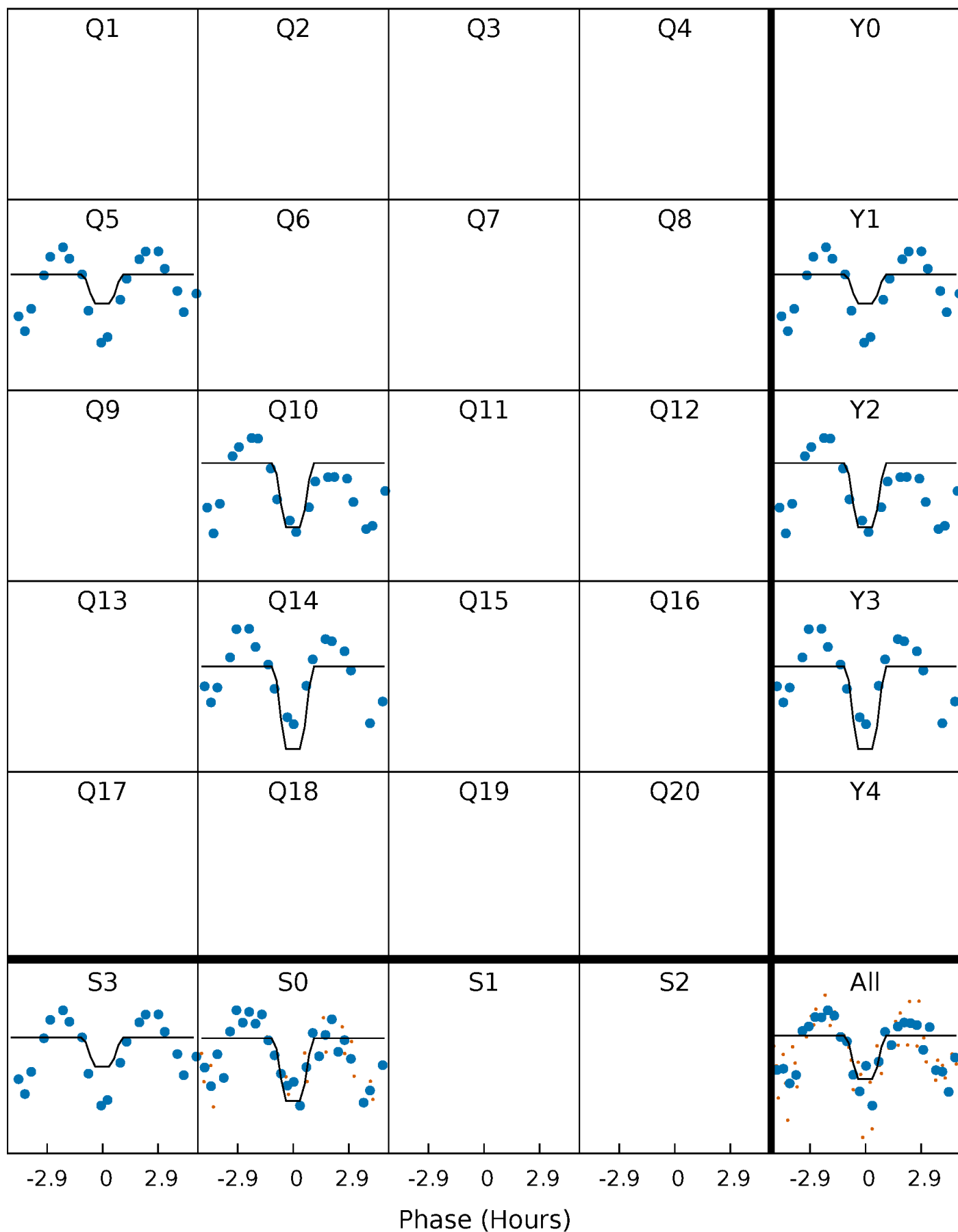
TCE 005479800-01 P=415.687992 Days  $T_0=513.852841$  (BKJD)





# Alt. Detrend Quarter-Phased Transit Curves

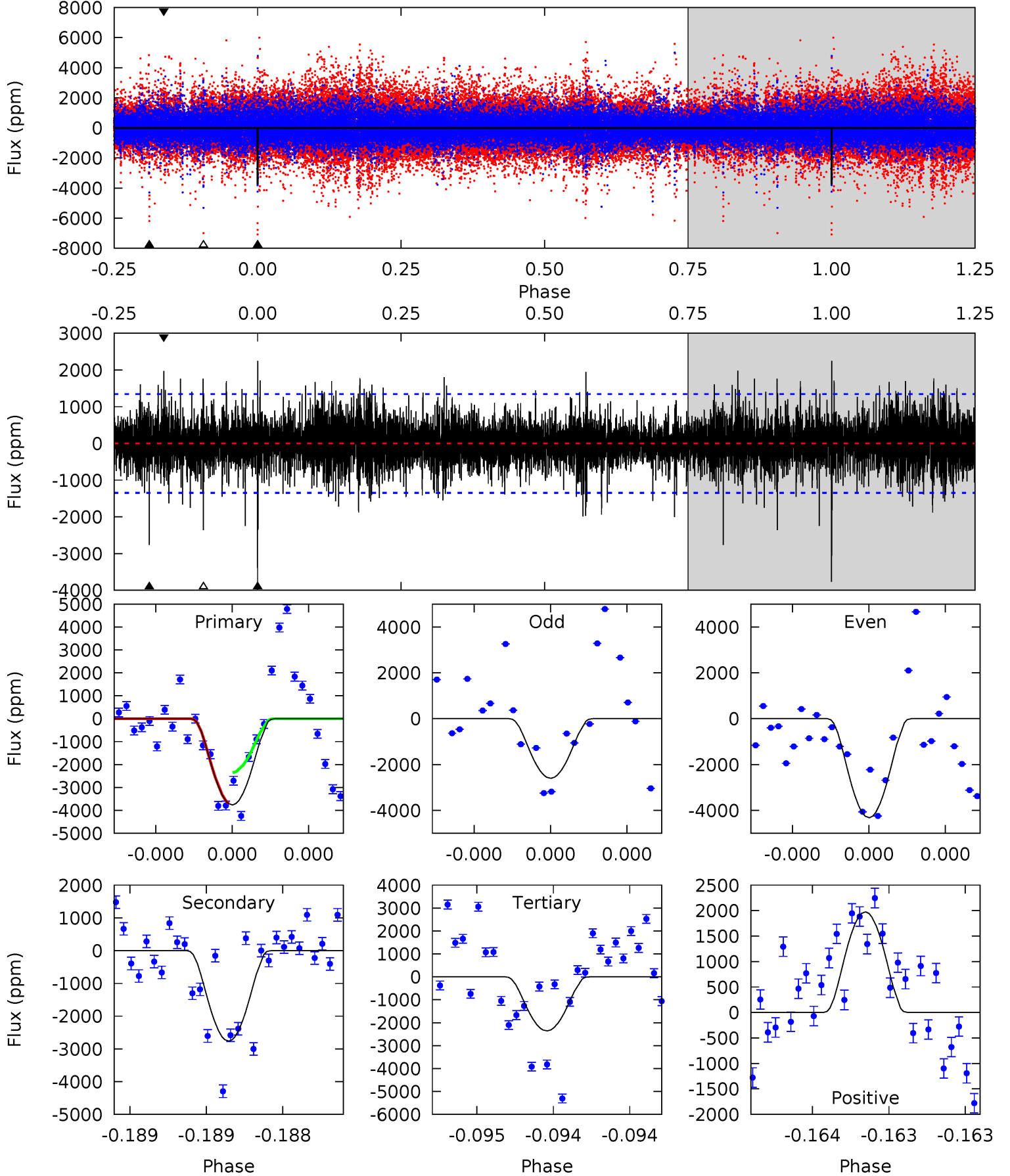
TCE 005479800-01 P=415.686722 Days  $T_0=513.770040$  (BKJD)



# DV Model-Shift Uniqueness Test

005479800-01, P = 415.687992 Days, E = 98.164849 Days

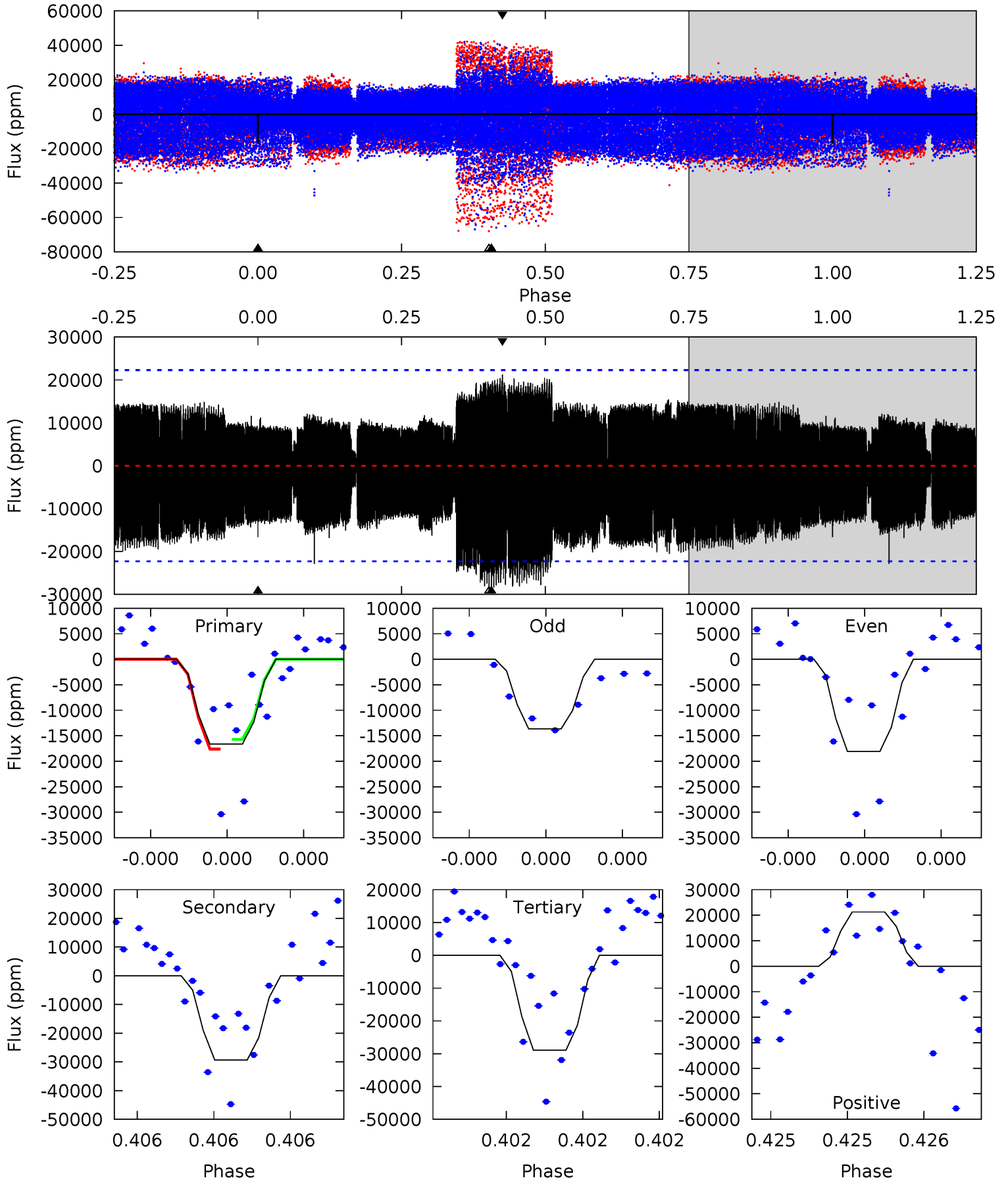
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
15.7	11.6	9.86	8.26	5.63	3.57	1.88	5.88	7.48	1.69	3.29	3.12	1.42	0.37	2.70



# Alt Model-Shift Uniqueness Test

005479800-01, P = 415.686722 Days, E = 98.083318 Days

Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4.30	7.58	7.48	5.49	5.76	3.76	2.53	-3.18	-1.19	0.10	2.08	0.58	1.23	0.42	0.25



### Stellar Parameters For KIC 005479800

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$5780^{+1}_{-1}$	$4.438^{+1.000}_{-1.000}$	$0.000^{+1.000}_{-1.000}$	$1.000^{+1.000}_{-1.000}$	$-1.000^{+1.000}_{-1.000}$	$-1.000^{+1.000}_{-1.000}$
	+0%/-0%	+23%/-23%	+inf%/-inf%	+100%/-100%	+100%/-100%	+100%/-100%
Source	Solar	Solar	Solar	Solar		

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

### Secondary Eclipse Parameters for KIC 005479800-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-2763 \pm 239$	$59.34^{+61.97}_{-44.14}$	$341^{+17}_{-16}$	$2629^{+1271}_{-426}$	$531^{+7202}_{-407}$
Alt.	$-29336 \pm 3873$	$57.45^{+63.03}_{-39.57}$	$341^{+17}_{-17}$	$3741^{+2198}_{-775}$	$5825^{+57585}_{-4467}$

$T_{max}$  = 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  $A_{obs} \gg 1.0$

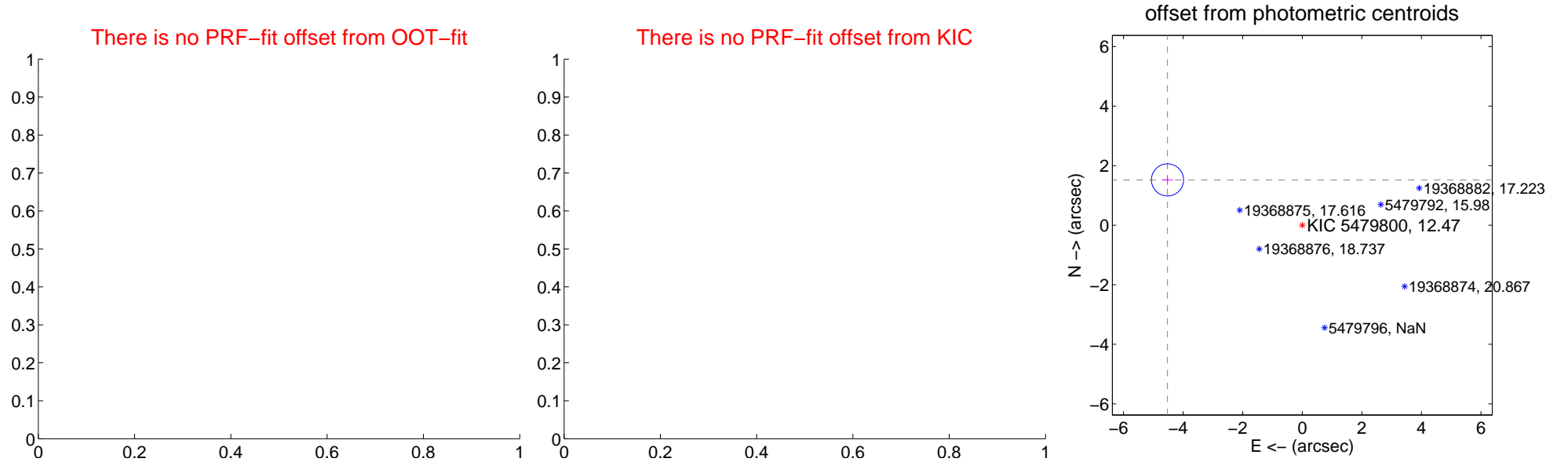
## DV Centroid Data

Supplemental centroid analysis for 005479800-01. Kepler magnitude: 12.47. Transit SNR 17.08

There are 0 quarters with good PRF difference image offsets

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

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	—	—	—	—
PRF-fit source offset from KIC position	—	—	—	—
photometric centroid source offset	$4.77 \pm 0.18$	26.54	$4.52 \pm 0.18$	$1.52 \pm 0.17$



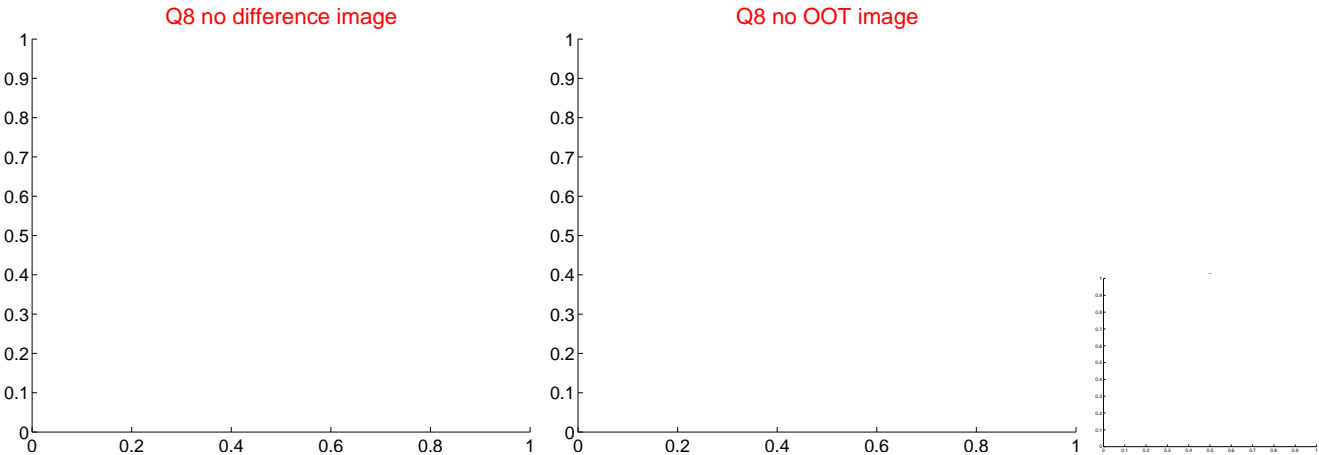
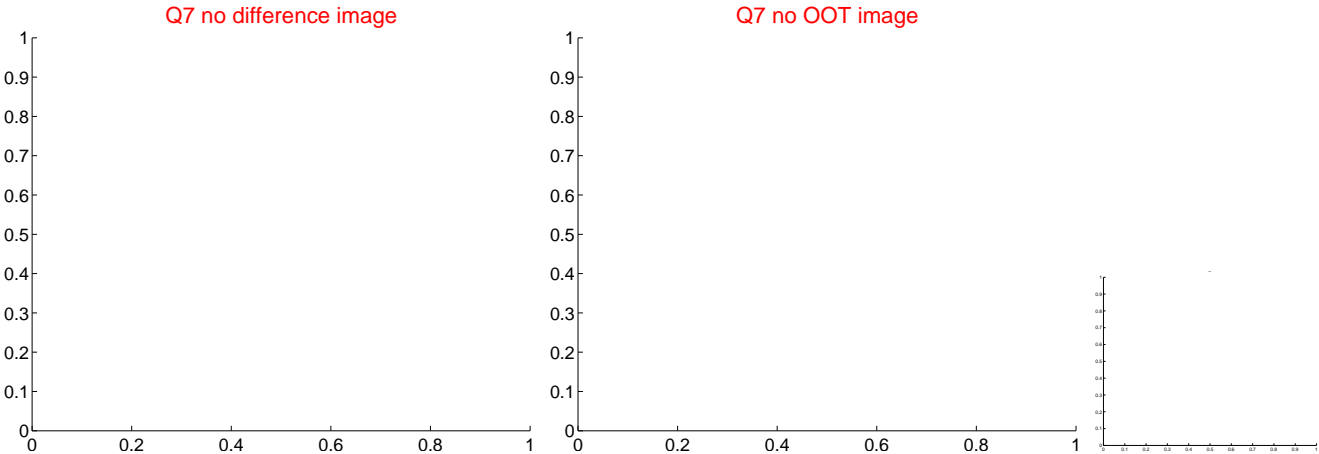
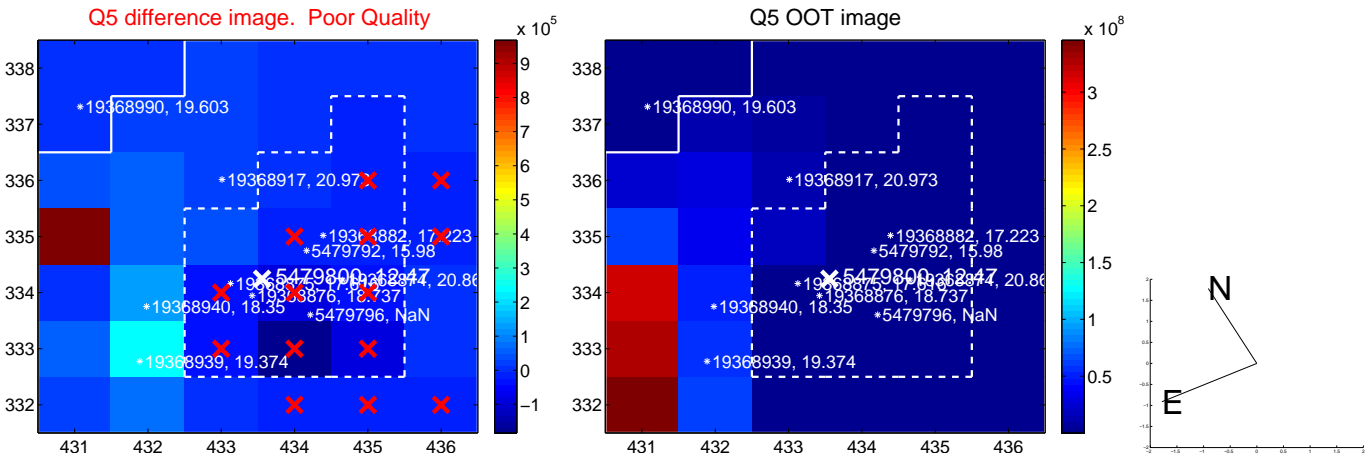
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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



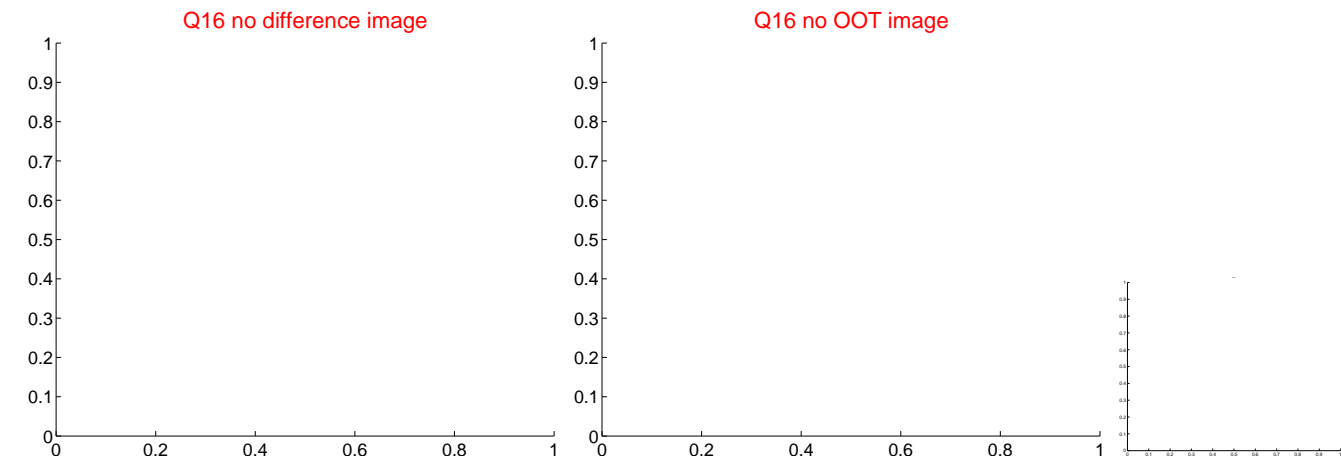
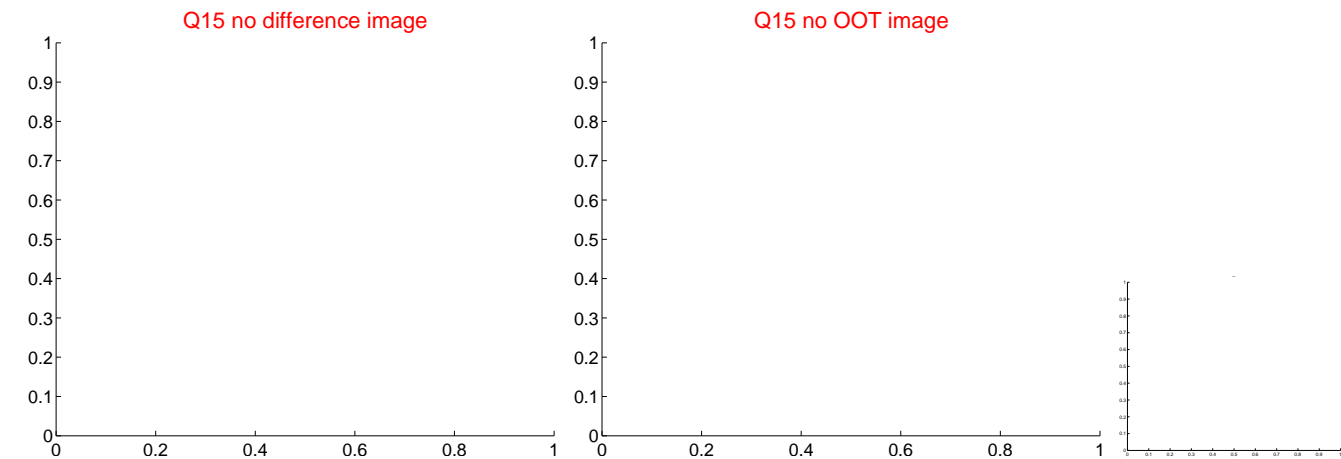
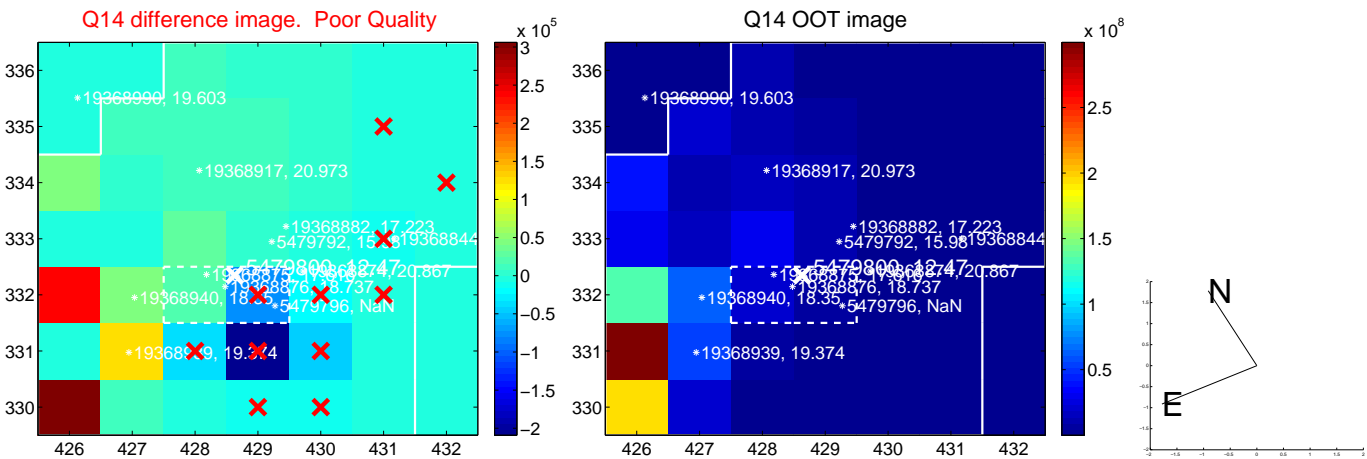
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



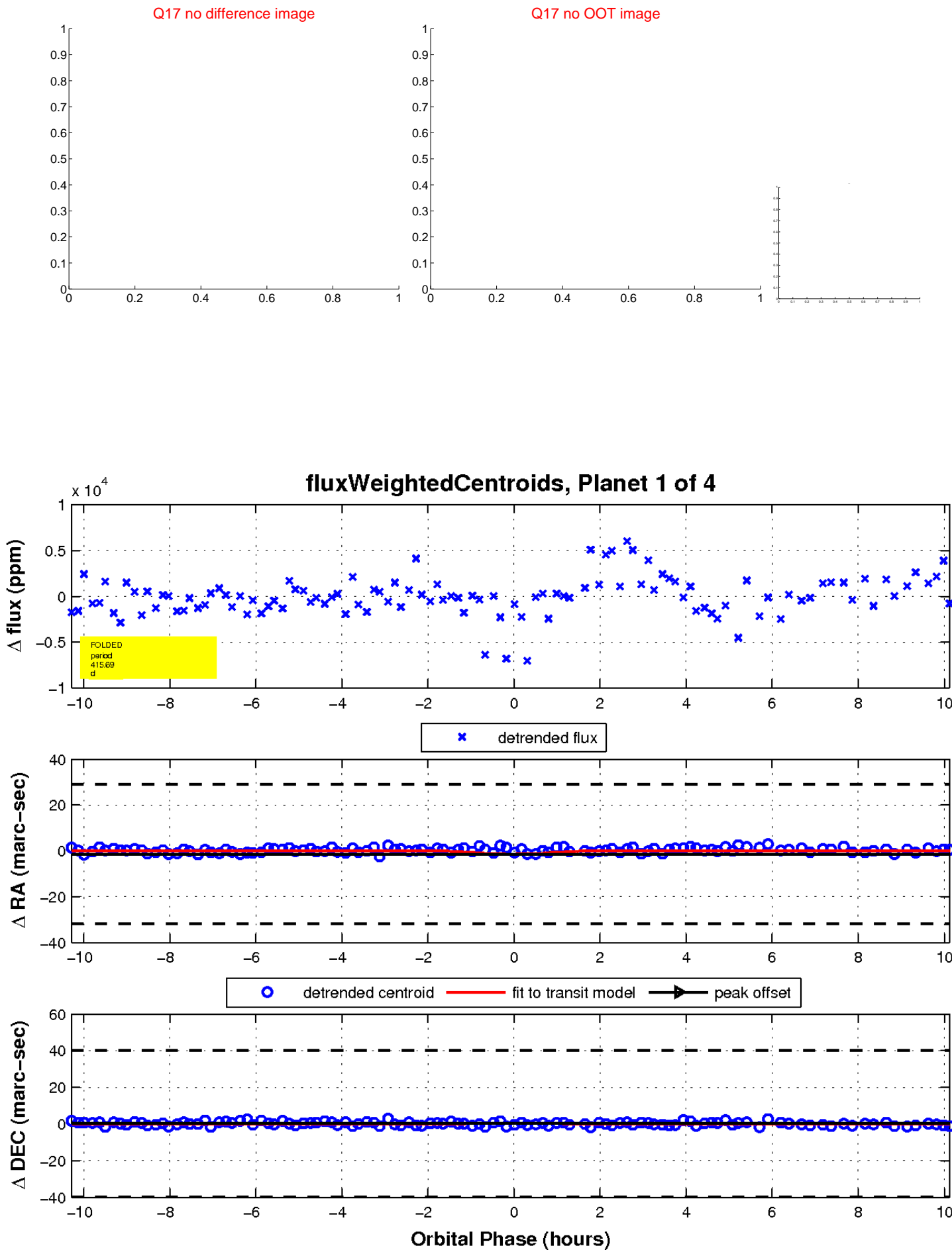
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



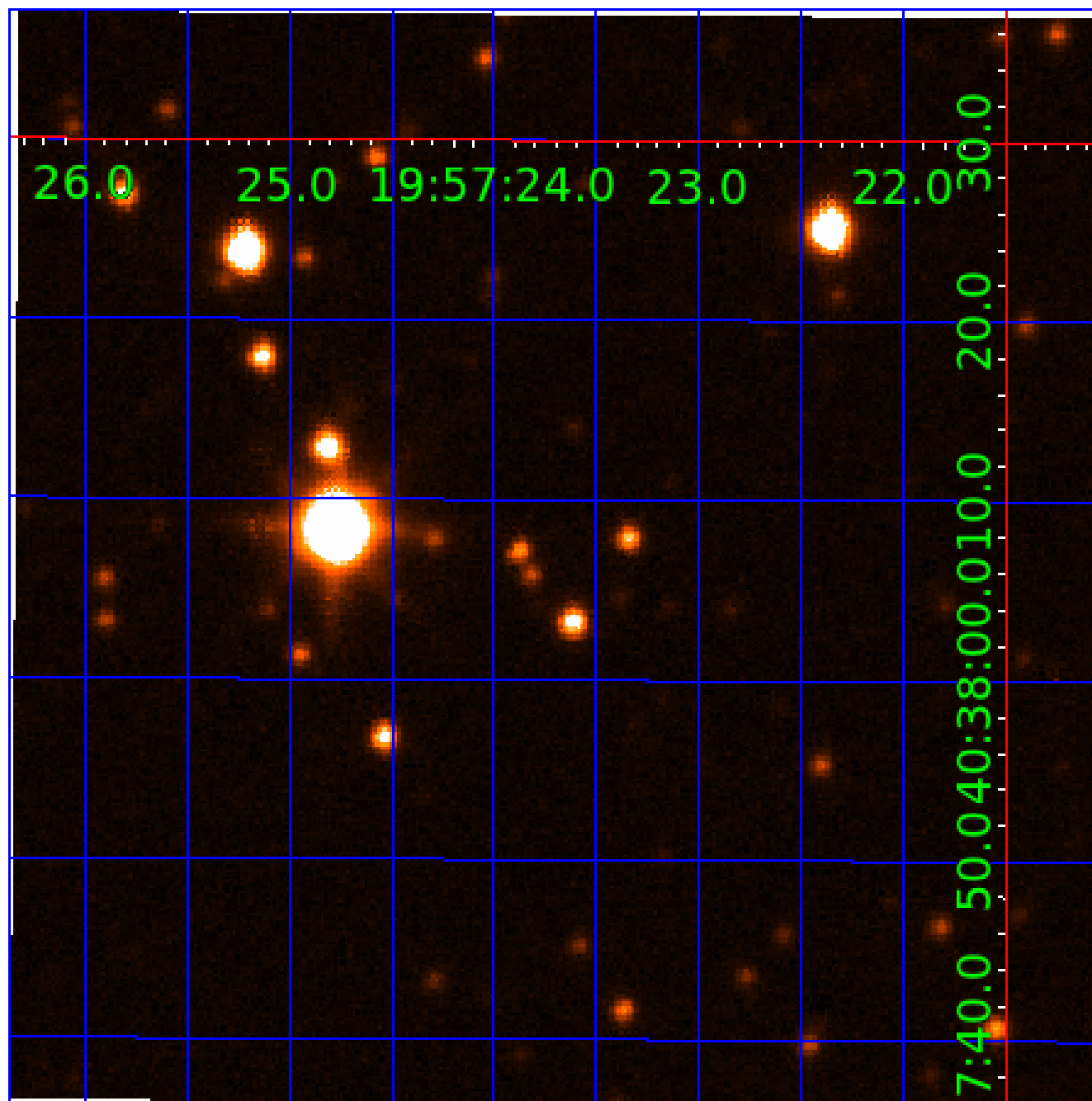
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.





UKIRT Image

Declination



# KIC 005479800

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
005479800-01	OBS	No	415.687992	513.852841	6160.9	3.437	16.7	17.1	1.00	5780	14.35	0.84
005479800-02	OBS	No	1.701477	132.875718	172.9	7.211	13.6	9.3	1.00	5780	1.40	1284.81
005479800-03	OBS	No	474.373573	236.260958	3314.8	6.406	9.3	9.2	1.00	5780	6.84	0.70
005479800-04	OBS	No	1.701159	132.042266	575.7	4.500	9.2	-1.0	1.00	5780	2.38	1285.13

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005479800-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
005479800-02	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—SWEET_NTL—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—CENT_RESOLVED_OFFSET
005479800-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
005479800-04	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—LPP_ALT—SAME_NTL_PERIOD—CENT_NOFITS

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

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

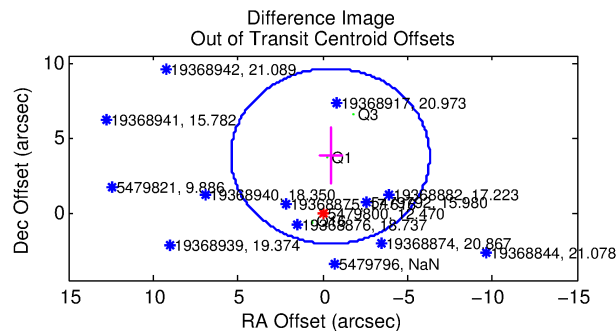
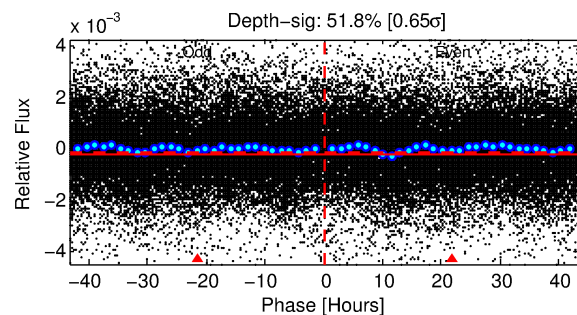
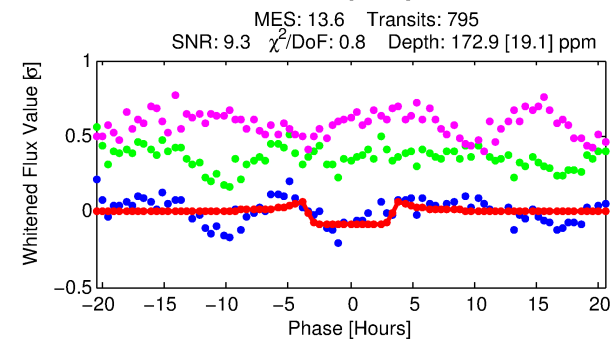
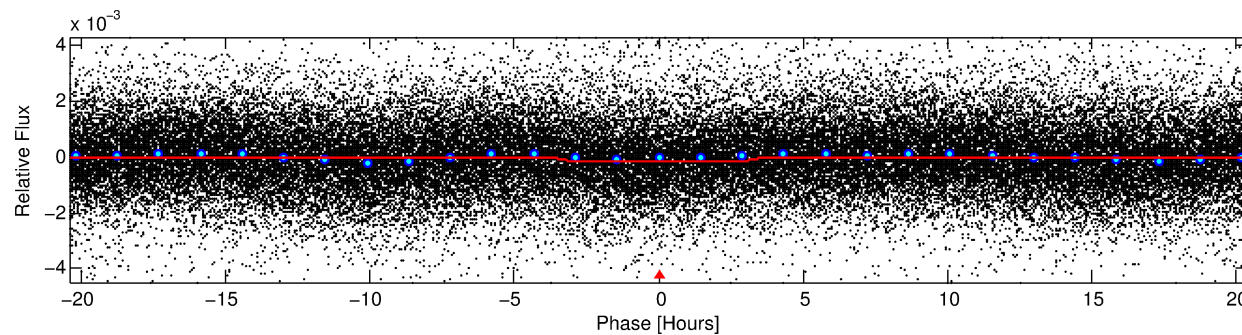
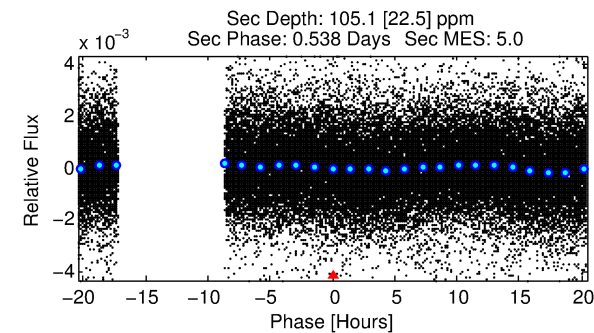
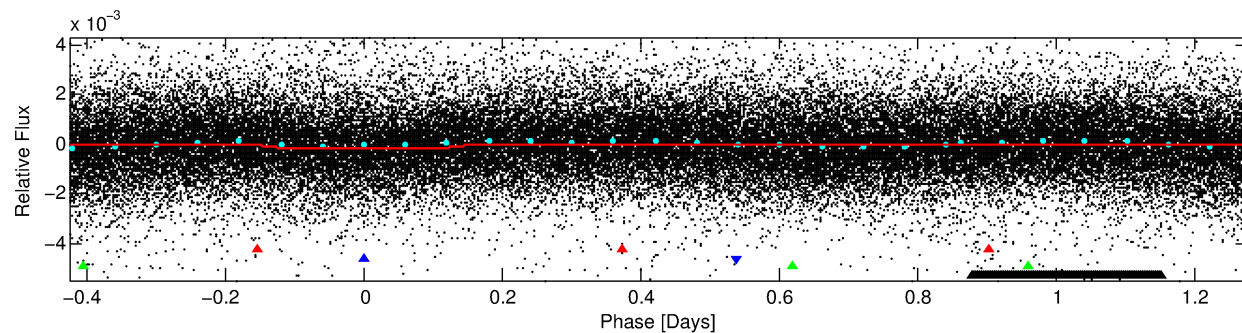
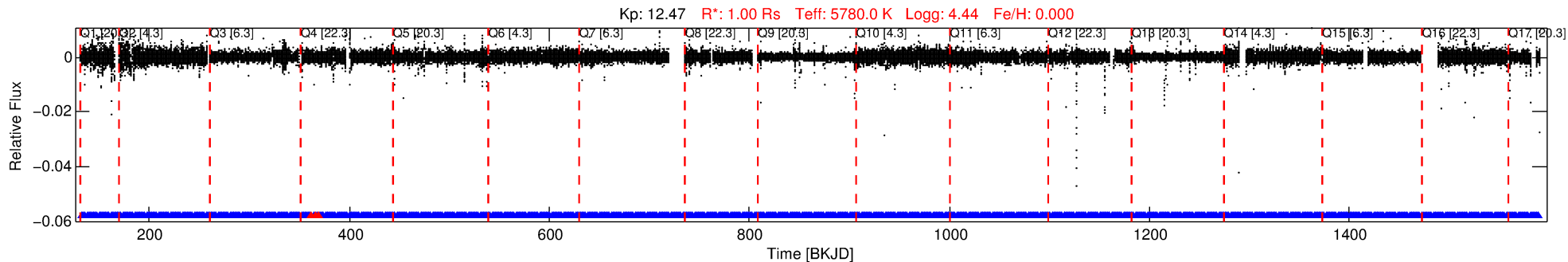
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 005479800-02

No Significant Match Found

# DV One-Page Summary

KIC: 5479800 Candidate: 2 of 4 Period: 1.701 d



## DV Fit Results:

Period = 1.70148 [0.00002] d  
Epoch = 132.8757 [0.0042] BKJD  
Rp/R\* = 0.0129 [0.0064]  
a/R\* = 1.55 [2.01]  
b = 0.70 [1.61]  
Seff = 1284.81 [0.02]  
Teq = 1527 [0] K  
Rp = 1.40 [0.70] Re  
a = 0.0279 [0.0000] AU  
Ag = 22.82 [23.32] [0.94σ]  
Teffp = 5159 [1318] K [2.76σ]

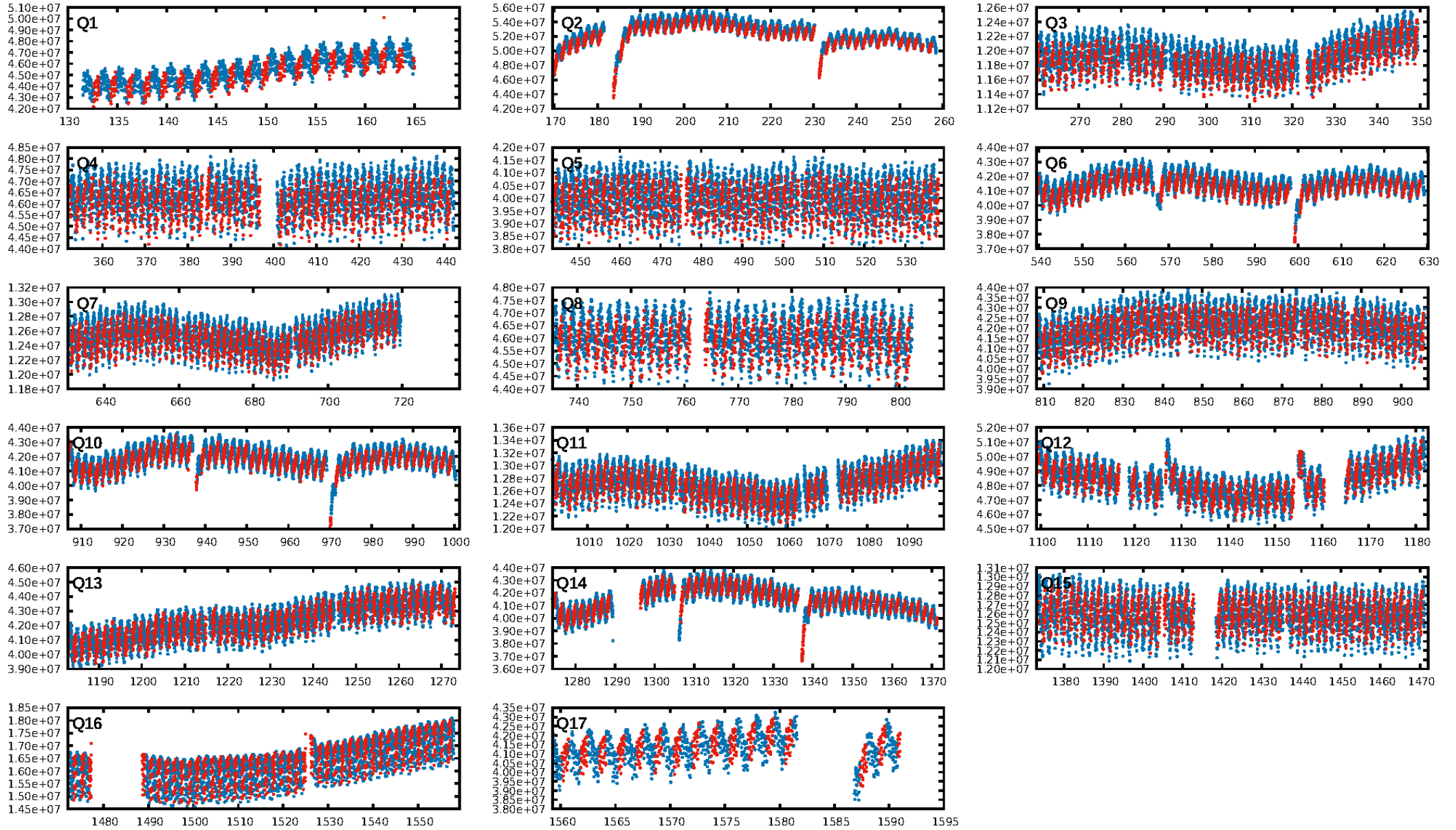
## DV Diagnostic Results:

ShortPeriod-sig: 0.1% [0.00σ]  
LongPeriod-sig: 100.0% [1243.86σ]  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: N/A  
RollingBand-fgt: 1.00 [757/760]  
GhostDiagnostic-chr: -0.6887  
Centroid-sig: 22.2%  
Centroid-so: 4.368 arcsec [16.15σ]  
OotOffset-rm: 3.797 arcsec [1.95σ]  
OotOffset-st: 0/1/1/1 [3]  
KicOffset-rm: 10.324 arcsec [13.51σ]  
KicOffset-st: 4/1/1/1 [7]  
DiffImageQuality-fgm: 0.14 [1/7]  
DiffImageOverlap-fno: 0.53 [9/17]

Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 17:03:39 Z

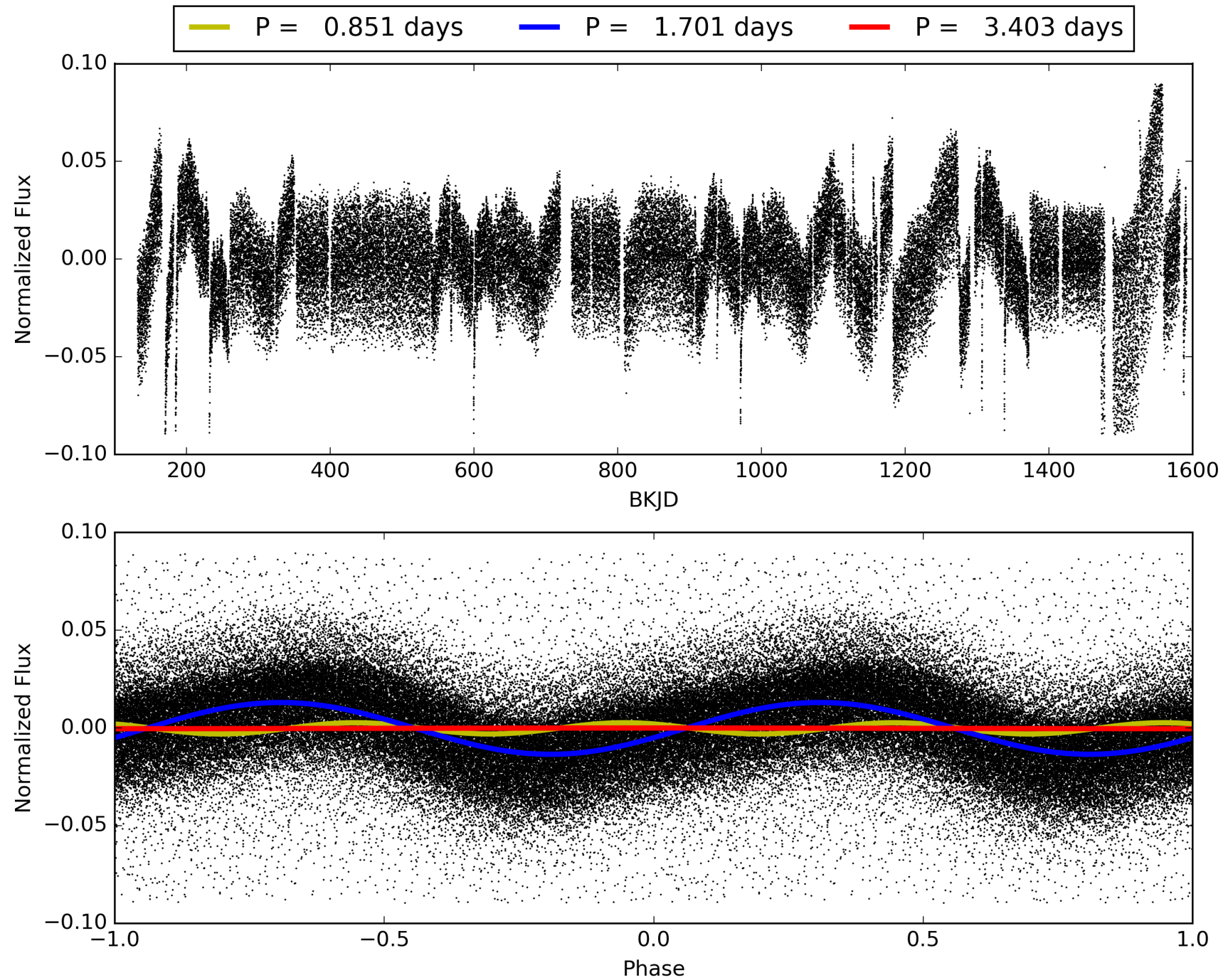
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

# TCE 005479800-02, PDC Light Curves





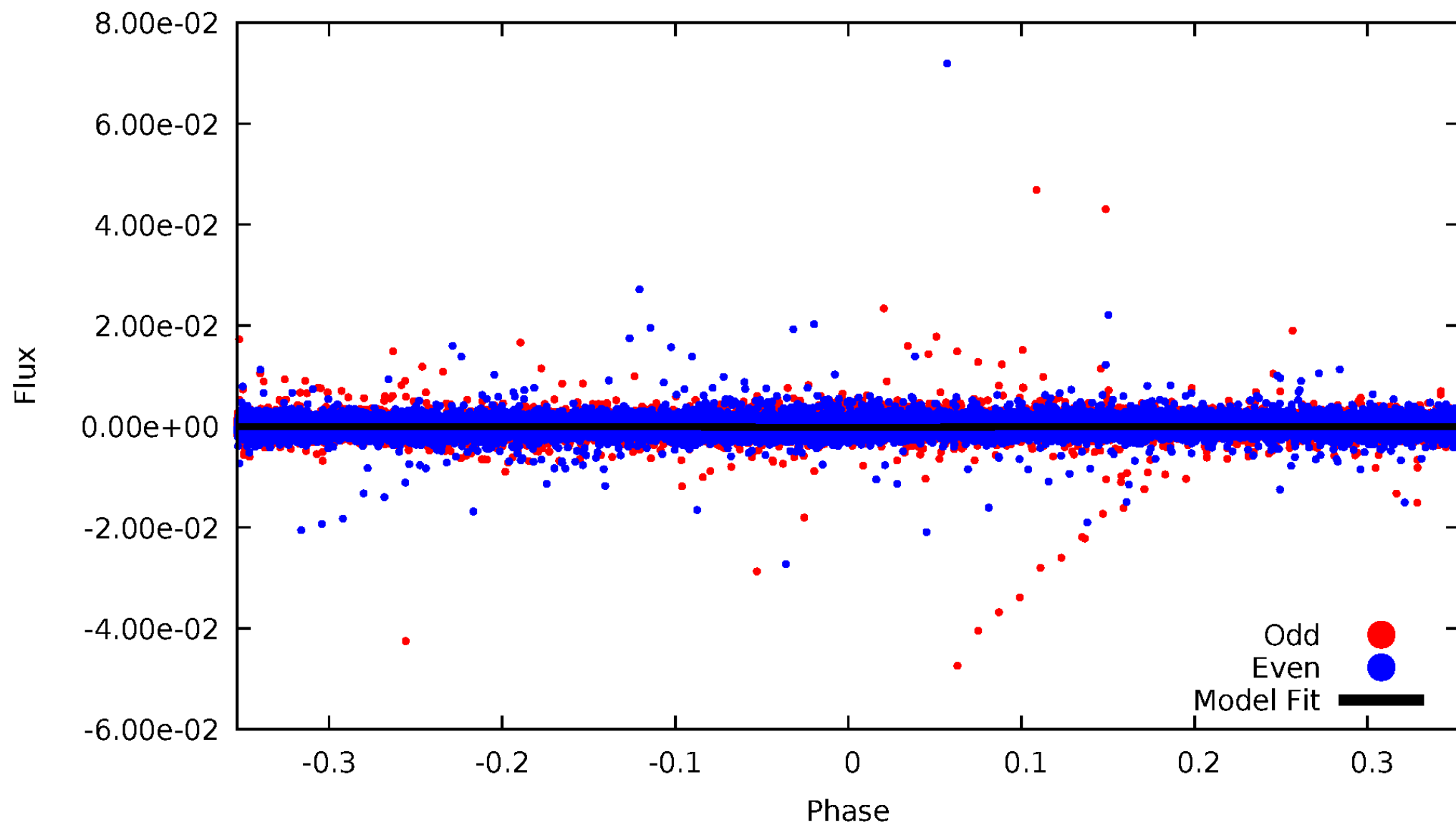
TCE 005479800-02





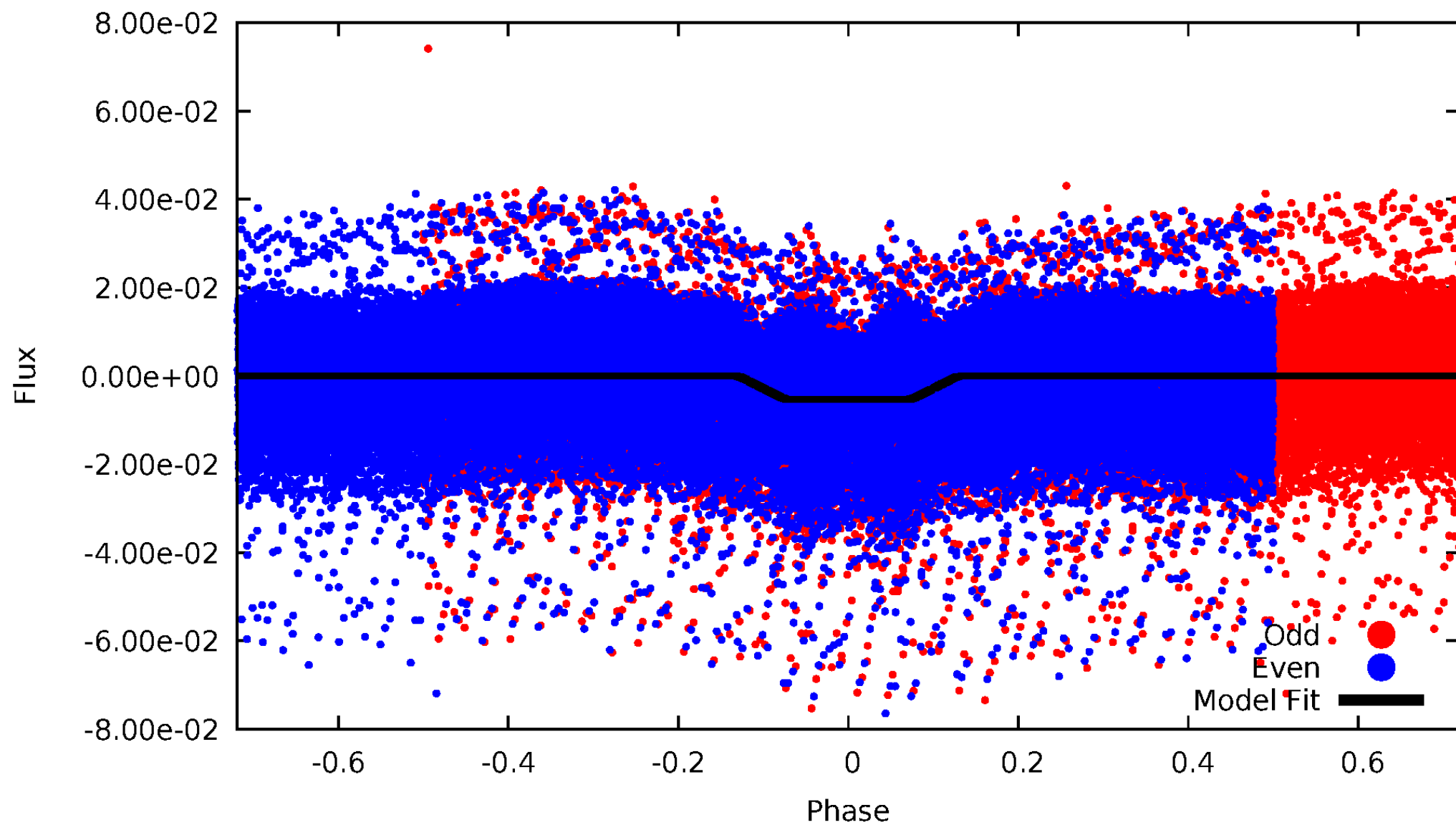
# DV Odd/Even

TCE 005479800-02



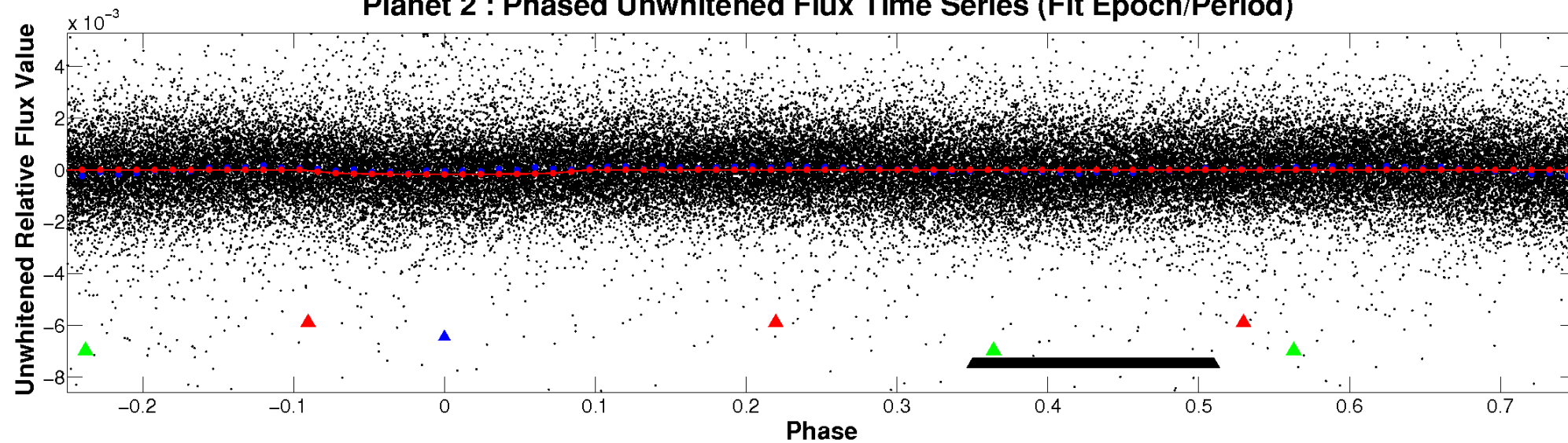
# ALT Odd/Even

TCE 005479800-02

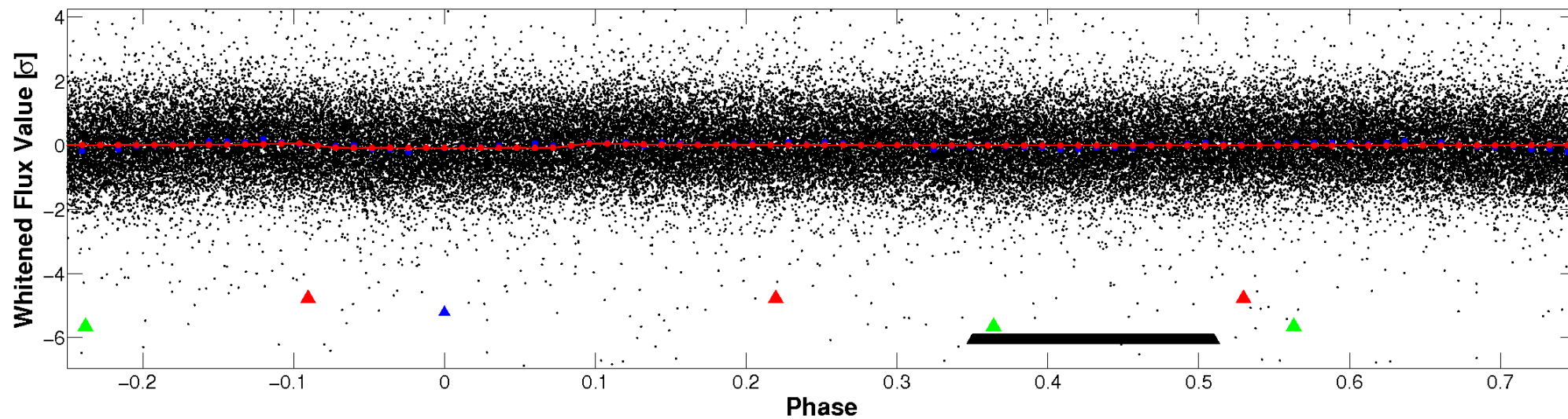


# Non-Whitened Vs. Whitened Light Curve

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

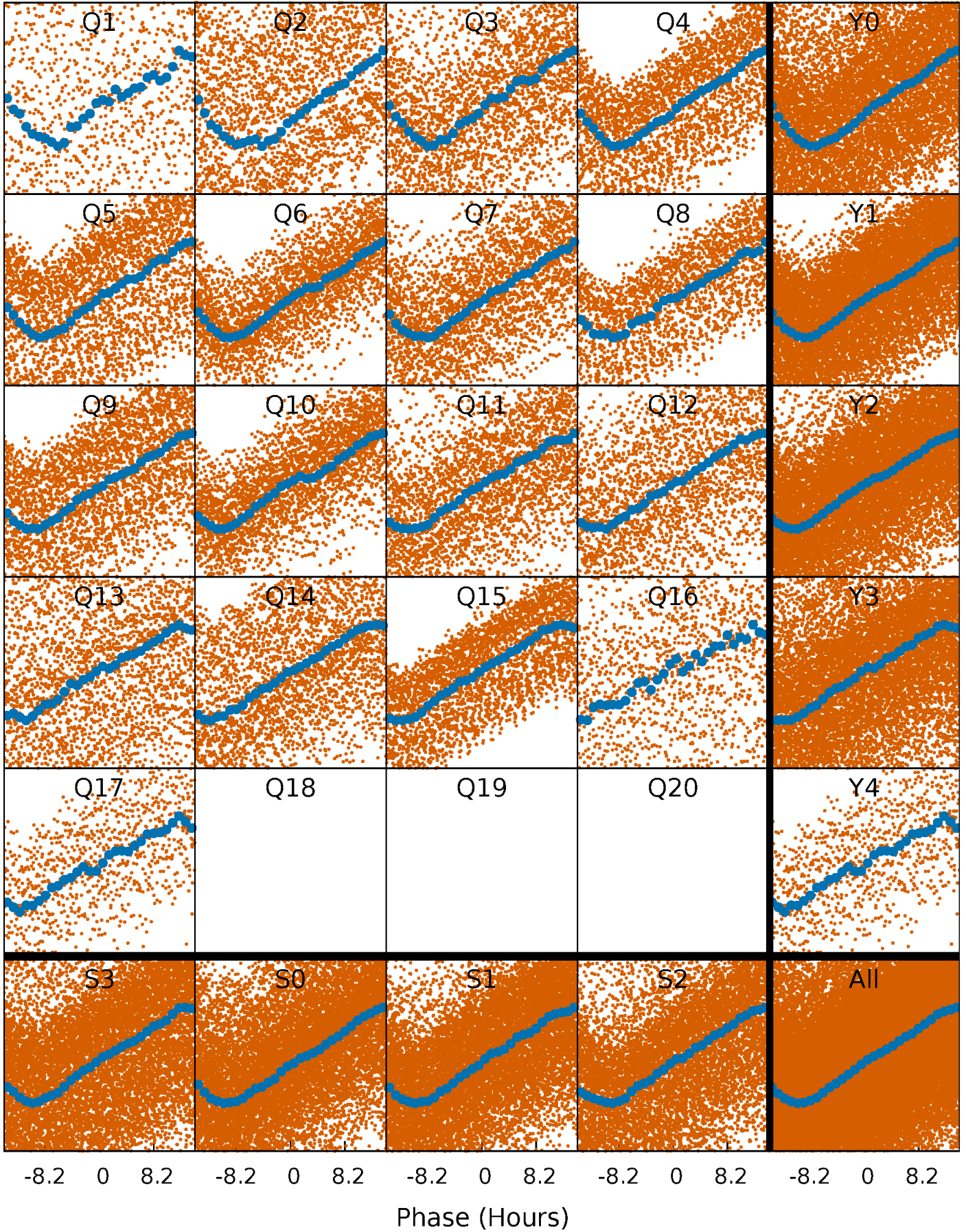


## Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



# PDC Quarter-Phased Transit Curves

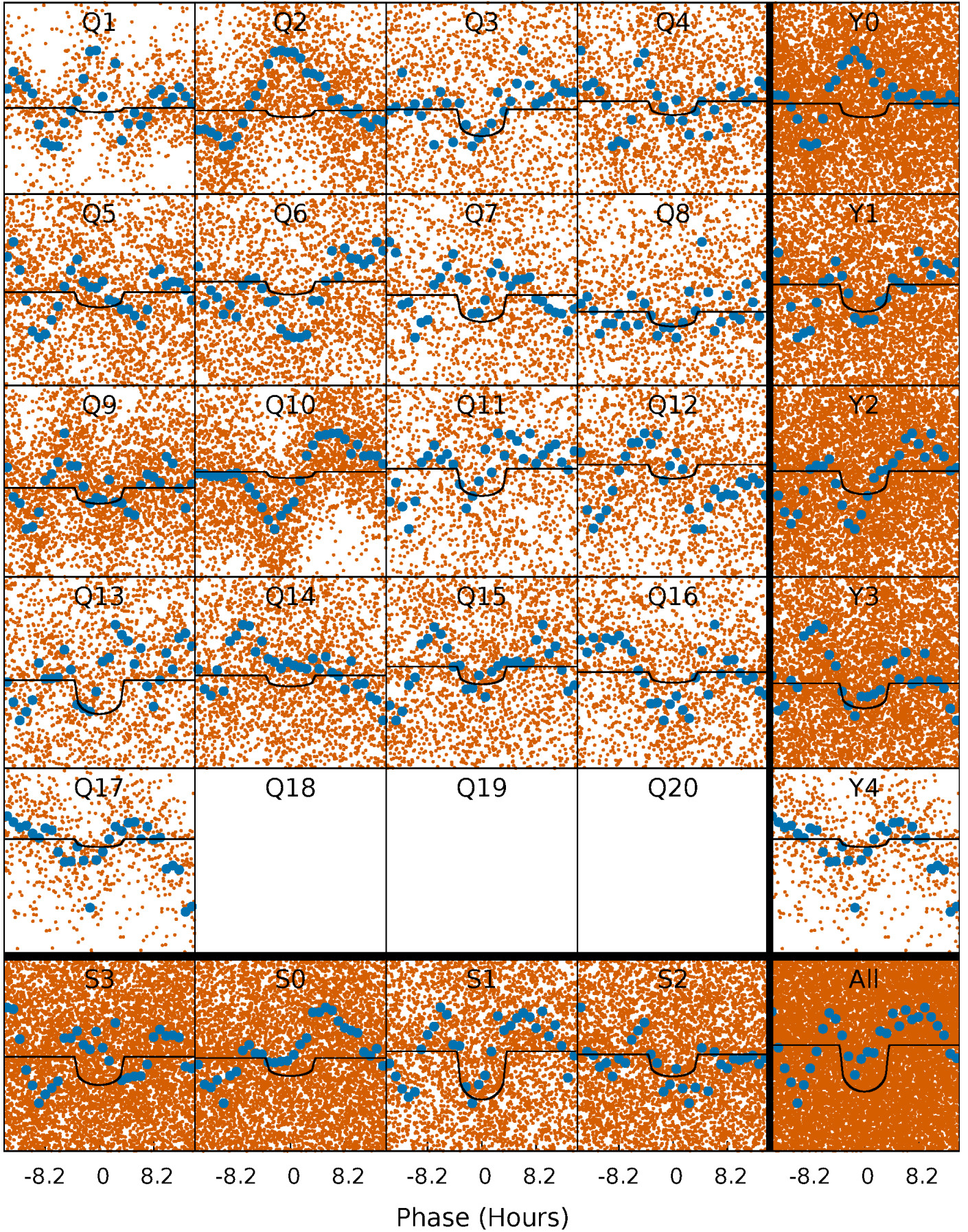
TCE 005479800-02     $P = 1.701477$  Days     $T_0 = 132.875718$  (BKJD)





# DV Quarter-Phased Transit Curves

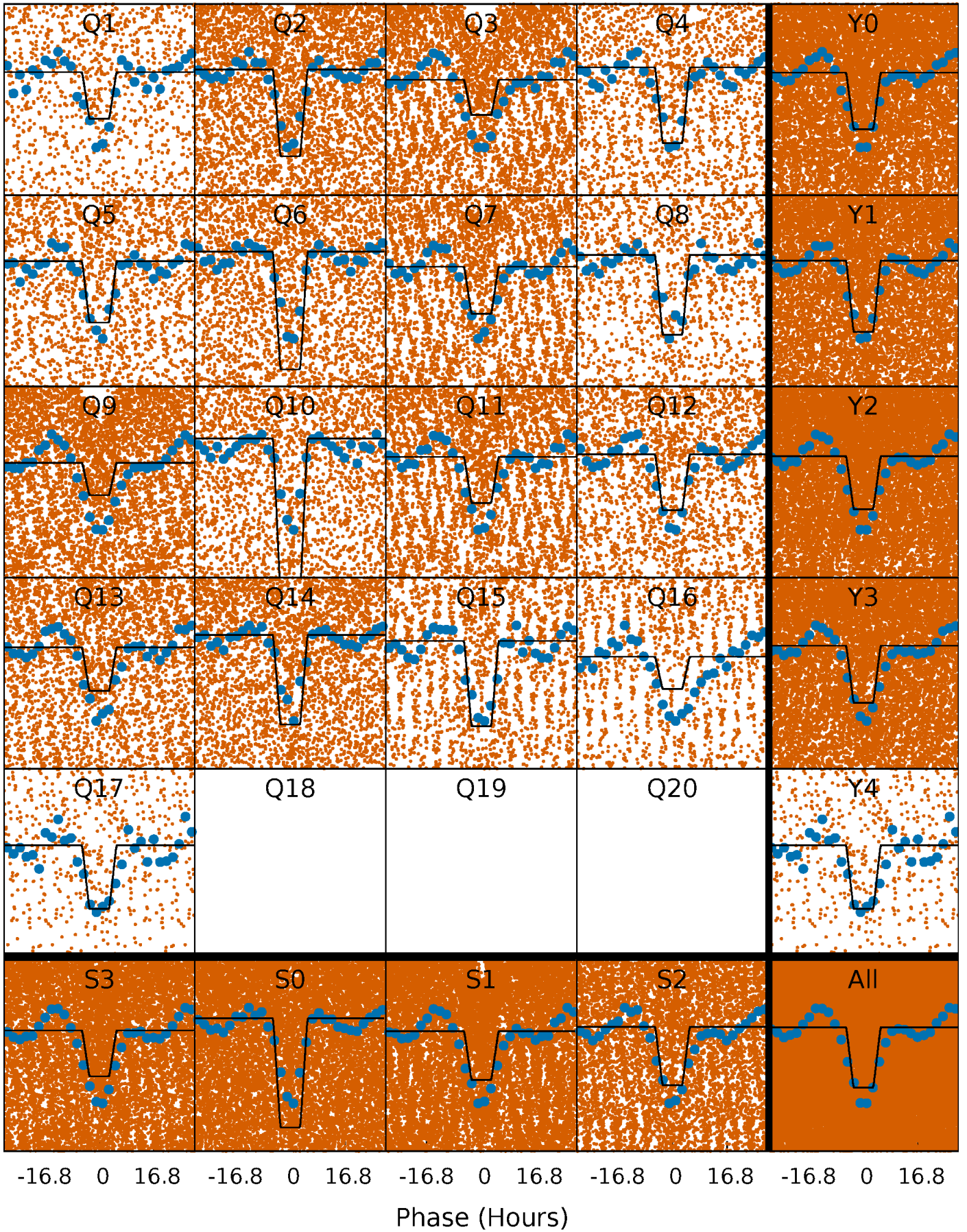
TCE 005479800-02     $P = 1.701477$  Days     $T_0 = 132.875718$  (BKJD)





# Alt. Detrend Quarter-Phased Transit Curves

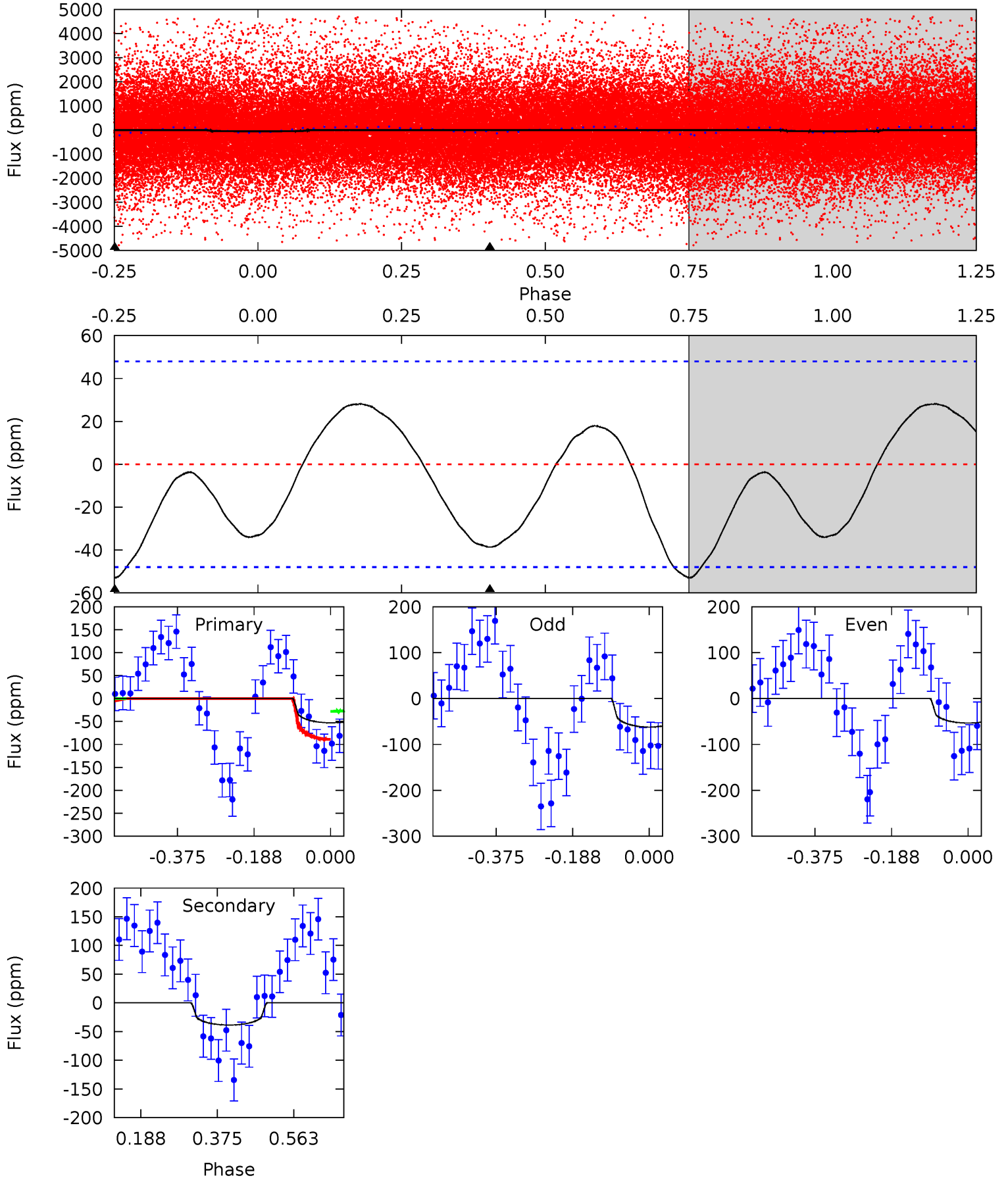
TCE 005479800-02   P= 1.701134 Days    $T_0=132.549066$  (BKJD)



# DV Model-Shift Uniqueness Test

005479800-02, P = 1.701477 Days, E = 131.174241 Days

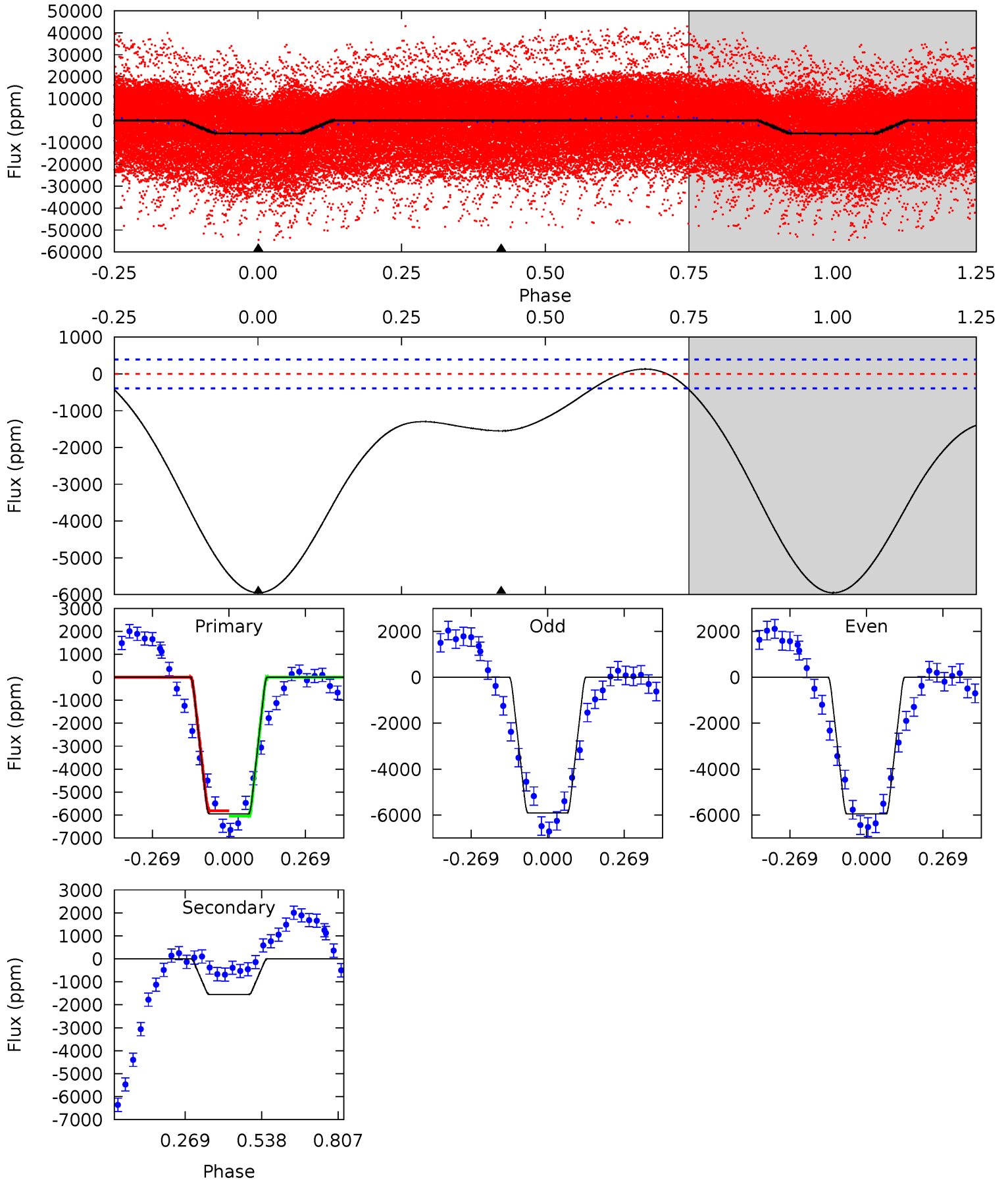
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4.88	3.57	0	0	4.43	1.32	2.24	4.88	4.88	3.57	3.57	0.41	0.89	0.35	2.80



# Alt Model-Shift Uniqueness Test

005479800-02, P = 1.701134 Days, E = 130.847932 Days

Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
65.9	17.2	0	0	4.35	1.11	2.52	65.9	65.9	17.2	17.2	0.23	0.99	0.02	1.27





### Stellar Parameters For KIC 005479800

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$5780^{+1}_{-1}$	$4.438^{+1.000}_{-1.000}$	$0.000^{+1.000}_{-1.000}$	$1.000^{+1.000}_{-1.000}$	$-1.000^{+1.000}_{-1.000}$	$-1.000^{+1.000}_{-1.000}$
	+0%/-0%	+23%/-23%	+inf%/-inf%	+100%/-100%	+100%/-100%	+100%/-100%
Source	Solar	Solar	Solar	Solar		

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

### Secondary Eclipse Parameters for KIC 005479800-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-39 \pm 11$	$1.46^{+0.67}_{-0.70}$	$2139^{+95}_{-103}$	$4166^{+1276}_{-601}$	$7.532^{+21.425}_{-4.274}$
Alt.	$-1551 \pm 90$	$7.88^{+1.00}_{-0.82}$	$2133^{+101}_{-101}$	$4432^{+213}_{-204}$	$11^{+3}_{-2}$

$T_{max}$  = 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  $A_{obs} \gg 1.0$

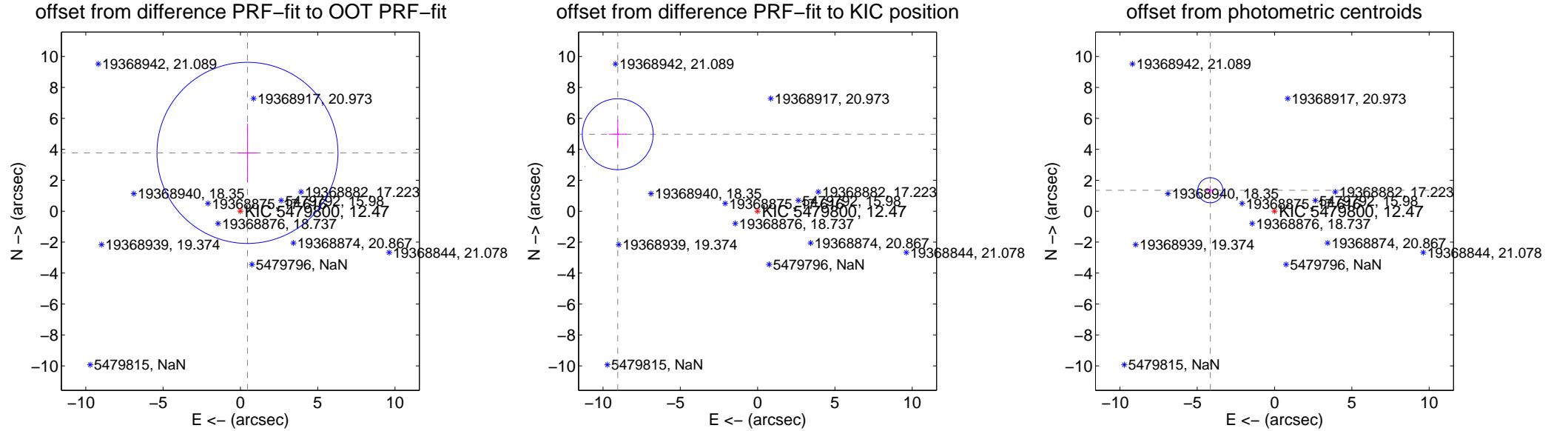
## DV Centroid Data

Supplemental centroid analysis for 005479800-02. Kepler magnitude: 12.47. Transit SNR 9.26

There are 1 quarters with good PRF difference image offsets

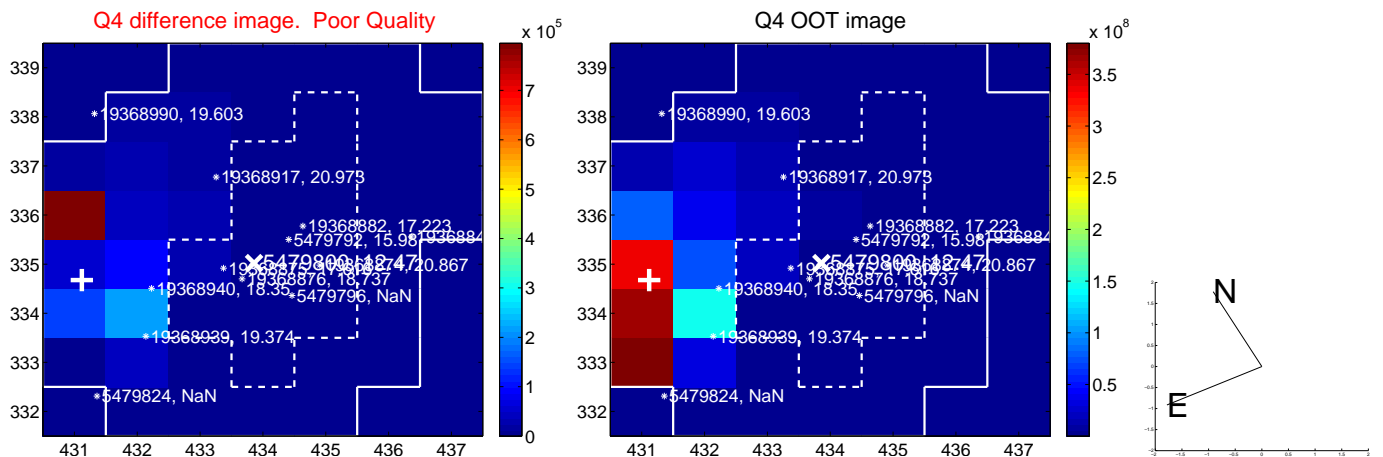
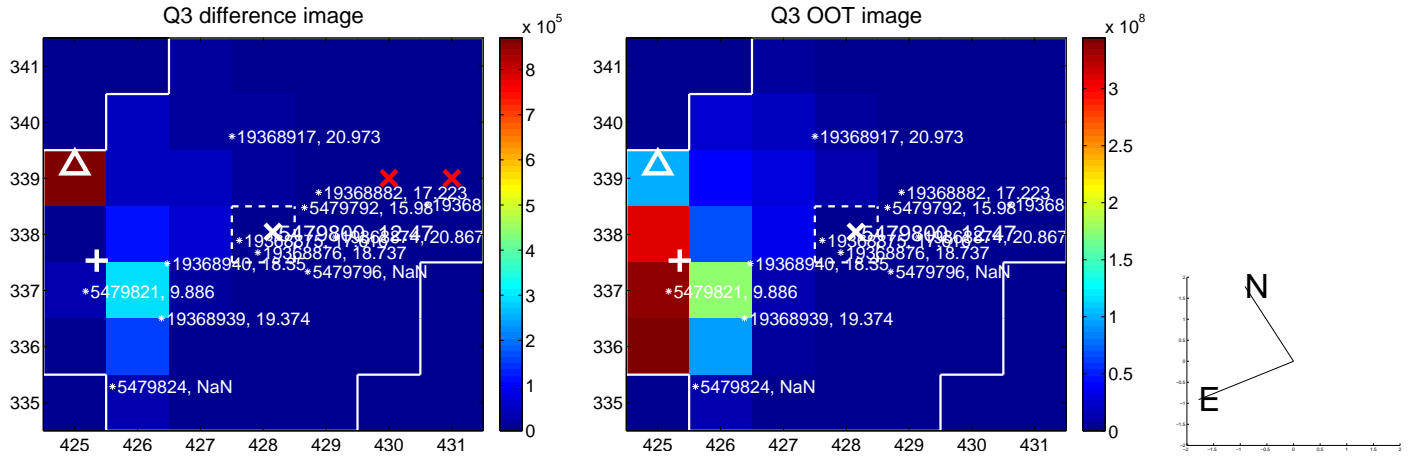
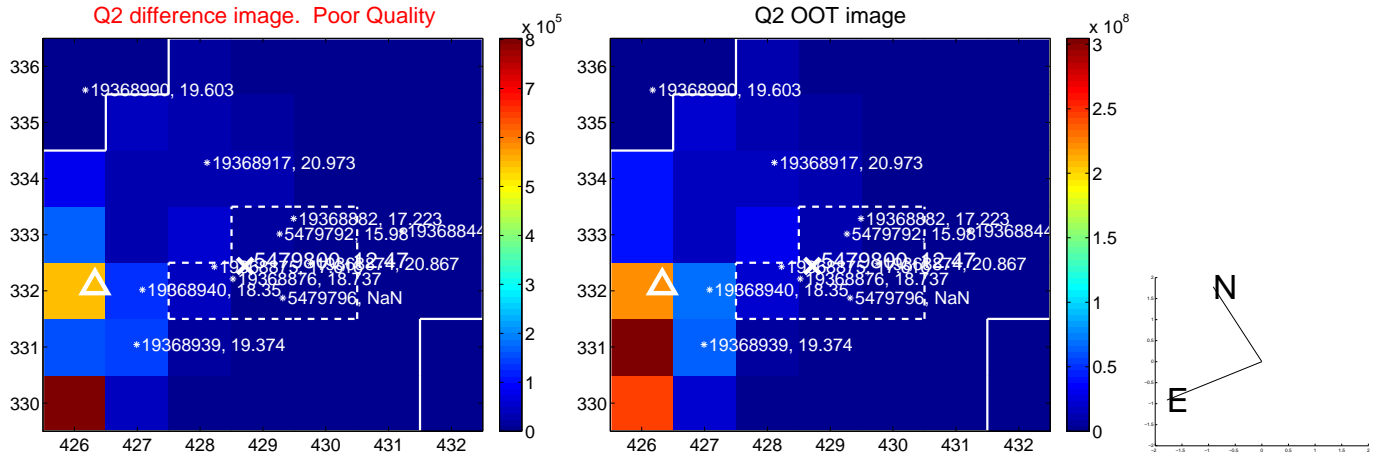
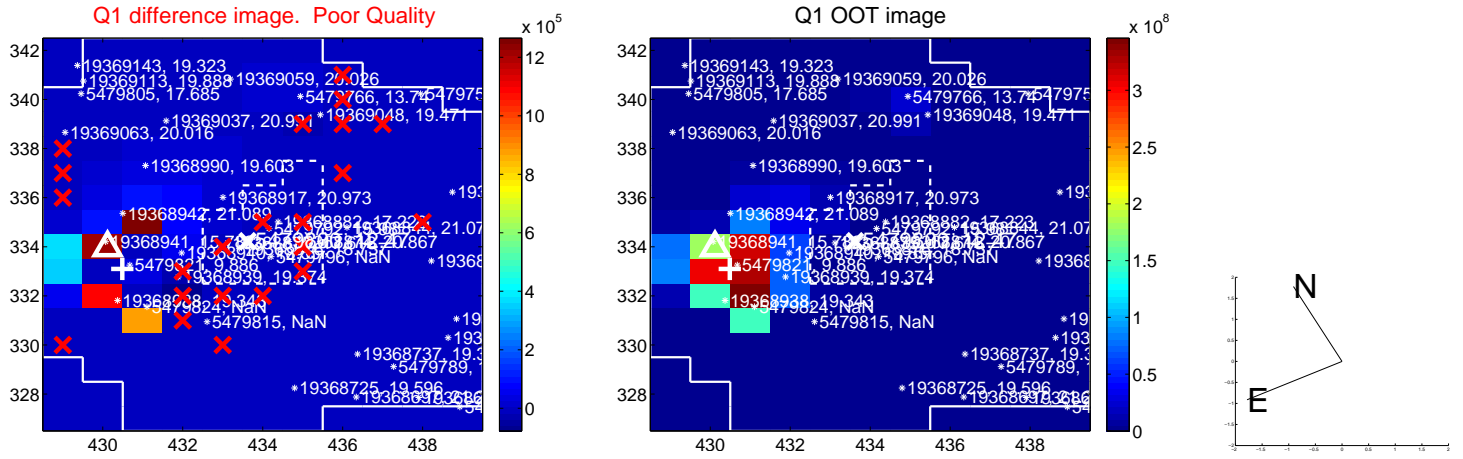
The OOT PRF centroid is offset from the target star catalog position by about 11.10 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$3.797 \pm 1.951$	1.95	$-0.457 \pm 0.670$	$3.769 \pm 1.887$
PRF-fit source offset from KIC position	$10.324 \pm 0.764$	13.51	$9.046 \pm 0.576$	$4.975 \pm 0.904$
photometric centroid source offset	$4.37 \pm 0.27$	16.15	$4.15 \pm 0.27$	$1.35 \pm 0.29$

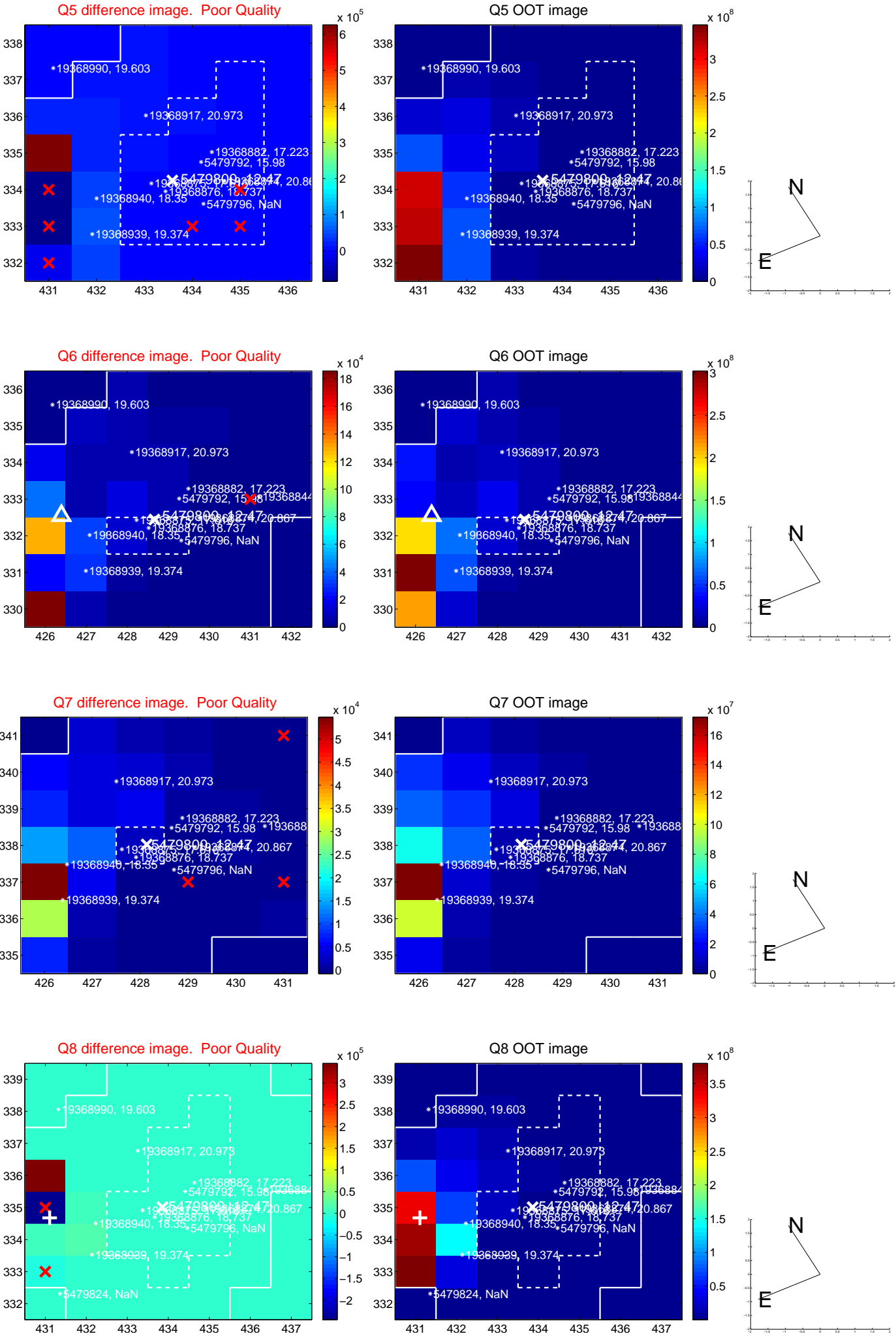


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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

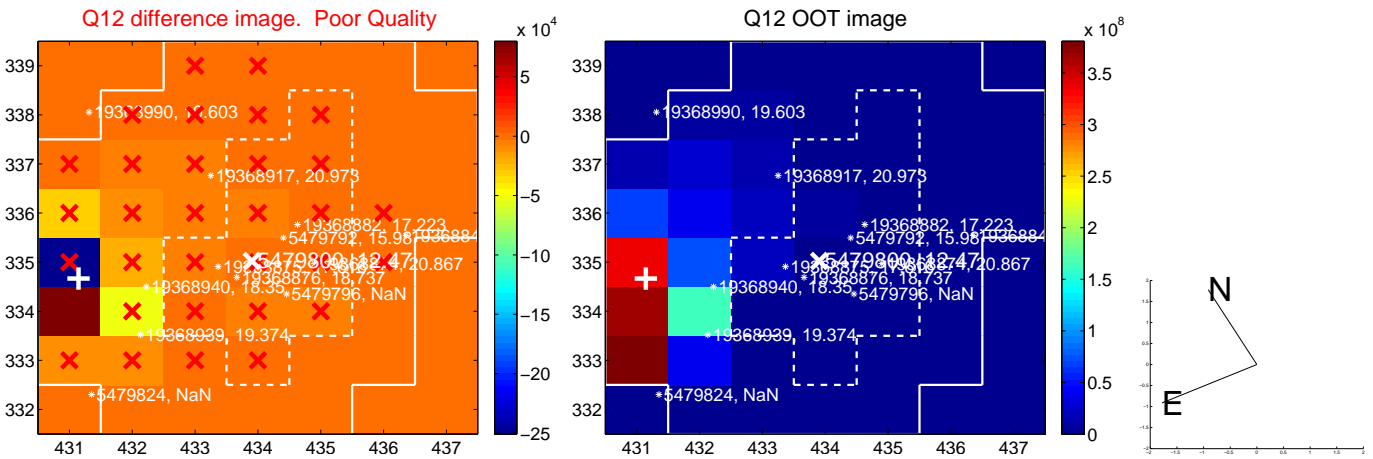
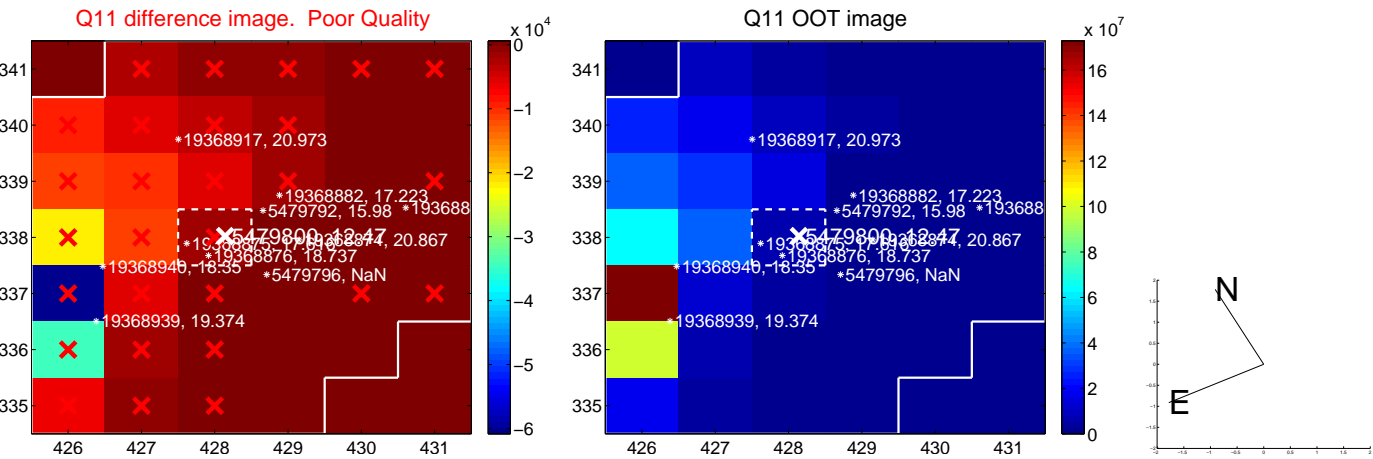
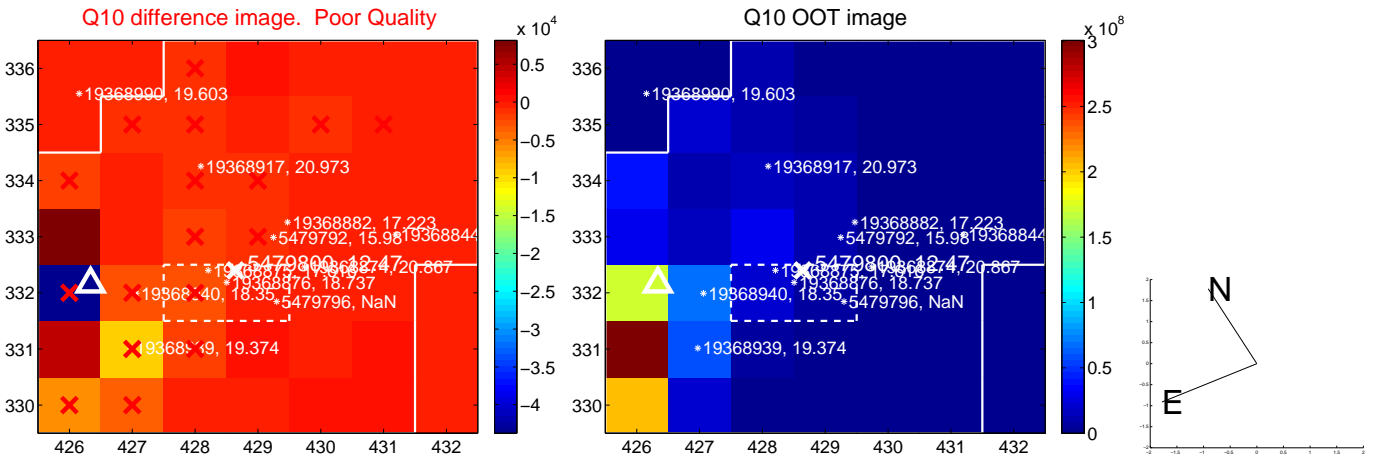
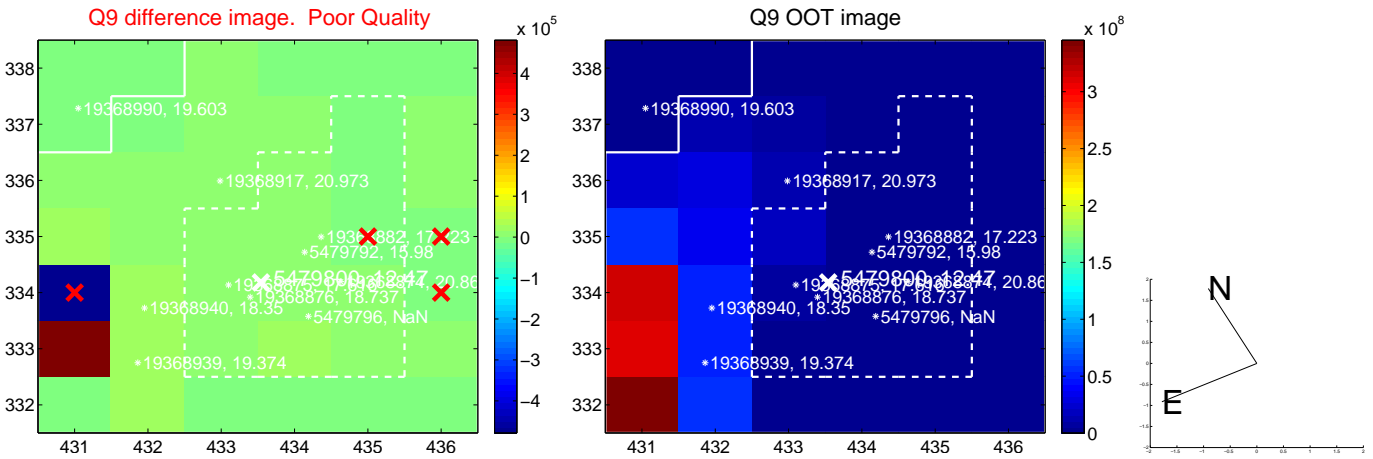
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



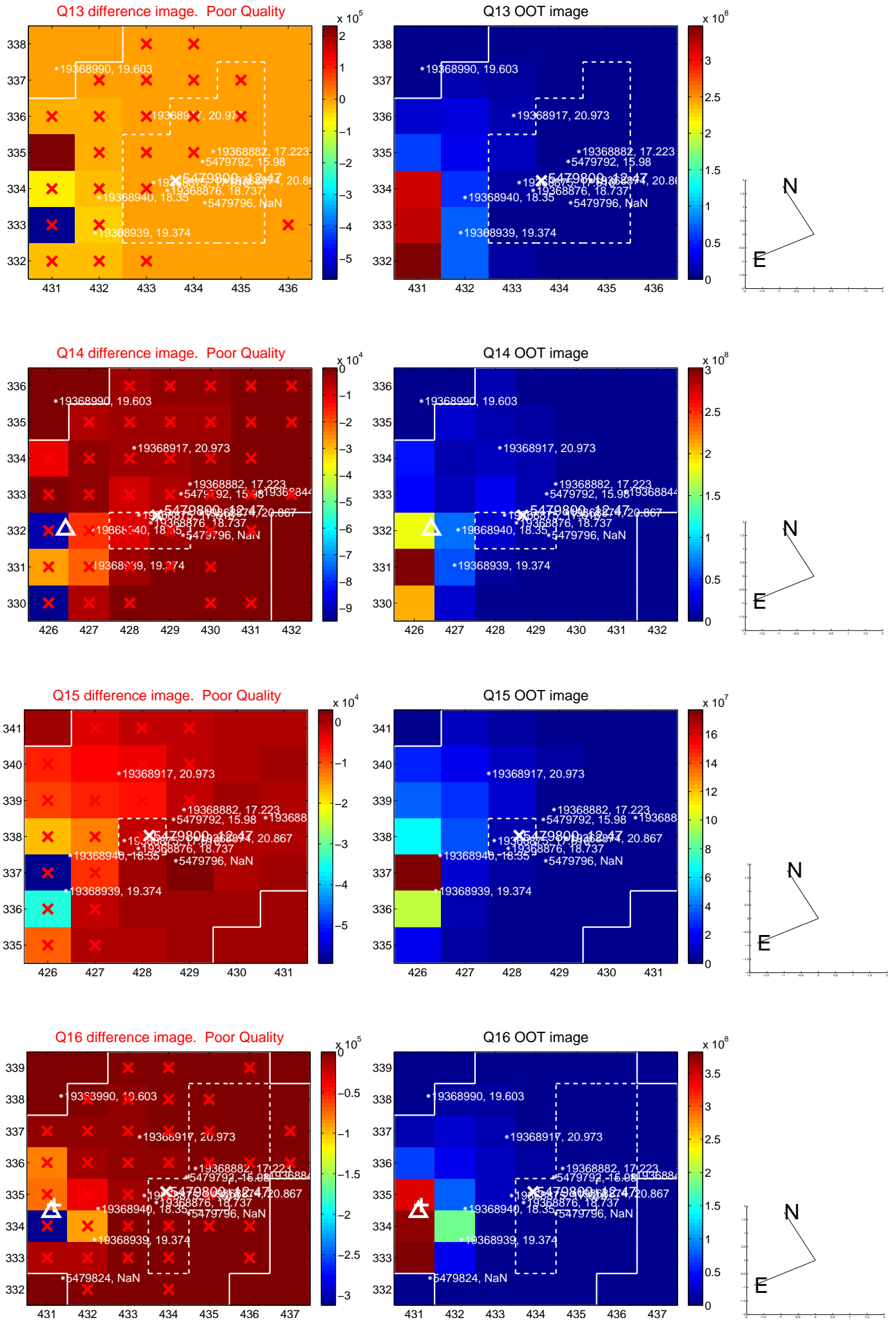
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



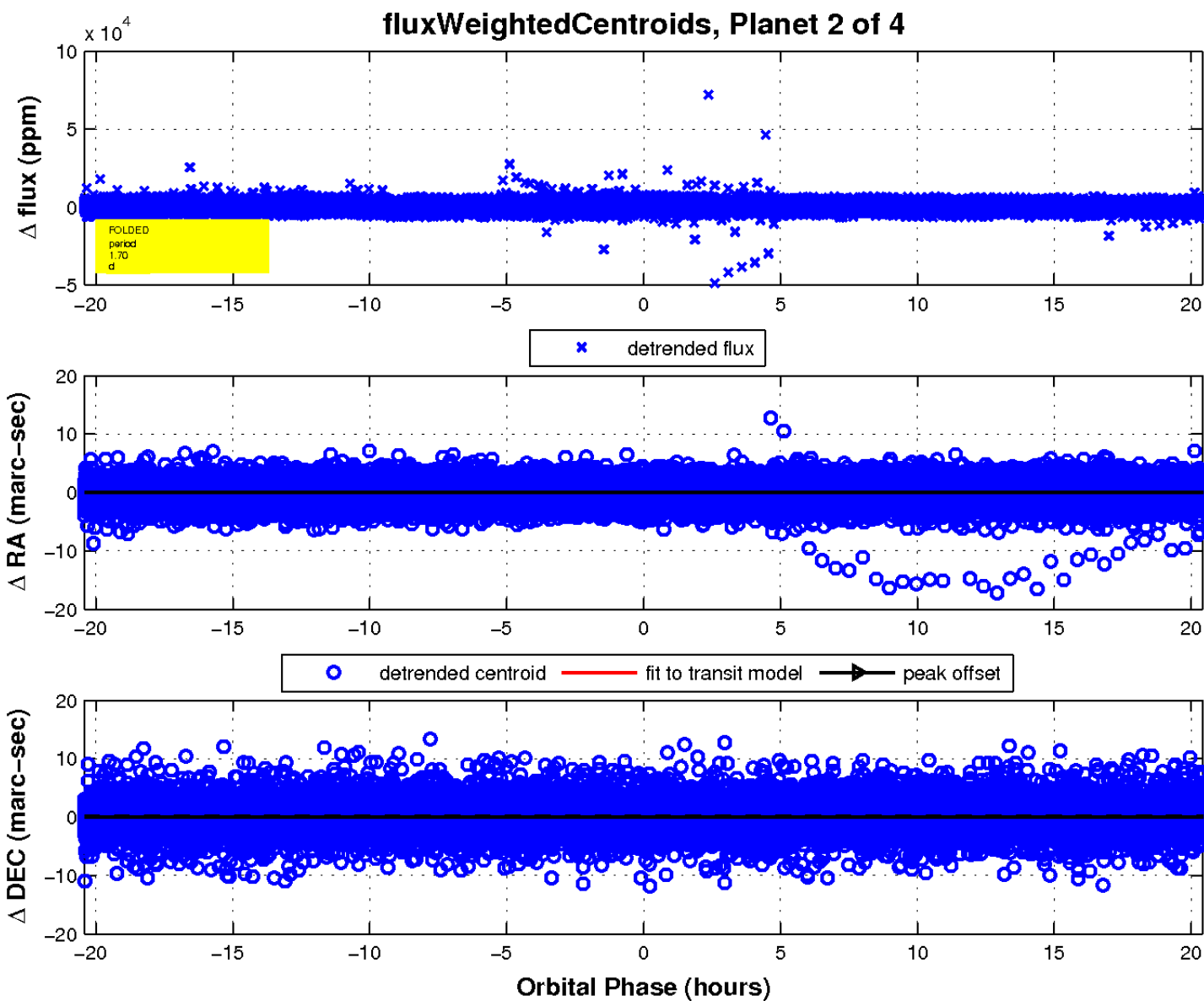
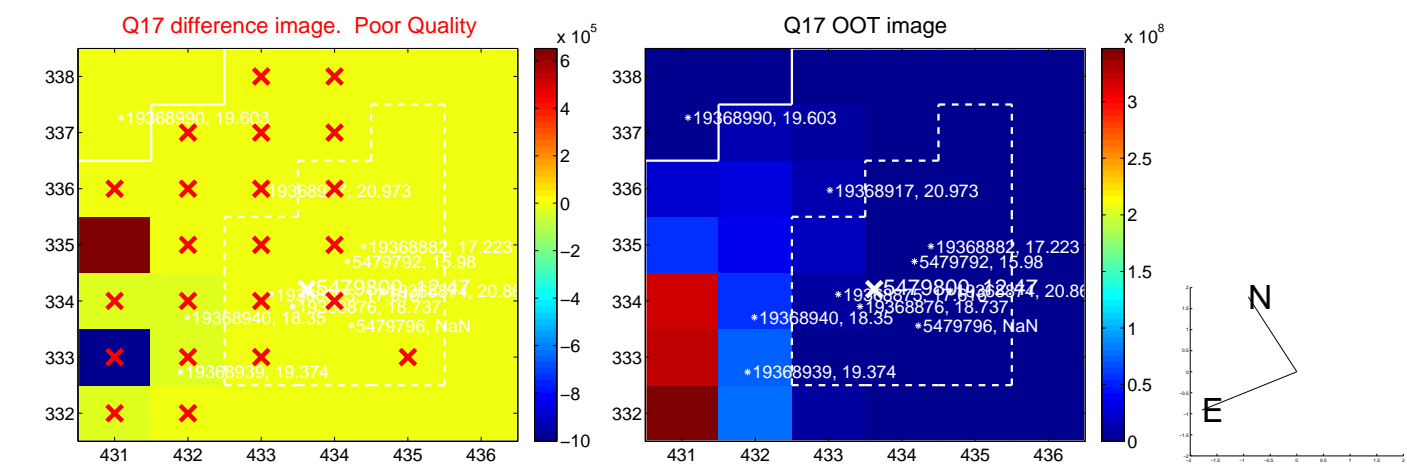
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



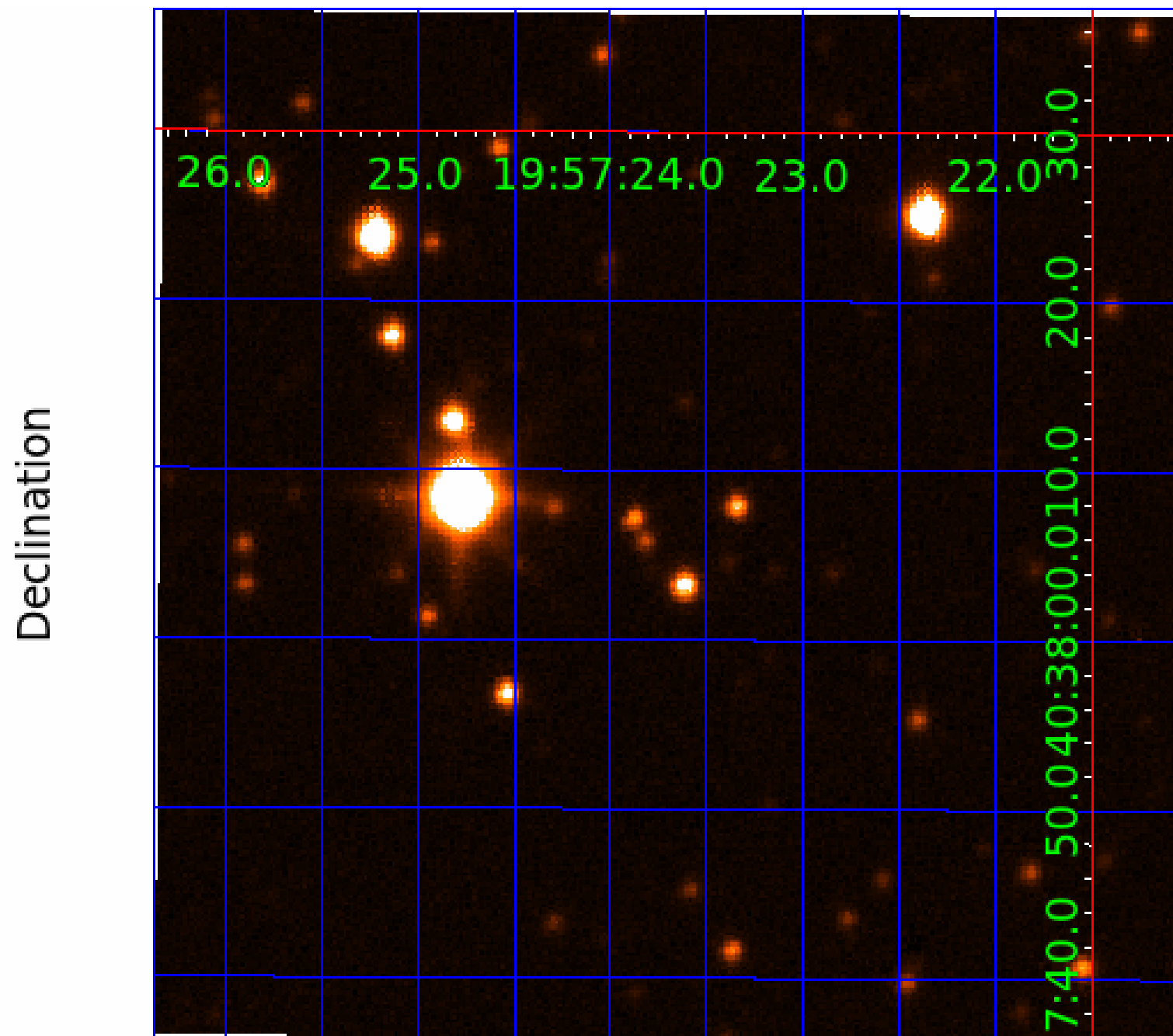
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



UKIRT Image





# KIC 005479800

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
005479800-01	OBS	No	415.687992	513.852841	6160.9	3.437	16.7	17.1	1.00	5780	14.35	0.84
005479800-02	OBS	No	1.701477	132.875718	172.9	7.211	13.6	9.3	1.00	5780	1.40	1284.81
005479800-03	OBS	No	474.373573	236.260958	3314.8	6.406	9.3	9.2	1.00	5780	6.84	0.70
005479800-04	OBS	No	1.701159	132.042266	575.7	4.500	9.2	-1.0	1.00	5780	2.38	1285.13

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005479800-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
005479800-02	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—SWEET_NTL—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—CENT_RESOLVED_OFFSET
005479800-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
005479800-04	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—LPP_ALT—SAME_NTL_PERIOD—CENT_NOFITS

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

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

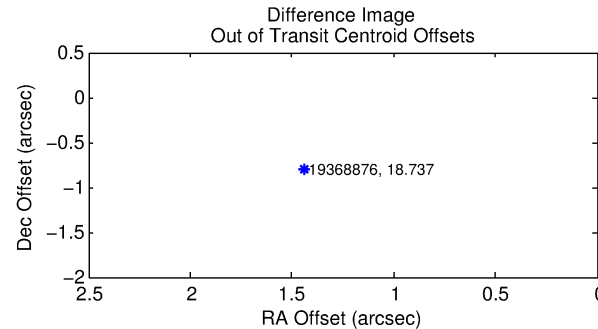
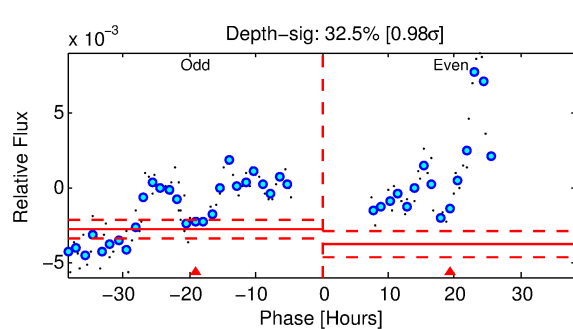
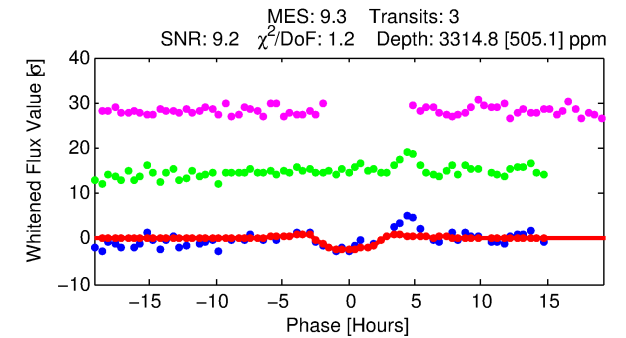
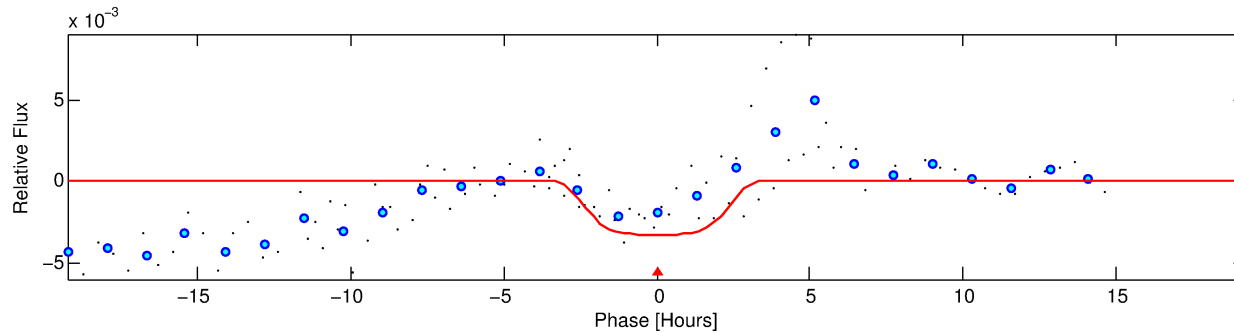
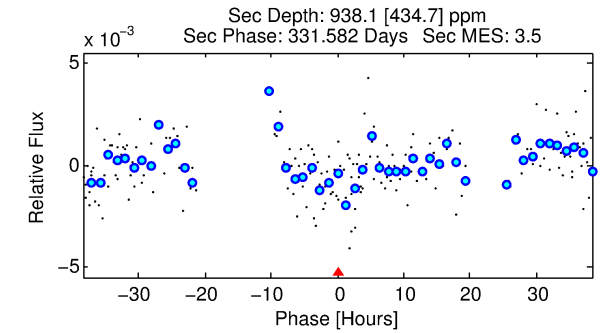
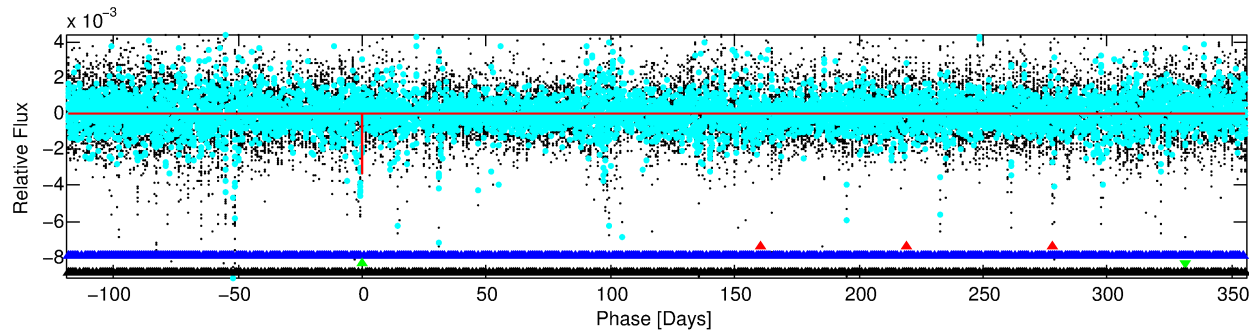
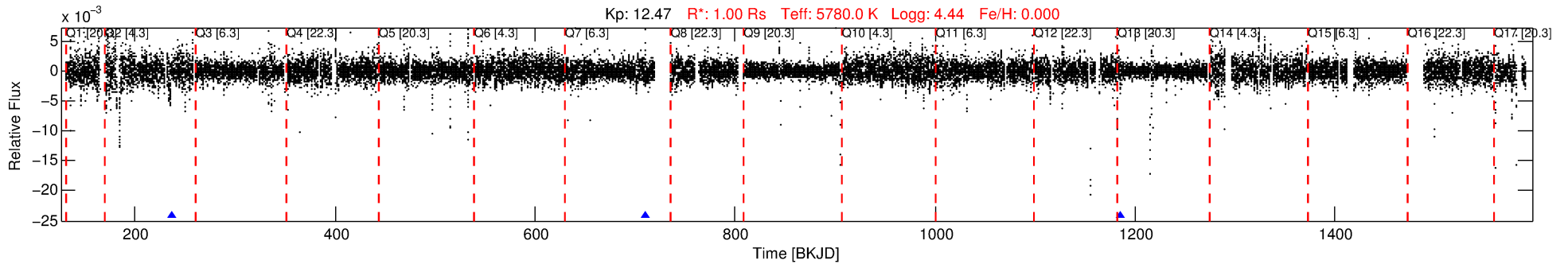
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 005479800-03

No Significant Match Found

# DV One-Page Summary

KIC: 5479800 Candidate: 3 of 4 Period: 474.374 d



## DV Fit Results:

Period = 474.37357 [0.01057] d  
Epoch = 236.2610 [0.0162] BKJD  
Rp/R\* = 0.0627 [0.0067]  
a/R\* = 323.45 [73.32]  
b = 0.90 [0.05]  
Seff = 0.71 [0.00]  
Teq = 234 [0] K  
Rp = 6.84 [0.73] Re  
a = 1.1906 [0.0000] AU  
Ag = 15623.80 [7967.36] [1.96σ]  
Teffp = 4039 [515] K [7.39σ]

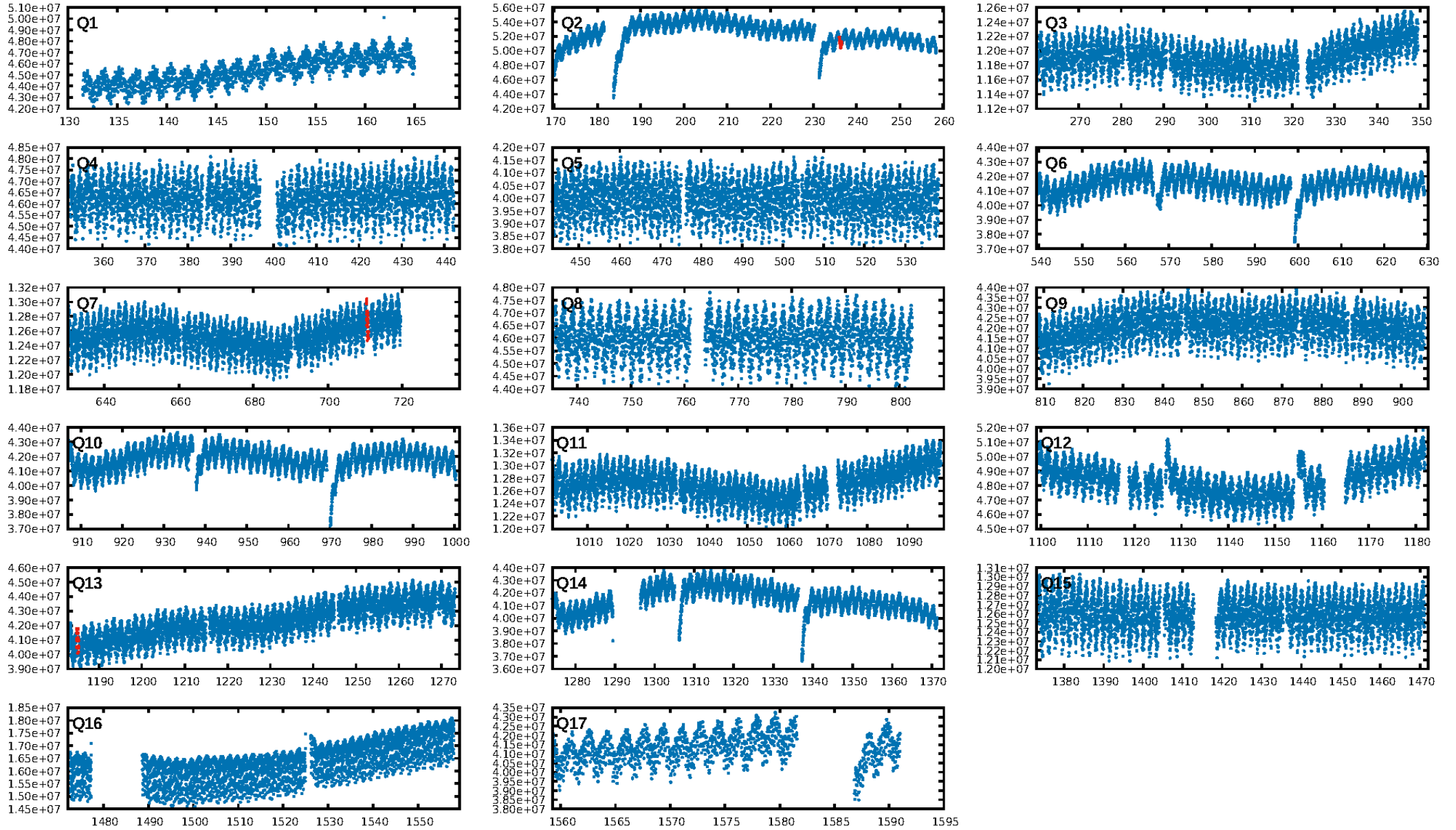
## DV Diagnostic Results:

ShortPeriod-sig: 100.0% [193.74σ]  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 18.8%  
ModelChiSquareGof-sig: 98.1%  
Bootstrap-pfa: N/A  
RollingBand-fgt: 1.00 [3/3]  
GhostDiagnostic-chr: -0.9611  
Centroid-sig: 87.8%  
Centroid-so: 4.658 arcsec [16.62σ]  
OotOffset-rm: N/A  
KicOffset-rm: 9.476 arcsec [141.50σ]  
OotOffset-st: 0/0/0/0 [0]  
KicOffset-st: 1/0/0/0 [1]  
DiffImageQuality-fgm: 1.00 [1/1]  
DiffImageOverlap-fno: 0.00 [0/1]

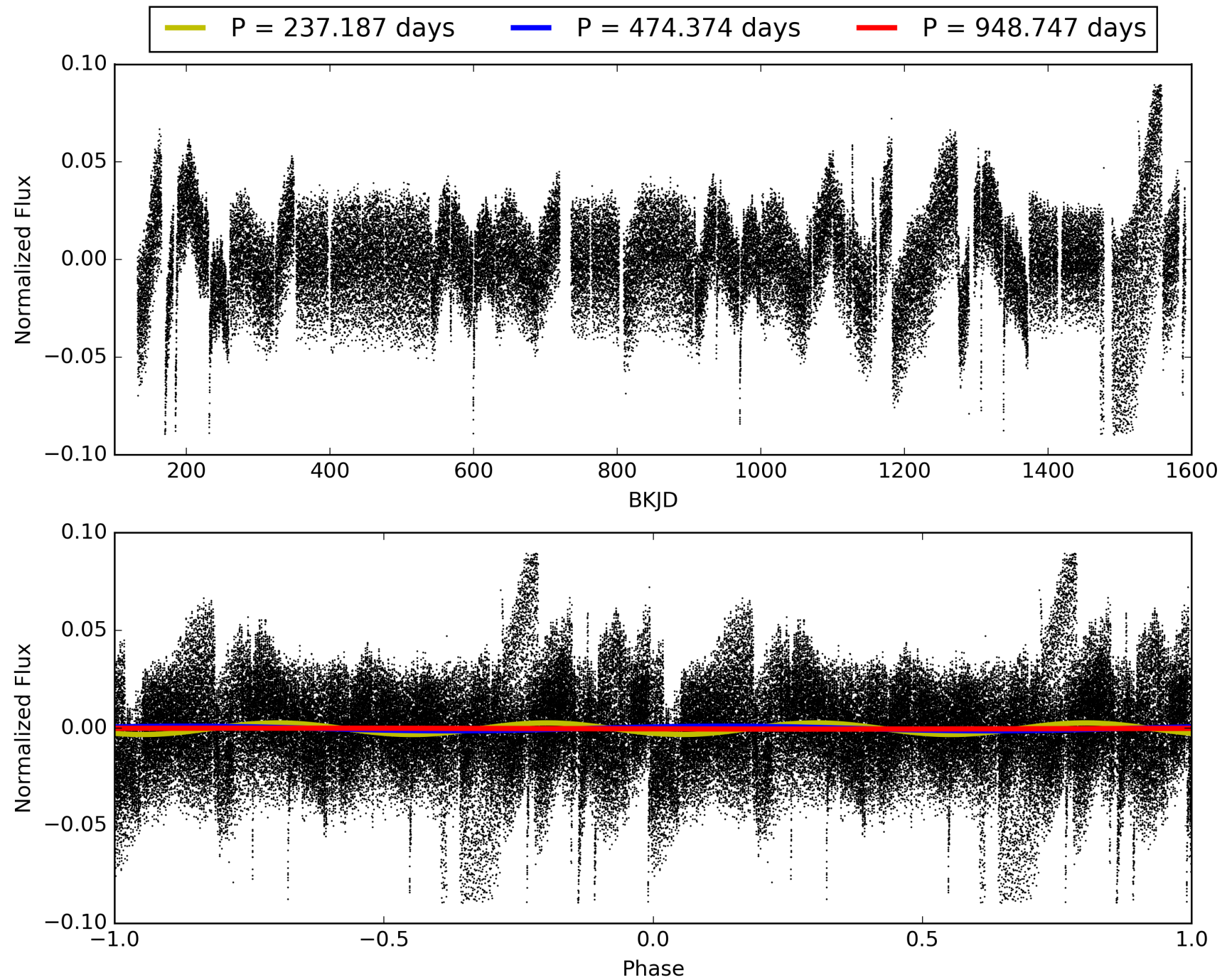
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 17:03:52 Z

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

# TCE 005479800-03, PDC Light Curves

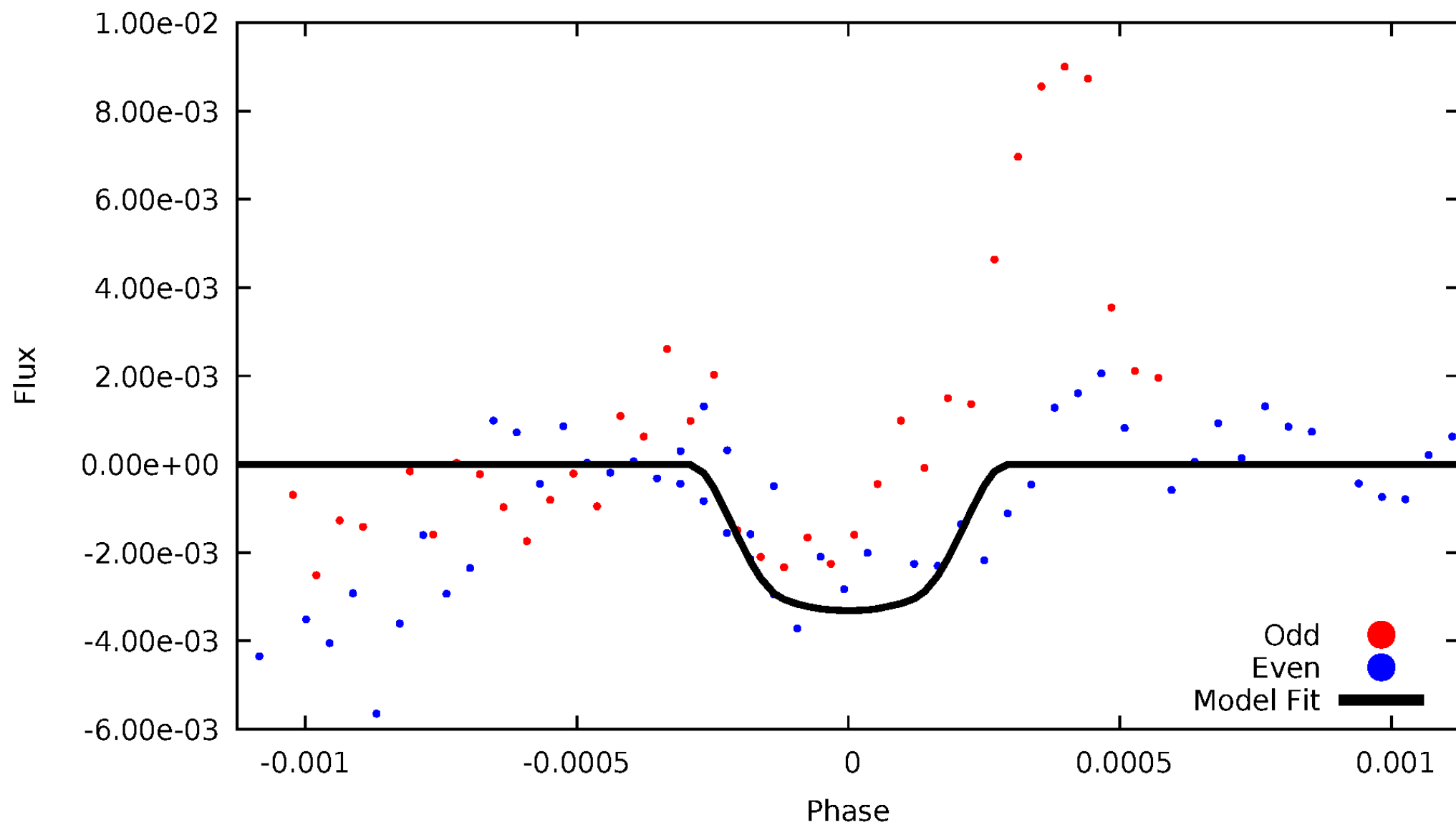


TCE 005479800-03



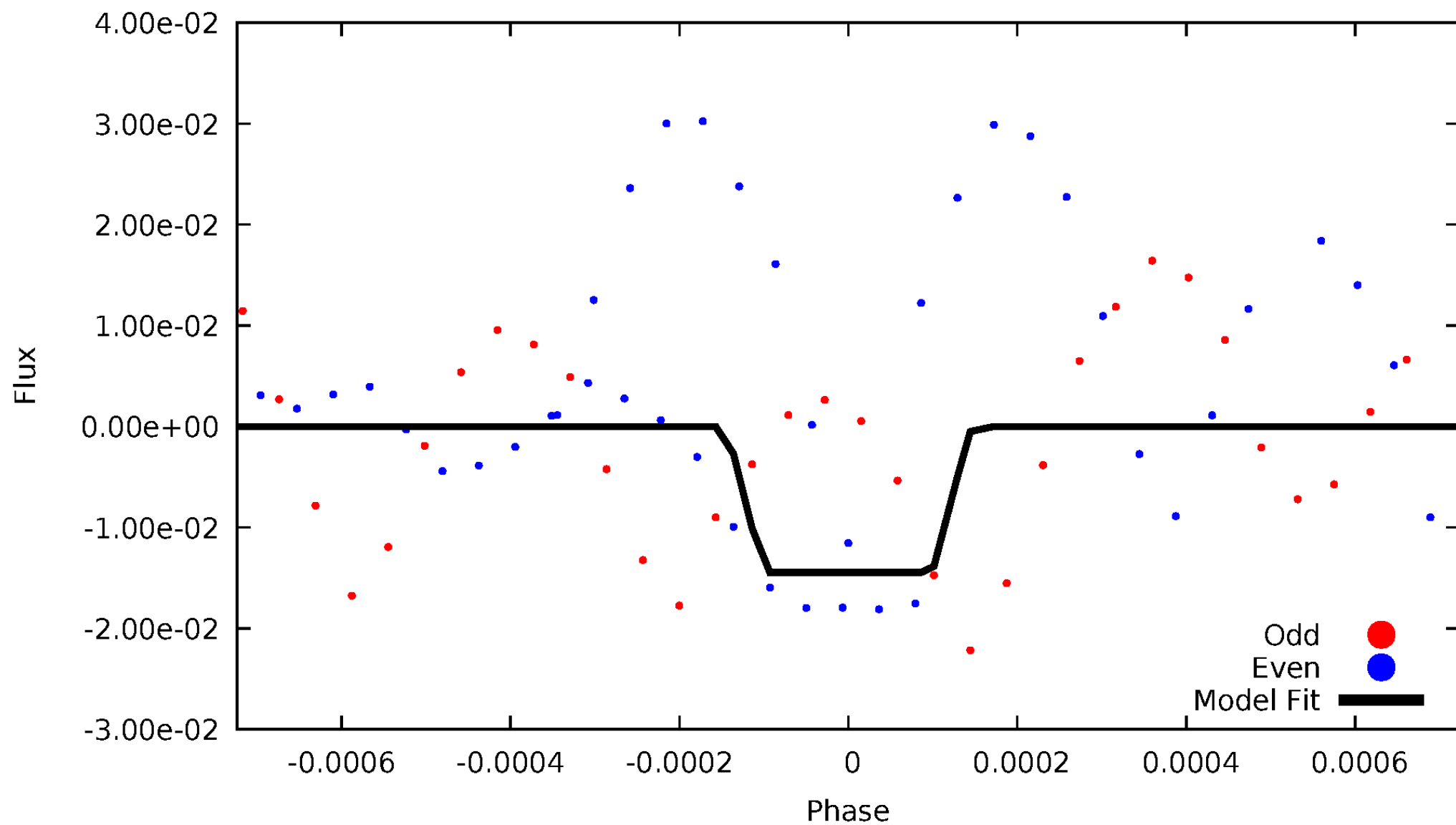
# DV Odd/Even

TCE 005479800-03



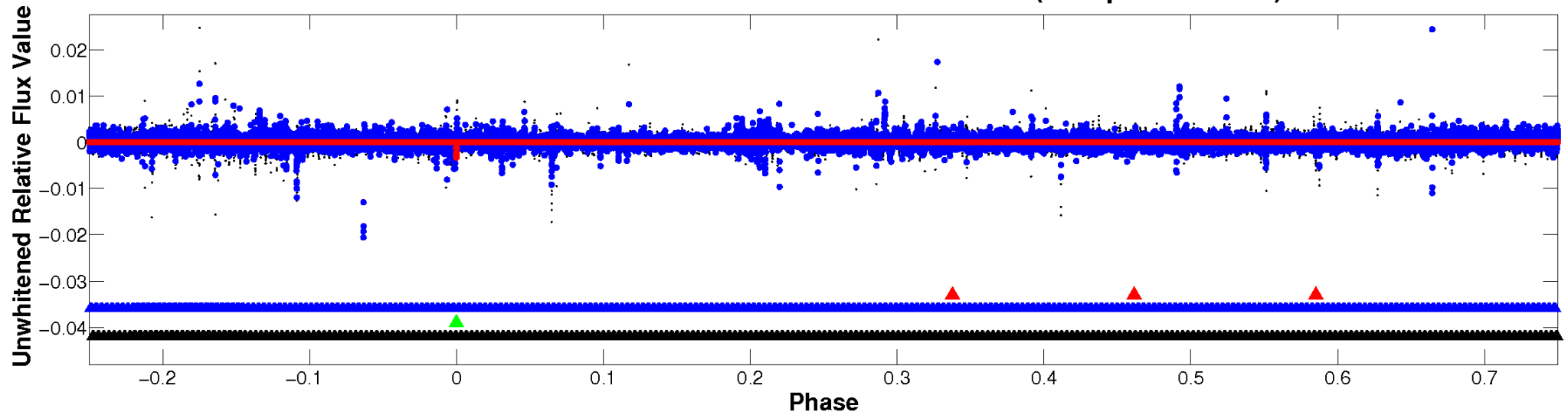
# ALT Odd/Even

TCE 005479800-03

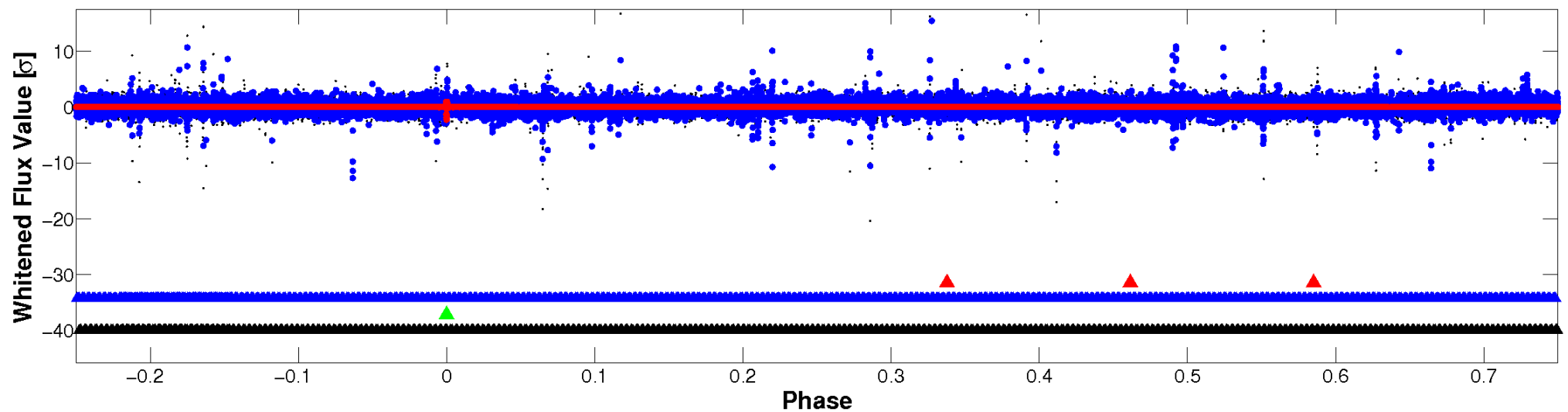


# Non-Whitened Vs. Whitened Light Curve

## Planet 3 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

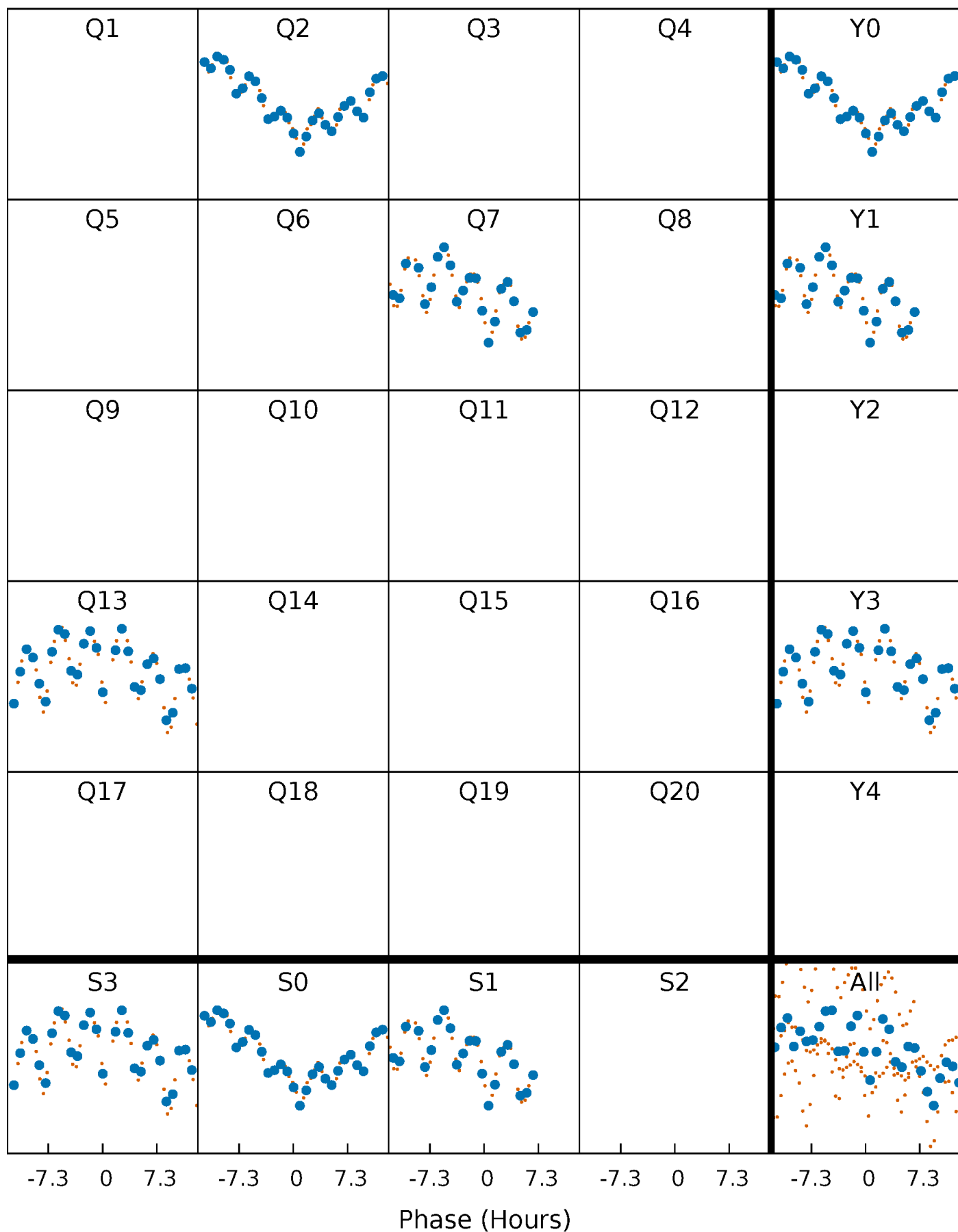


## Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



# PDC Quarter-Phased Transit Curves

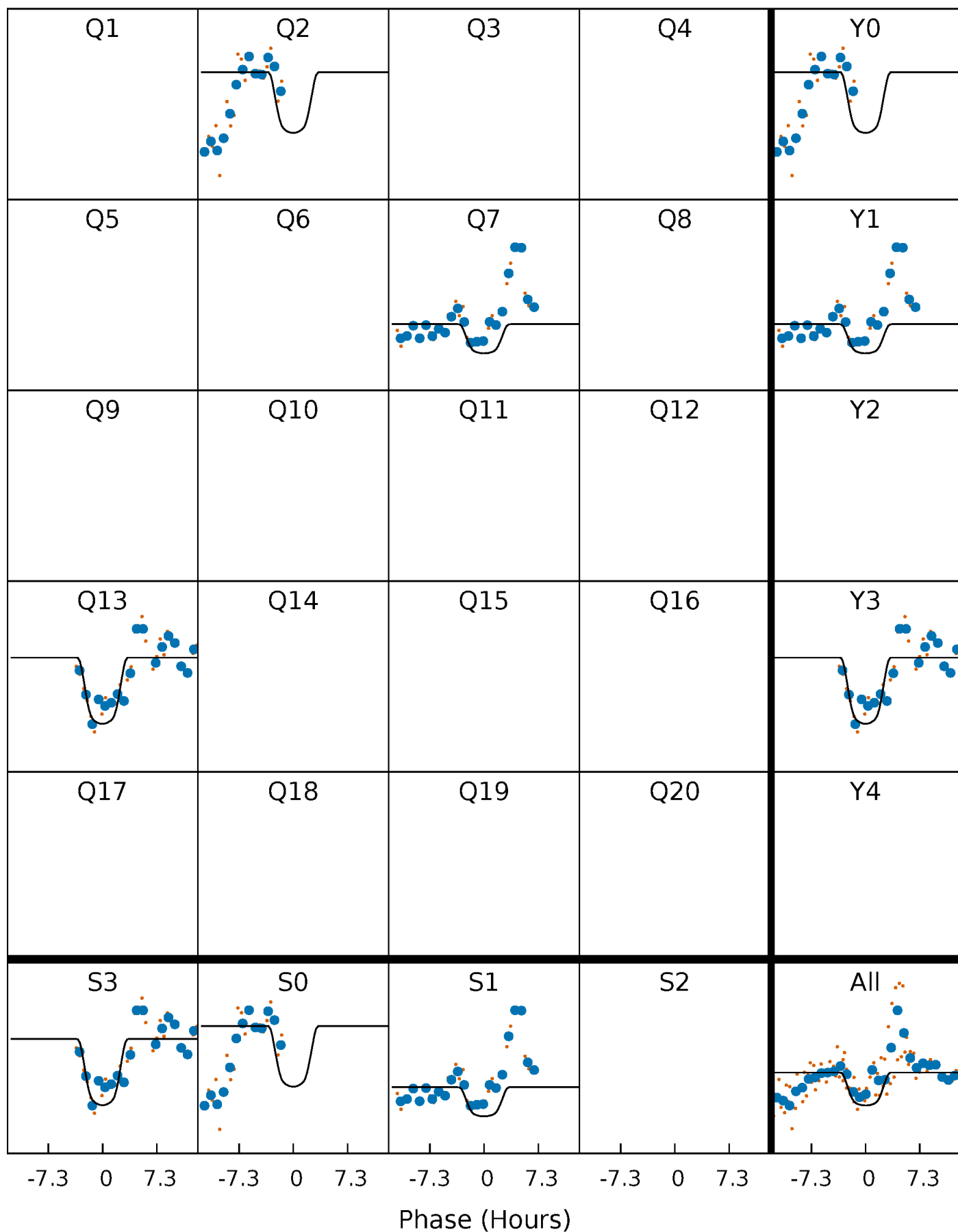
TCE 005479800-03     $P=474.373573$  Days     $T_0=236.260958$  (BKJD)





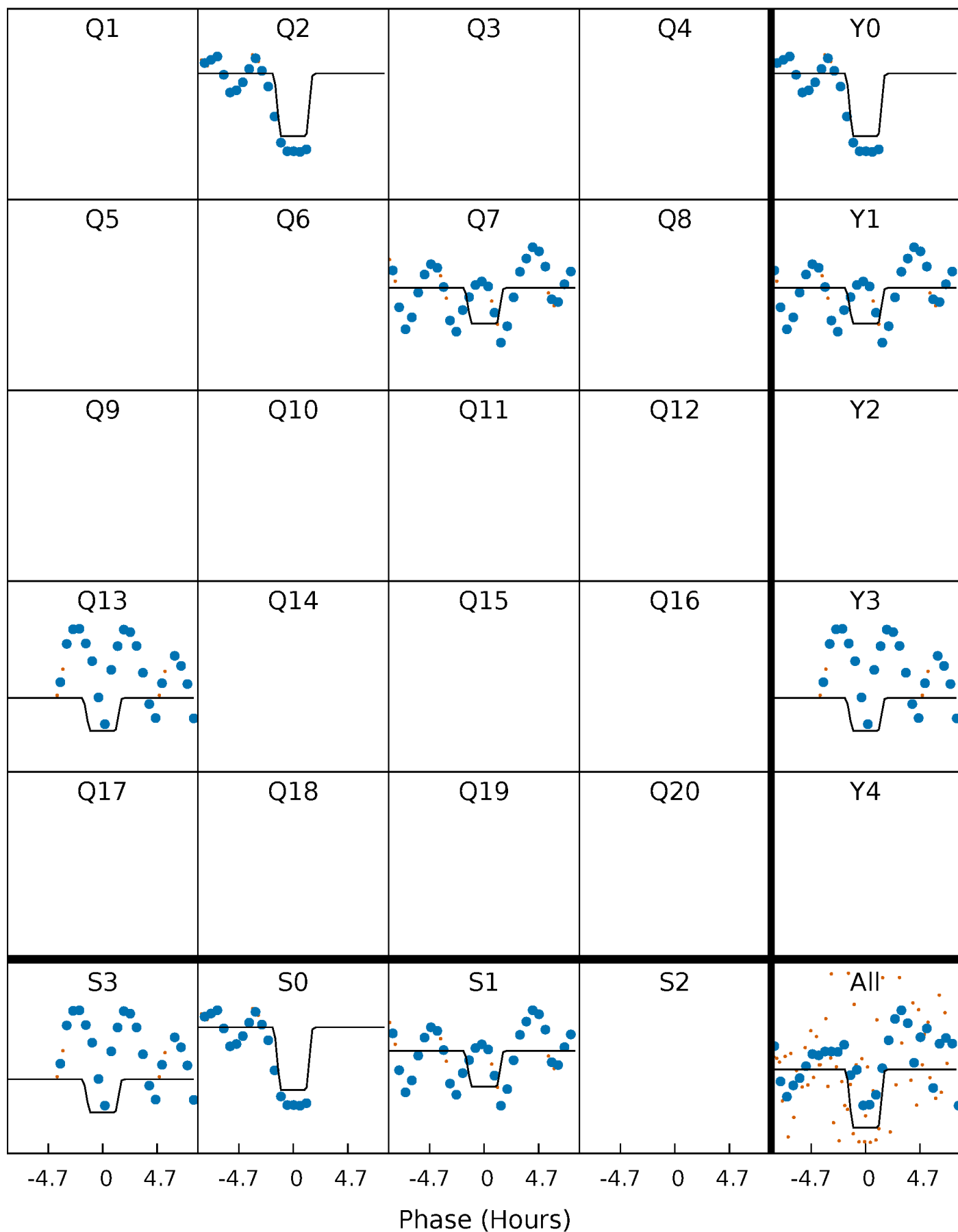
# DV Quarter-Phased Transit Curves

TCE 005479800-03     $P=474.373573$  Days     $T_0=236.260958$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

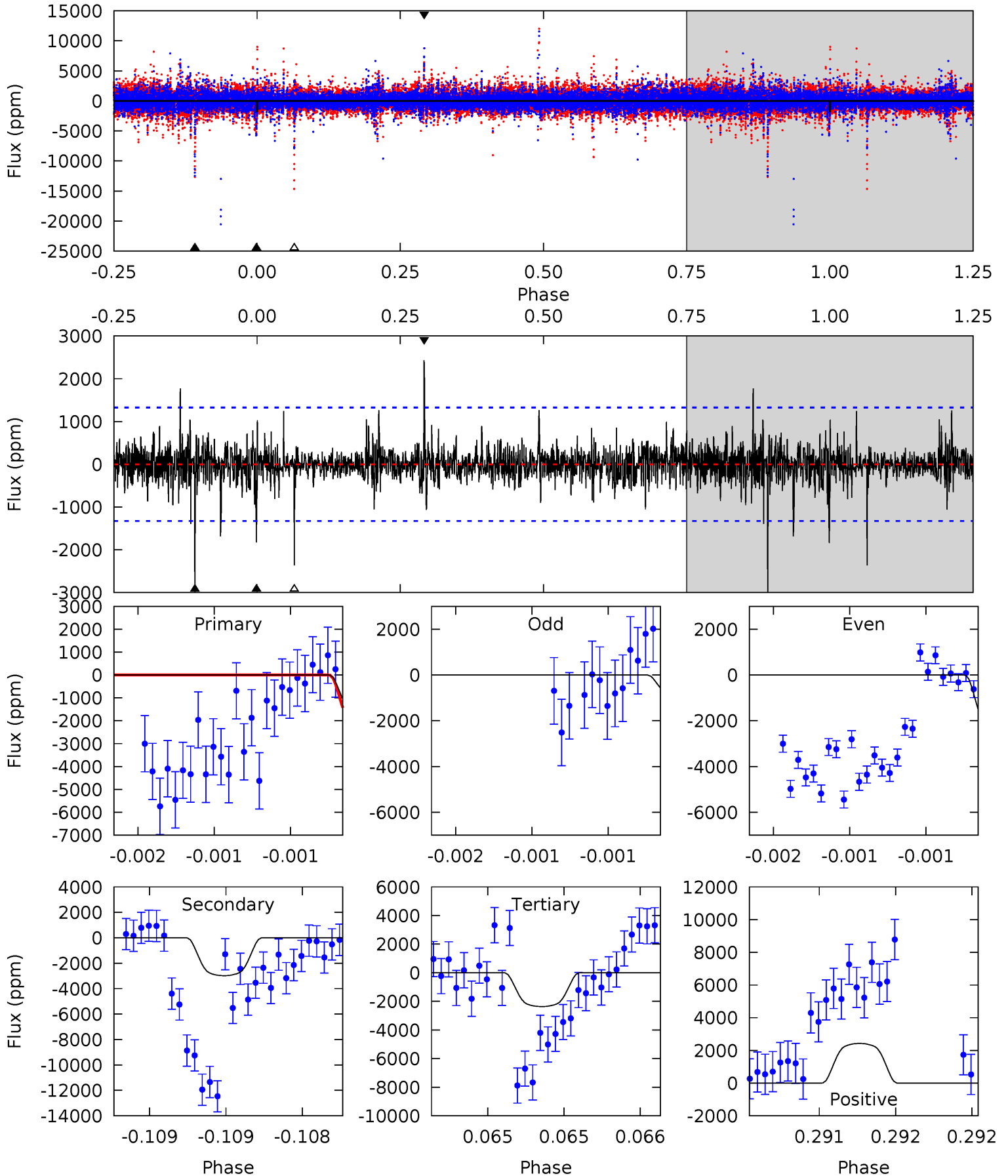
TCE 005479800-03     $P=474.433207$  Days     $T_0=236.158391$  (BKJD)



# DV Model-Shift Uniqueness Test

005479800-03, P = 474.373573 Days, E = 236.260958 Days

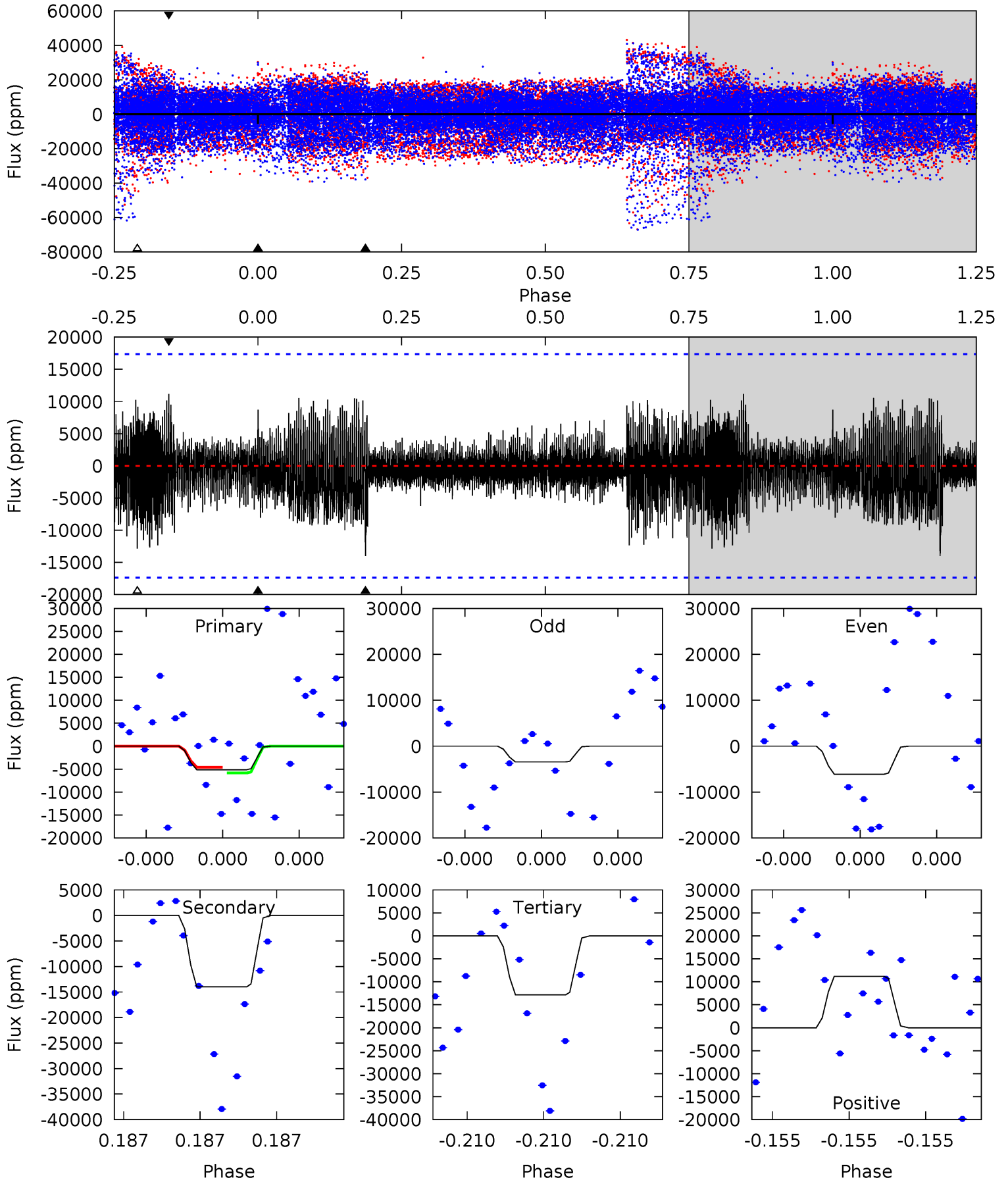
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.49	12.5	9.88	10.1	5.54	3.43	1.18	-2.39	-2.66	2.59	2.31	3.30	1.66	0.45	3.19



# Alt Model-Shift Uniqueness Test

005479800-03, P = 474.433207 Days, E = 236.158391 Days

Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1.67	4.57	4.20	3.65	5.68	3.64	0.98	-2.52	-1.98	0.38	0.92	0.39	1.30	0.44	0.21



### Stellar Parameters For KIC 005479800

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$5780^{+1}_{-1}$	$4.438^{+1.000}_{-1.000}$	$0.000^{+1.000}_{-1.000}$	$1.000^{+1.000}_{-1.000}$	$-1.000^{+1.000}_{-1.000}$	$-1.000^{+1.000}_{-1.000}$
	+0%/-0%	+23%/-23%	+inf%/-inf%	+100%/-100%	+100%/-100%	+100%/-100%
Source	Solar	Solar	Solar	Solar		

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

### Secondary Eclipse Parameters for KIC 005479800-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-2981 \pm 239$	$6.82^{+0.90}_{-0.87}$	$327^{+17}_{-15}$	$5450^{+352}_{-317}$	$50136^{+16575}_{-11647}$
Alt.	$-13986 \pm 3059$	$13.18^{+1.22}_{-1.23}$	$326^{+17}_{-14}$	$5739^{+417}_{-408}$	$63991^{+18882}_{-16468}$

$T_{max}$  = 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  $A_{obs} \gg 1.0$

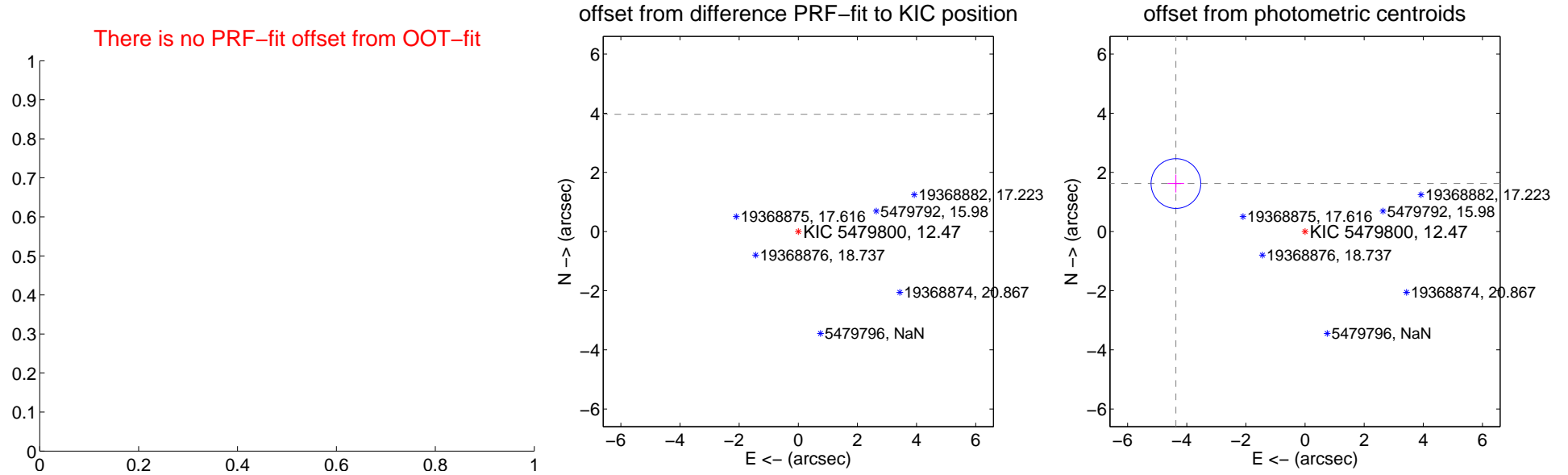
## DV Centroid Data

Supplemental centroid analysis for 005479800-03. Kepler magnitude: 12.47. Transit SNR 9.17

There are 1 quarters with good PRF difference image offsets

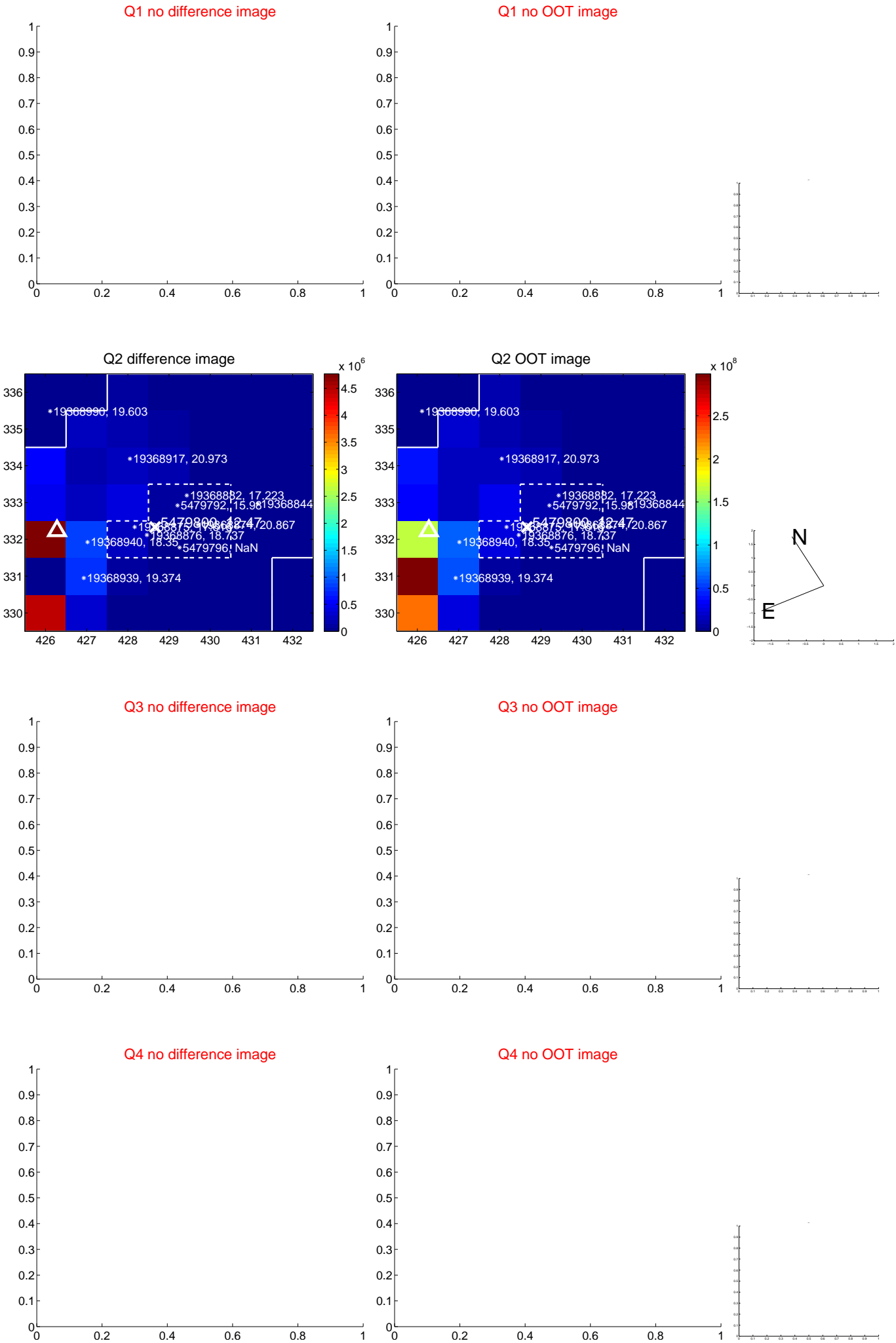
The direct PRF centroid is offset from the target star catalog position by about NaN arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	—	—	—	—
PRF-fit source offset from KIC position	$9.476 \pm 0.067$	141.50	$8.606 \pm 0.067$	$3.966 \pm 0.067$
photometric centroid source offset	$4.66 \pm 0.28$	16.62	$4.37 \pm 0.28$	$1.62 \pm 0.30$



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- $\sigma$  uncertainty. Blue circle: three- $\sigma$ . Red \*: target star. Blue \*: Other stars. Text next to a star gives its KIC ID and kepmag. KIC IDs > 15,000 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.





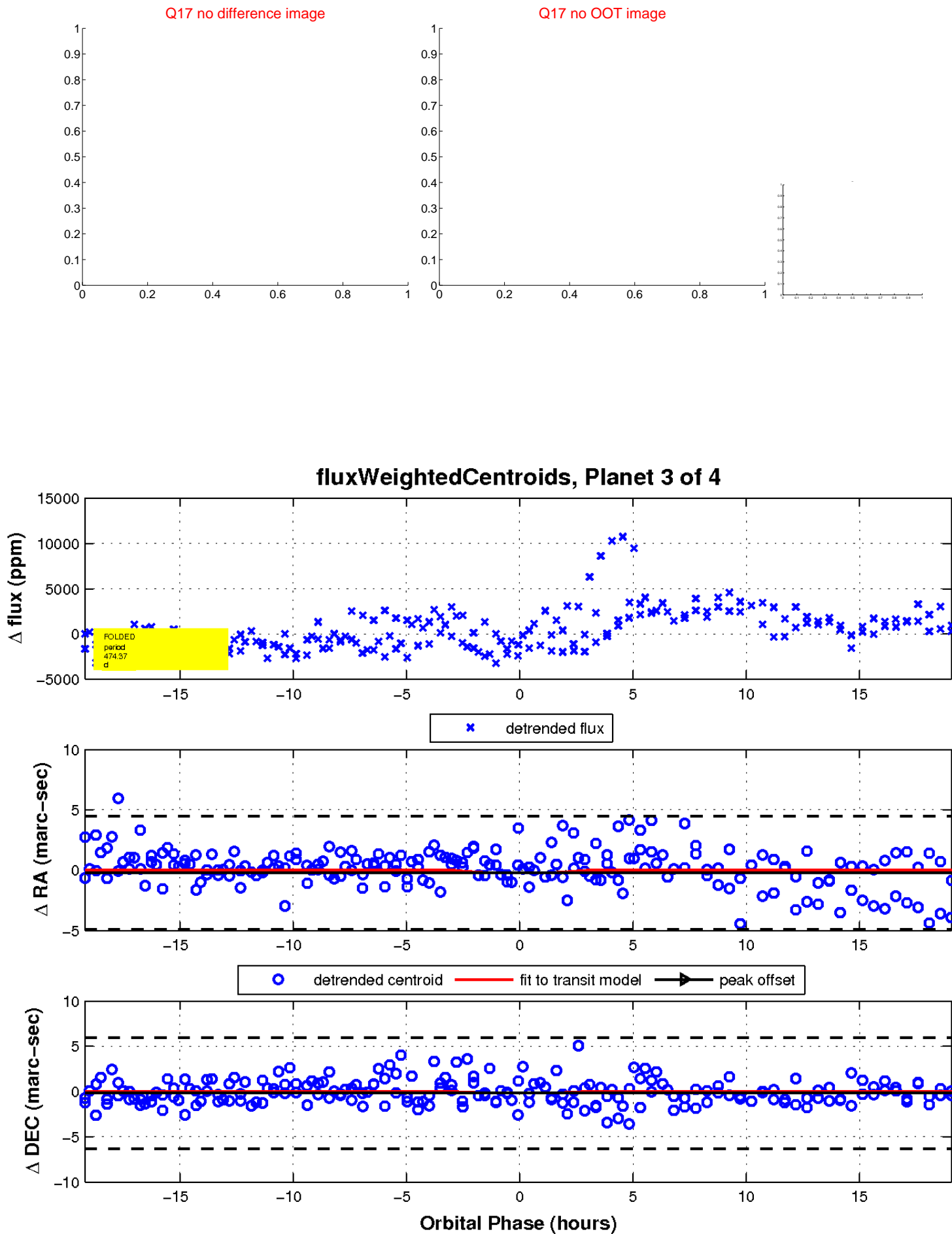
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



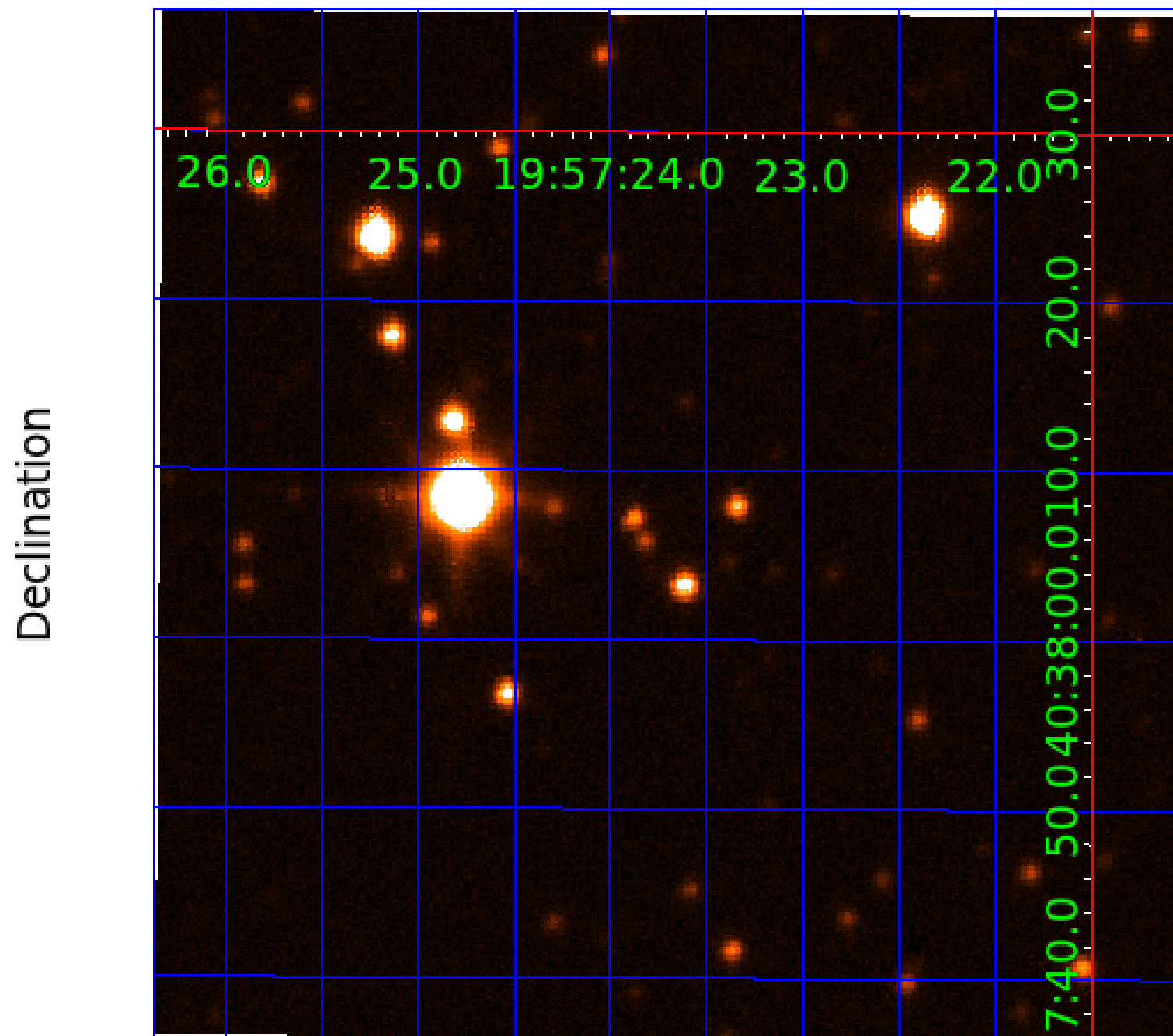
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



UKIRT Image



# KIC 005479800

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
005479800-01	OBS	No	415.687992	513.852841	6160.9	3.437	16.7	17.1	1.00	5780	14.35	0.84
005479800-02	OBS	No	1.701477	132.875718	172.9	7.211	13.6	9.3	1.00	5780	1.40	1284.81
005479800-03	OBS	No	474.373573	236.260958	3314.8	6.406	9.3	9.2	1.00	5780	6.84	0.70
005479800-04	OBS	No	1.701159	132.042266	575.7	4.500	9.2	-1.0	1.00	5780	2.38	1285.13

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005479800-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
005479800-02	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—SWEET_NTL—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—CENT_RESOLVED_OFFSET
005479800-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
005479800-04	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—LPP_ALT—SAME_NTL_PERIOD—CENT_NOFITS

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

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

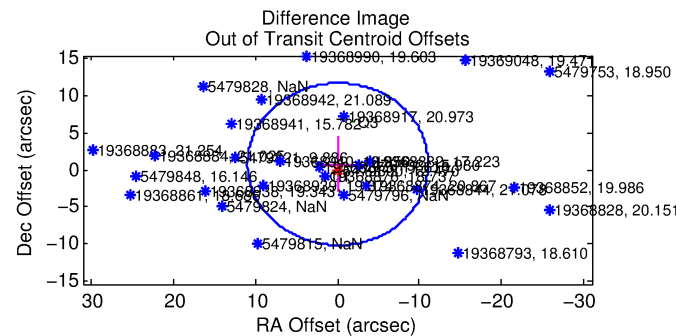
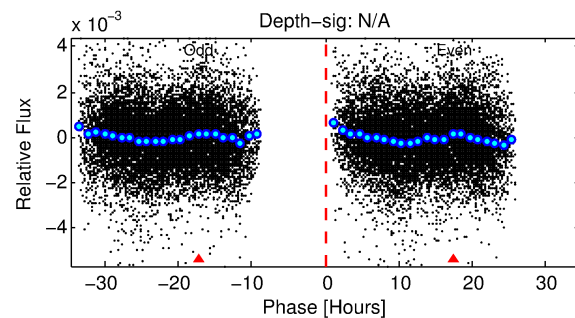
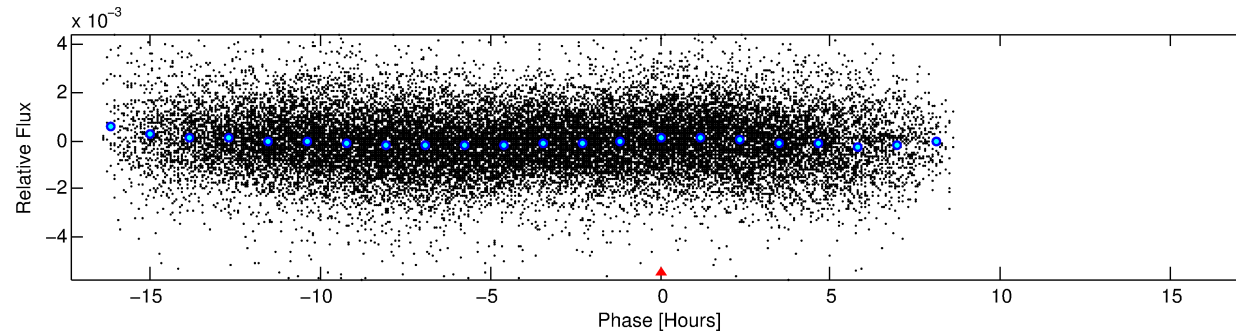
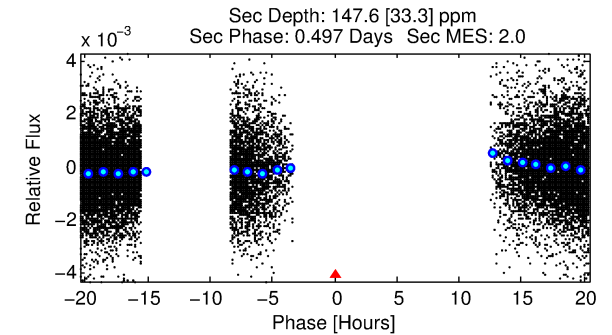
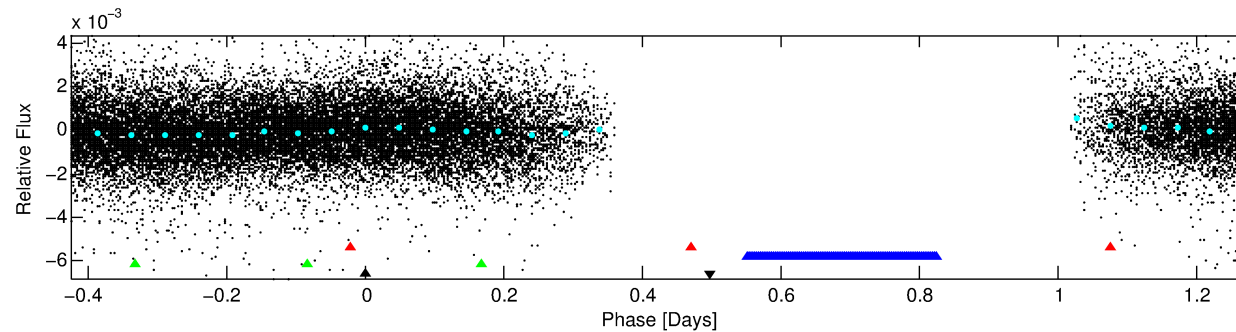
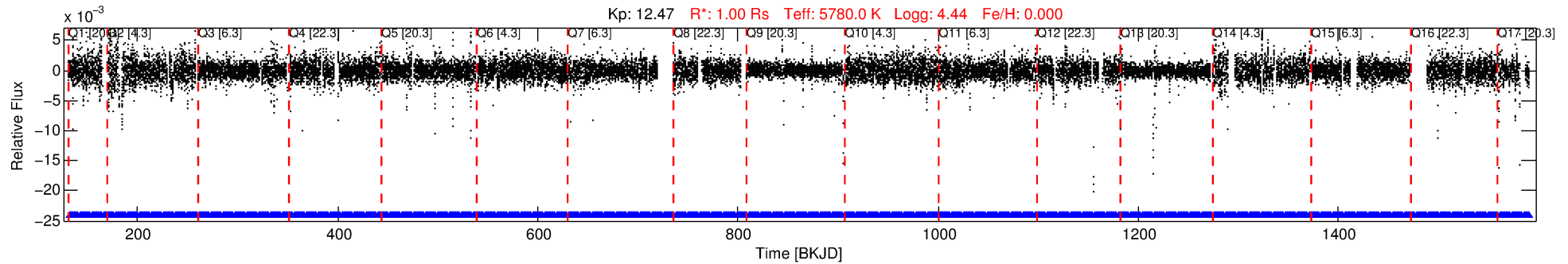
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

Ephemeris Match Information For 005479800-04

No Significant Match Found

# DV One-Page Summary

KIC: 5479800 Candidate: 4 of 4 Period: 1.701 d



TPS TCE Results:

Period = 1.70116 d  
Epoch = 132.0423 BKJD

DV fit results are unavailable

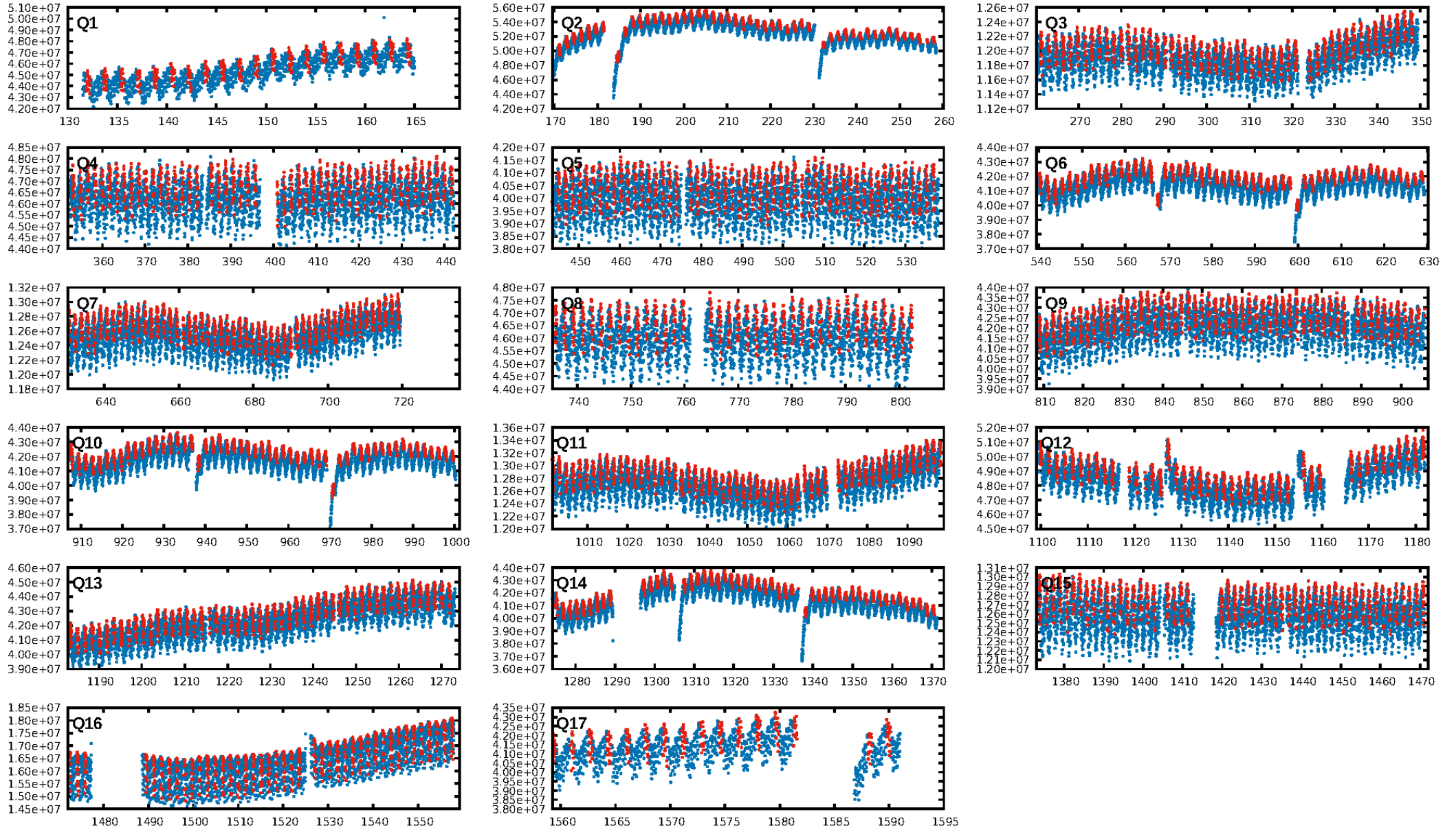
DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: 0.1% [0.00σ]  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: N/A  
RollingBand-fgt: 1.00 [754/754]  
GhostDiagnostic-chr: -0.7156  
Centroid-sig: 0.0%  
Centroid-so: 4.474 arcsec [130.46σ]  
OotOffset-rm: 0.760 arcsec [0.21σ]  
OotOffset-st: 0/1/0/1 [2]  
KicOffset-rm: 9.318 arcsec [12.81σ]  
KicOffset-st: 4/1/0/1 [6]  
DiffImageQuality-fgm: 0.17 [1/6]  
DiffImageOverlap-fno: 0.71 [12/17]

Software Revision: svn-ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 17:03:59 Z

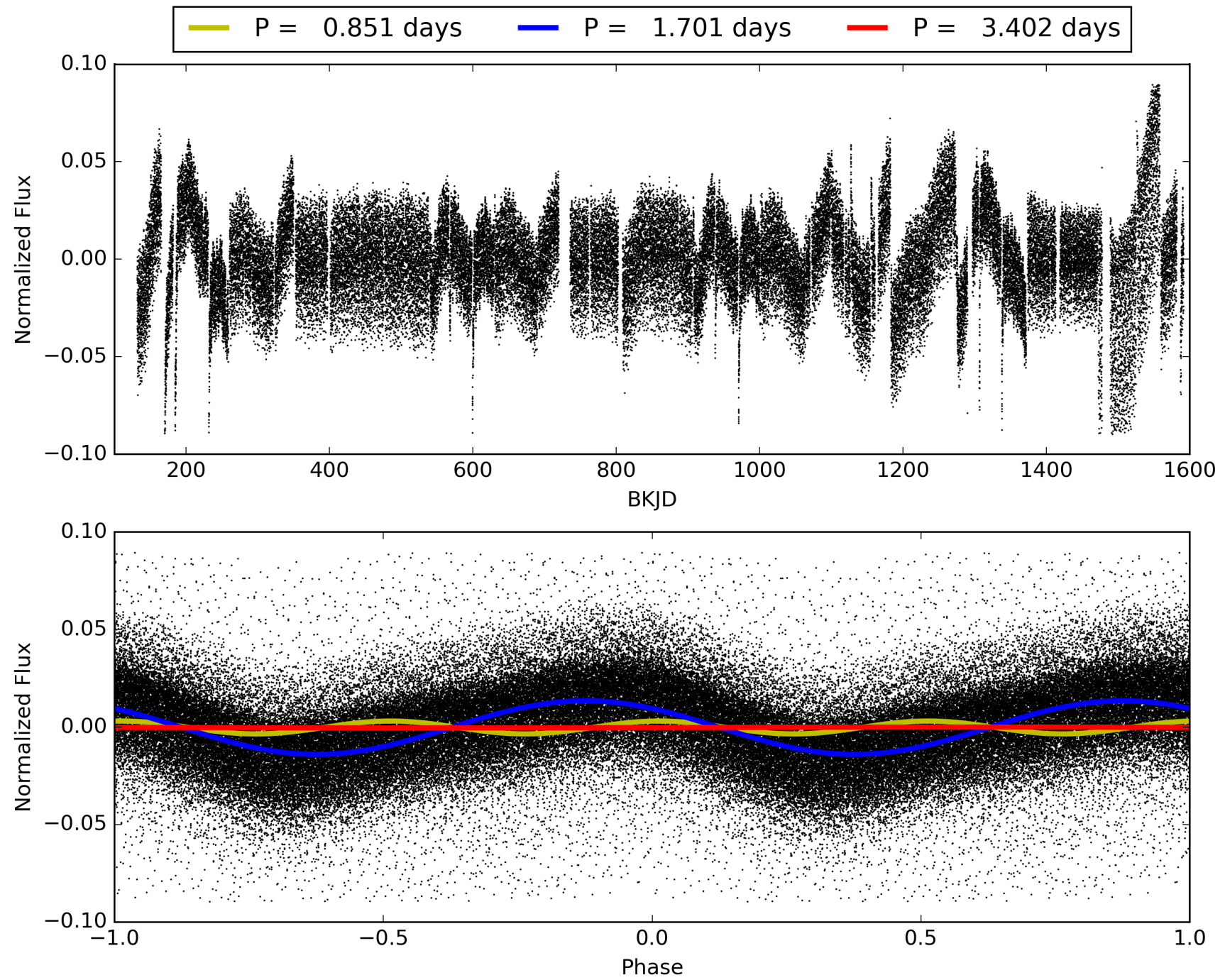
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

# TCE 005479800-04, PDC Light Curves





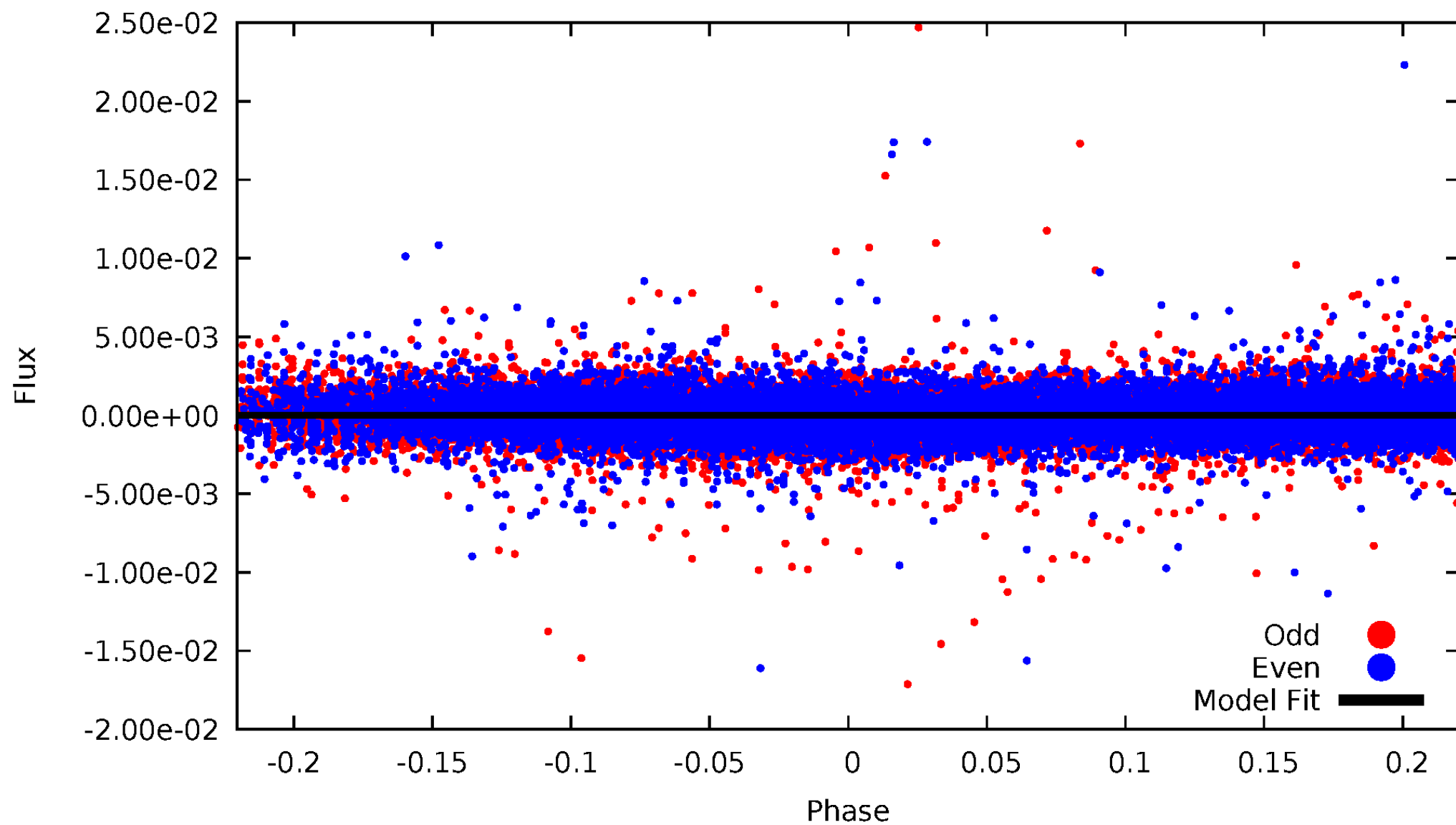
TCE 005479800-04





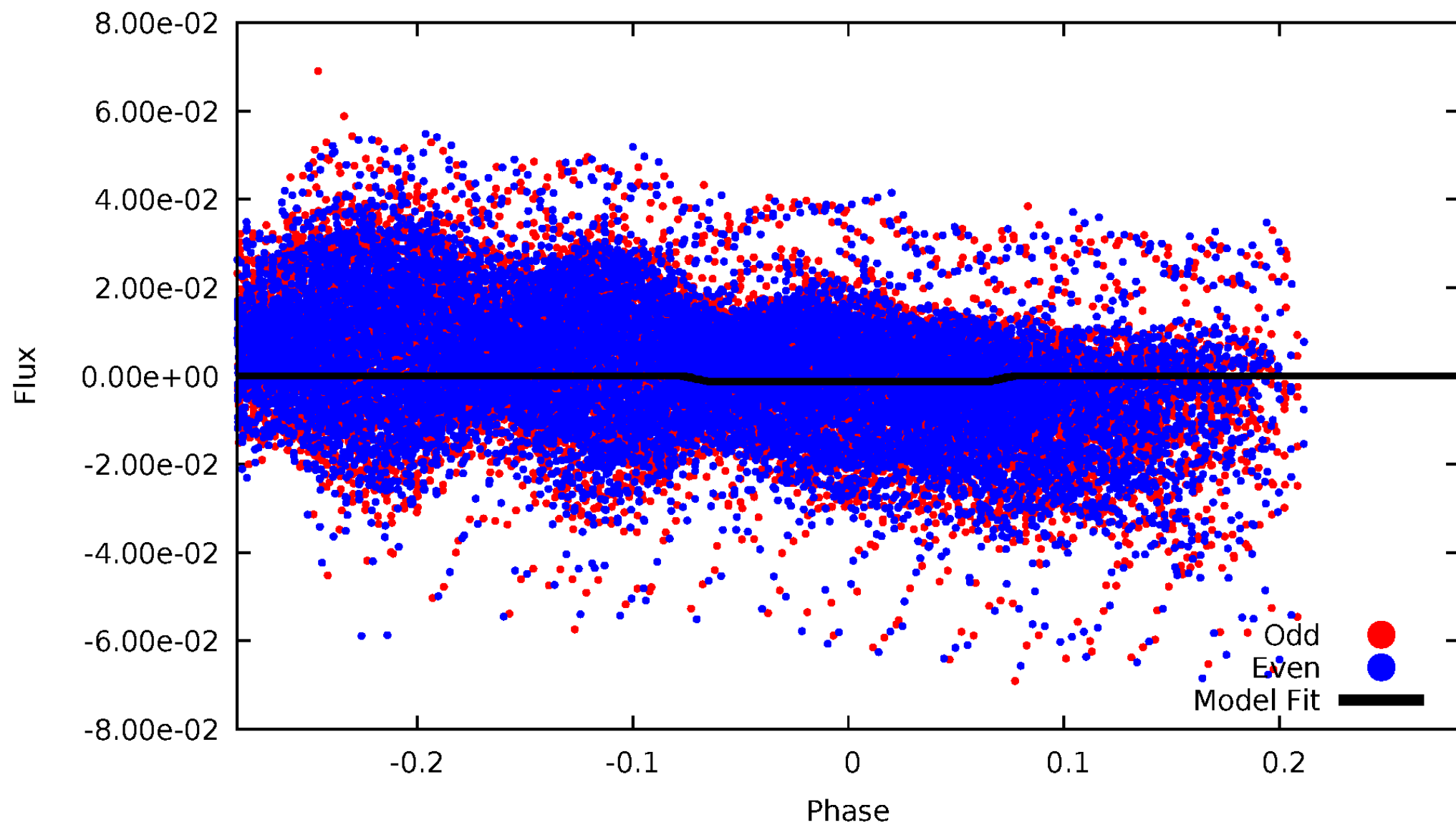
# DV Odd/Even

TCE 005479800-04



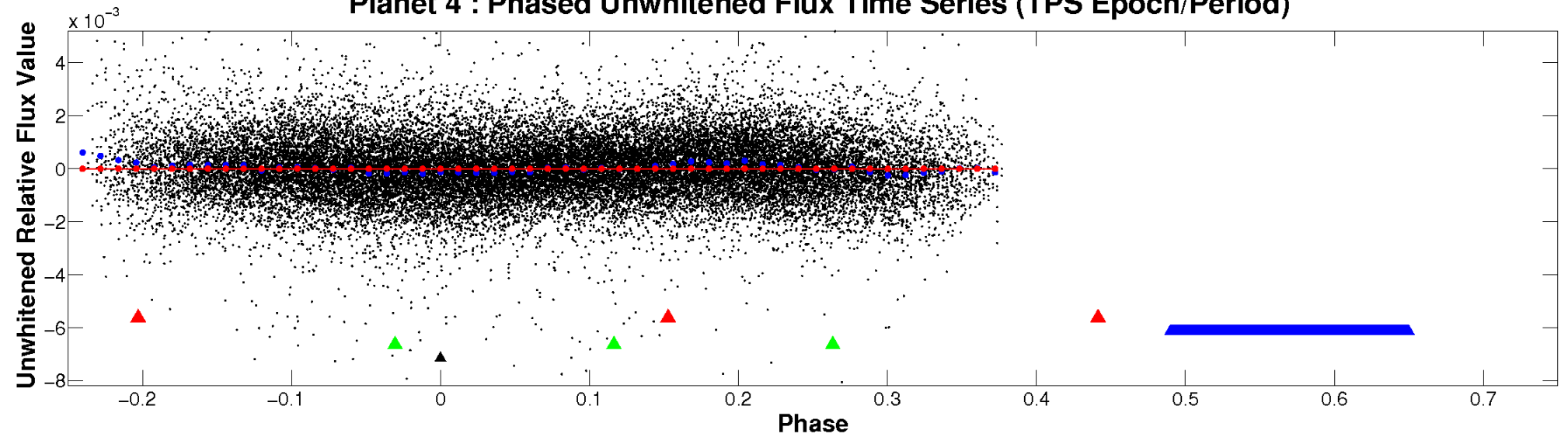
# ALT Odd/Even

TCE 005479800-04



# Non-Whitened Vs. Whitened Light Curve

**Planet 4 : Phased Unwhitened Flux Time Series (TPS Epoch/Period)**

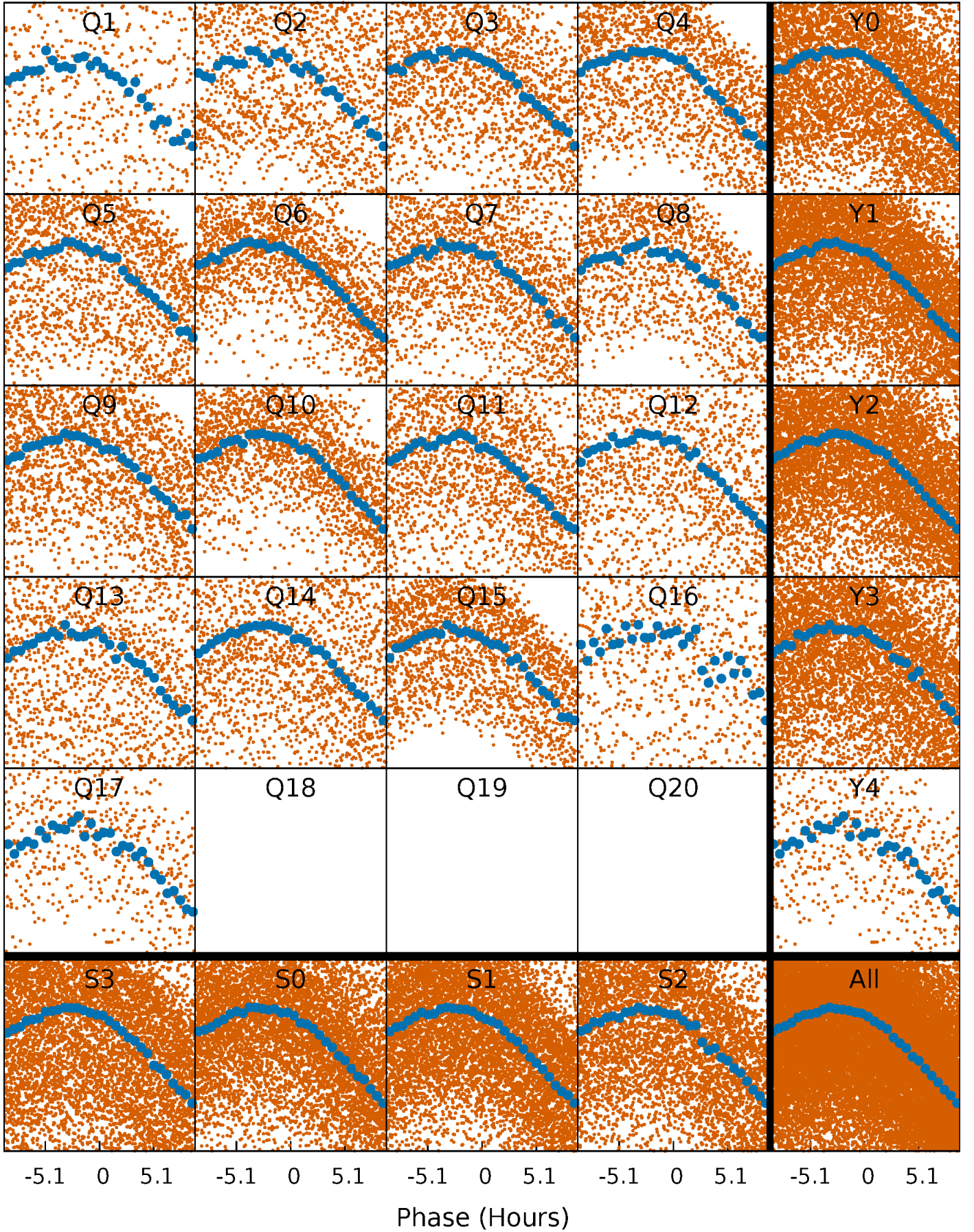


**Planet 4 : Phased Whitened Flux Time Series (TPS Epoch/Period)**



# PDC Quarter-Phased Transit Curves

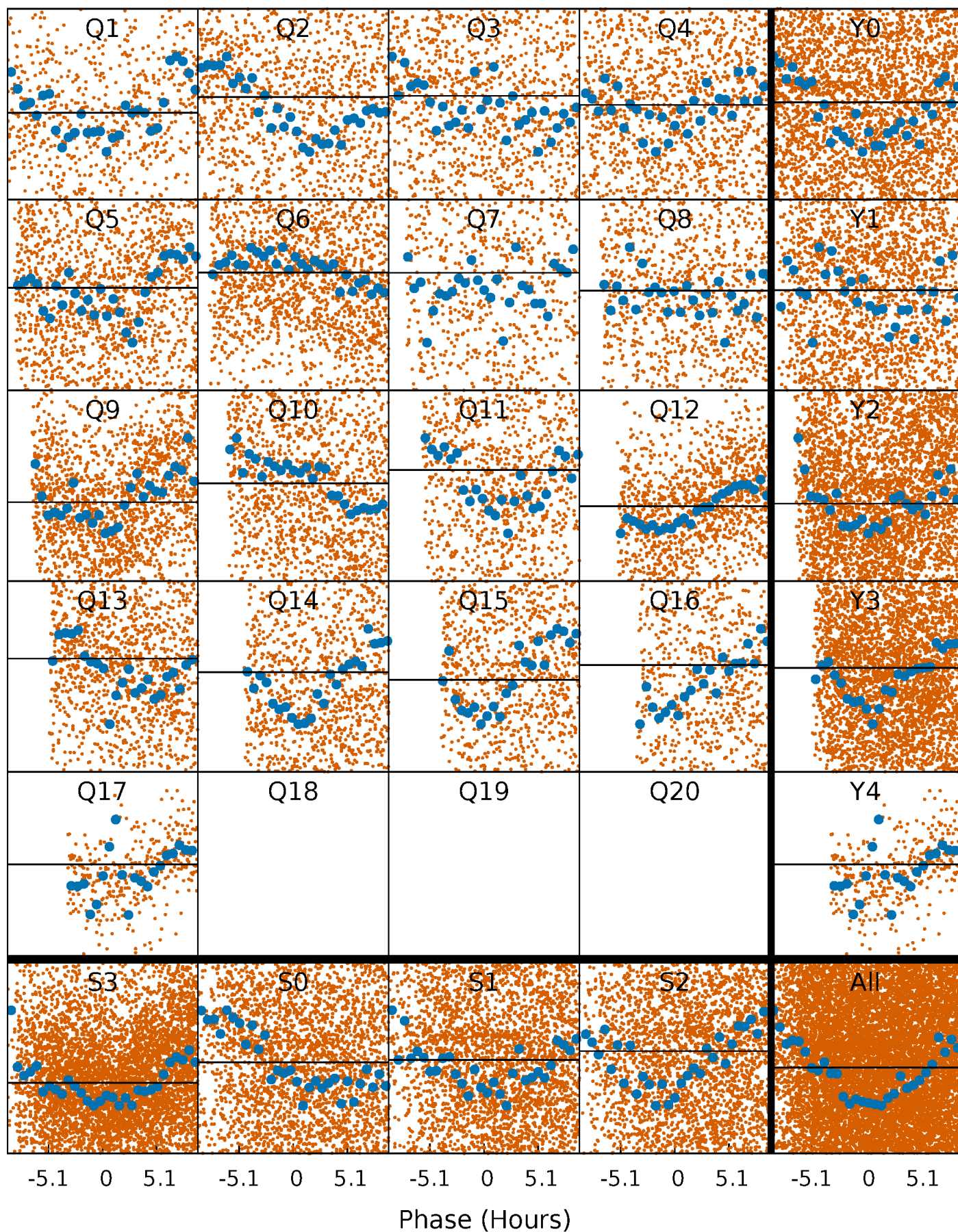
TCE 005479800-04     $P = 1.701159$  Days     $T_0 = 132.042266$  (BKJD)





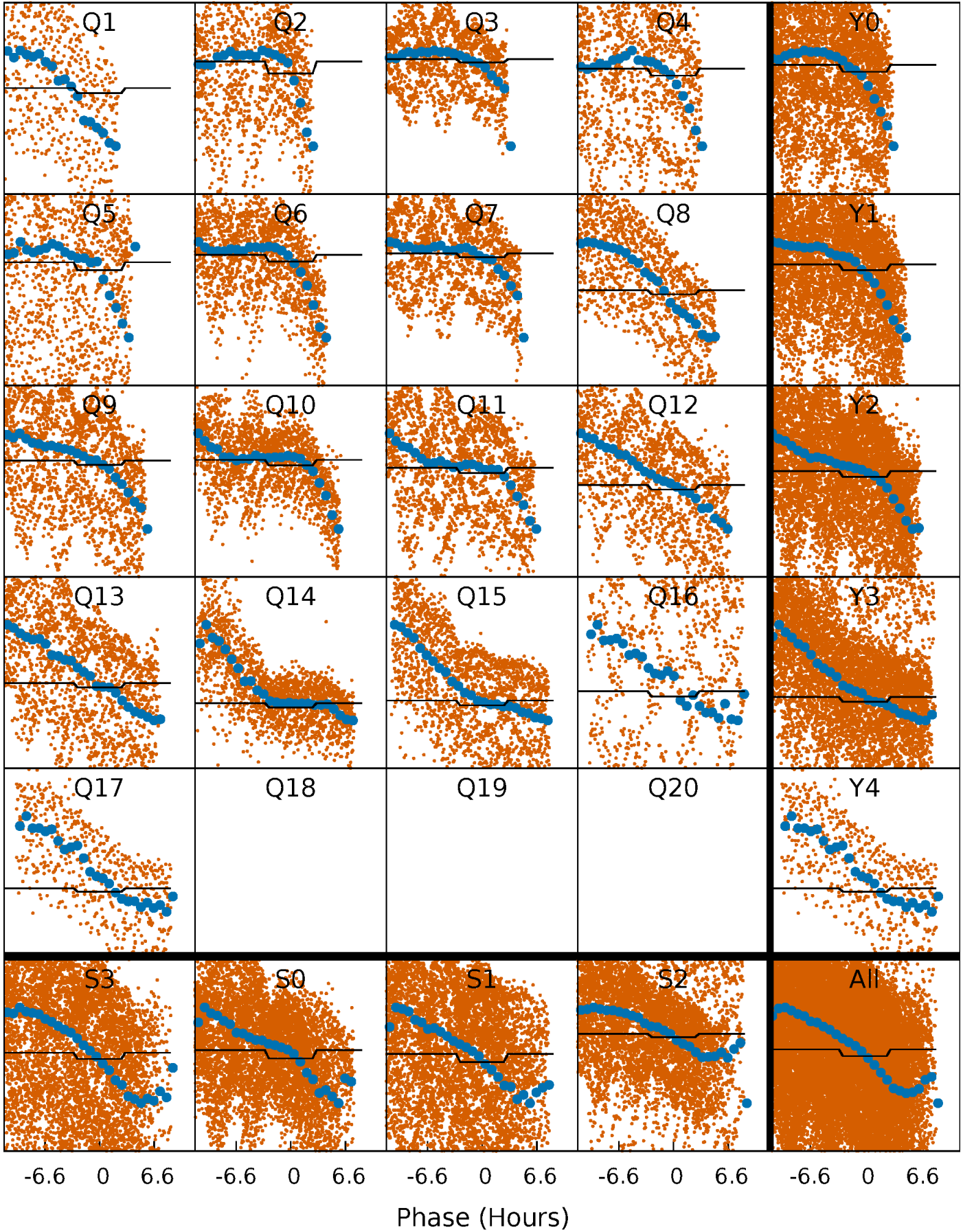
# DV Quarter-Phased Transit Curves

TCE 005479800-04 P= 1.701159 Days  $T_0=132.042266$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

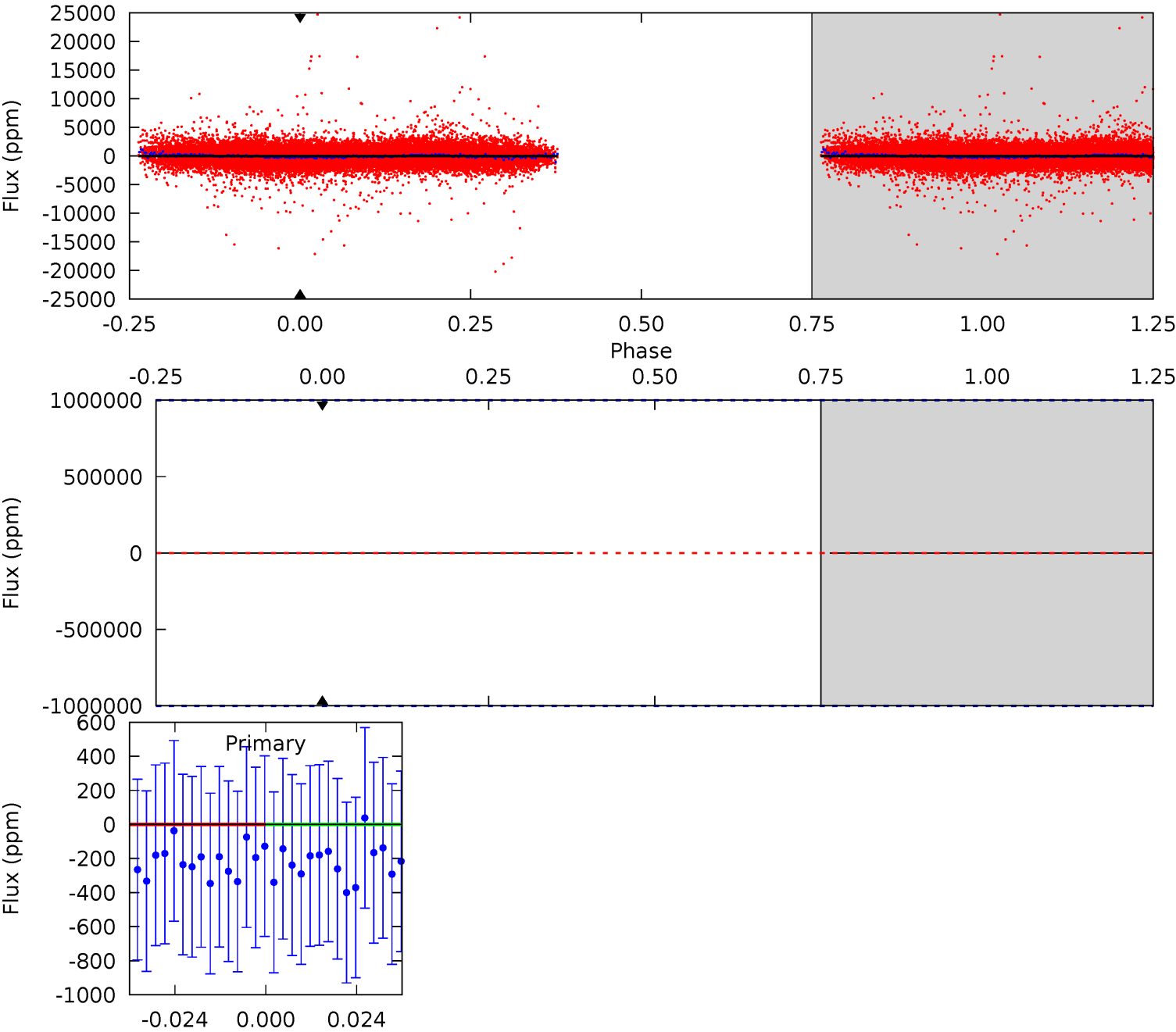
TCE 005479800-04 P= 1.701159 Days  $T_0=132.323747$  (BKJD)



# DV Model-Shift Uniqueness Test

005479800-04, P = 1.701159 Days, E = 130.341107 Days

Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0

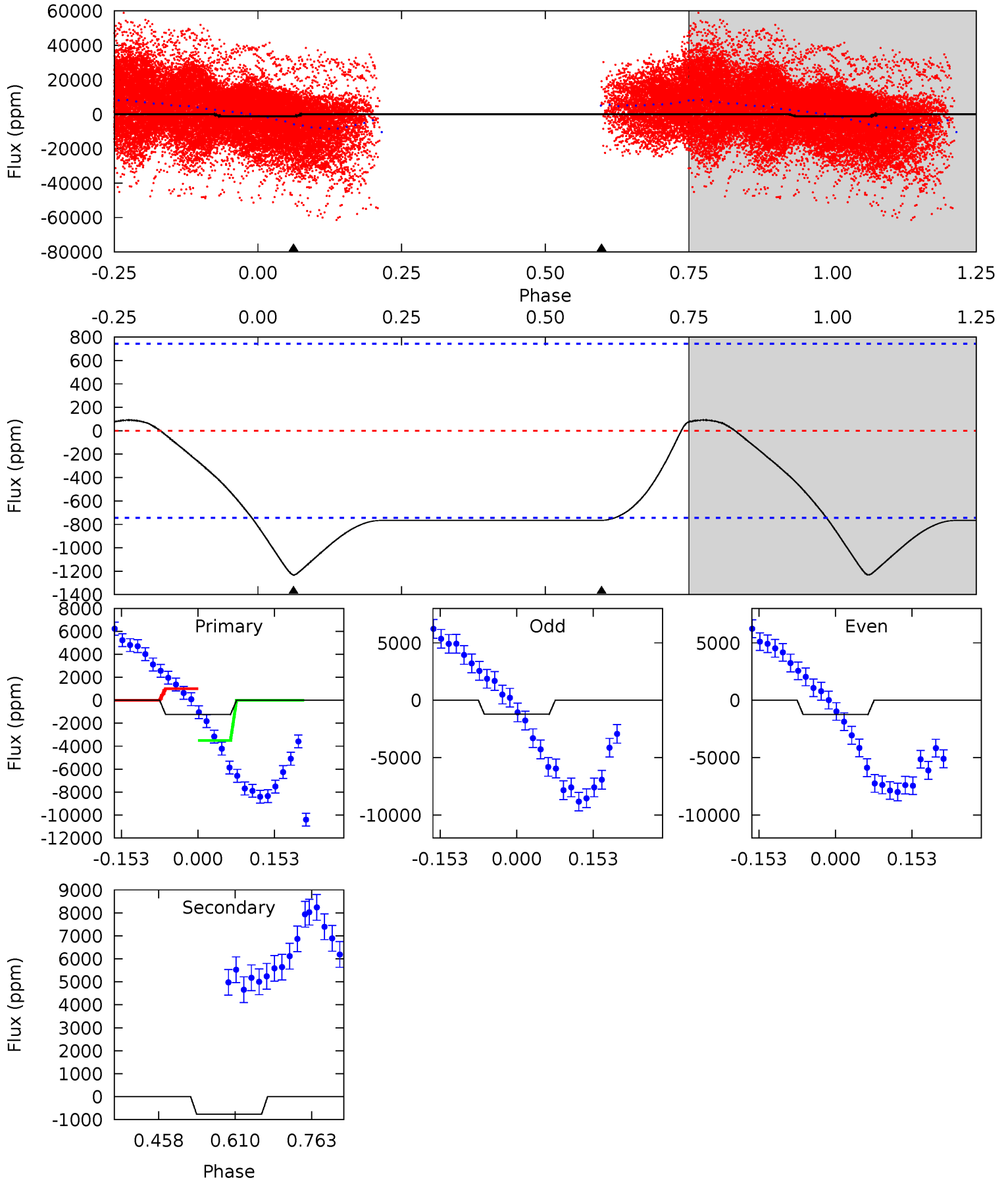




# Alt Model-Shift Uniqueness Test

005479800-04, P = 1.701159 Days, E = 130.622588 Days

Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.40	4.61	0	0	4.48	1.43	0.80	7.40	7.40	4.61	4.61	0.08	1.18	0.07	8.30



### Stellar Parameters For KIC 005479800

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$5780^{+1}_{-1}$	$4.438^{+1.000}_{-1.000}$	$0.000^{+1.000}_{-1.000}$	$1.000^{+1.000}_{-1.000}$	$-1.000^{+1.000}_{-1.000}$	$-1.000^{+1.000}_{-1.000}$
	+0%/-0%	+23%/-23%	+inf%/-inf%	+100%/-100%	+100%/-100%	+100%/-100%
Source	Solar	Solar	Solar	Solar		

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

### Secondary Eclipse Parameters for KIC 005479800-04 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$0 \pm 1000000$	$8.03^{+8.36}_{-5.51}$	$2136^{+107}_{-101}$	$-4643^{+27538}_{-14401}$	$-11.348^{+1409.274}_{-998.808}$
Alt.	$-766 \pm 166$	$9.03^{+9.12}_{-5.86}$	$2139^{+99}_{-105}$	$3679^{+1923}_{-794}$	$3.930^{+27.877}_{-2.946}$

$T_{\text{max}}$  = Theoretical Maximum Planetary Temperature  
 $T_{\text{obs}}$  = Observed Planetary Temperature (Assuming A=0.3)  
 $A_{\text{obs}}$  = 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  $A_{\text{obs}} \gg 1.0$

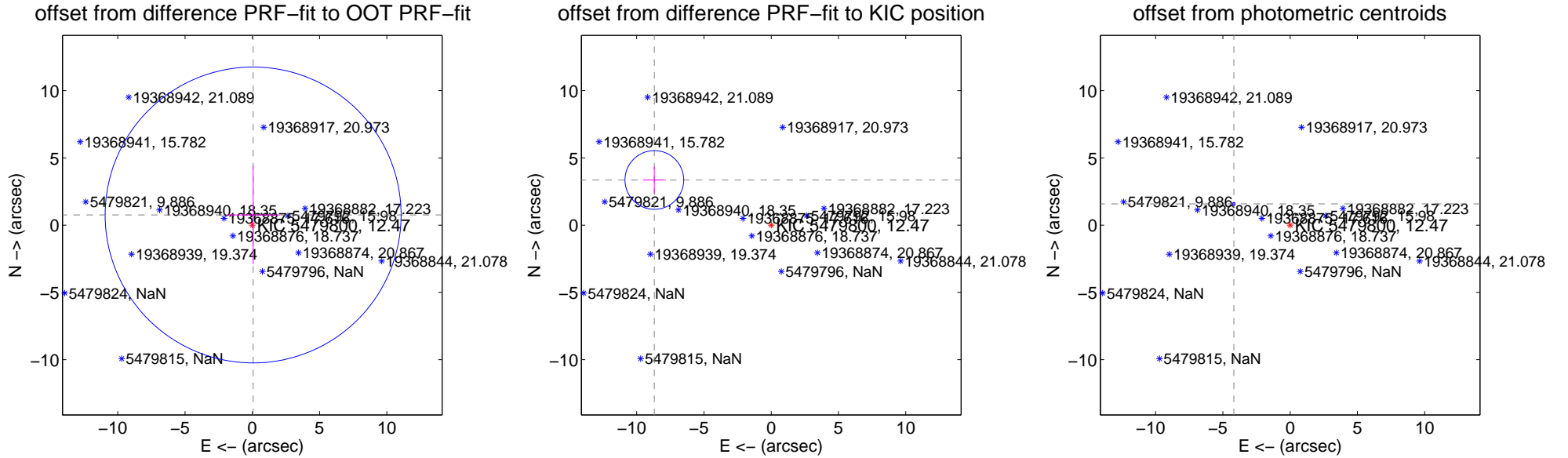
## DV Centroid Data

Supplemental centroid analysis for 005479800-04. Kepler magnitude: 12.47. Transit SNR -1.00

There are 1 quarters with good PRF difference image offsets

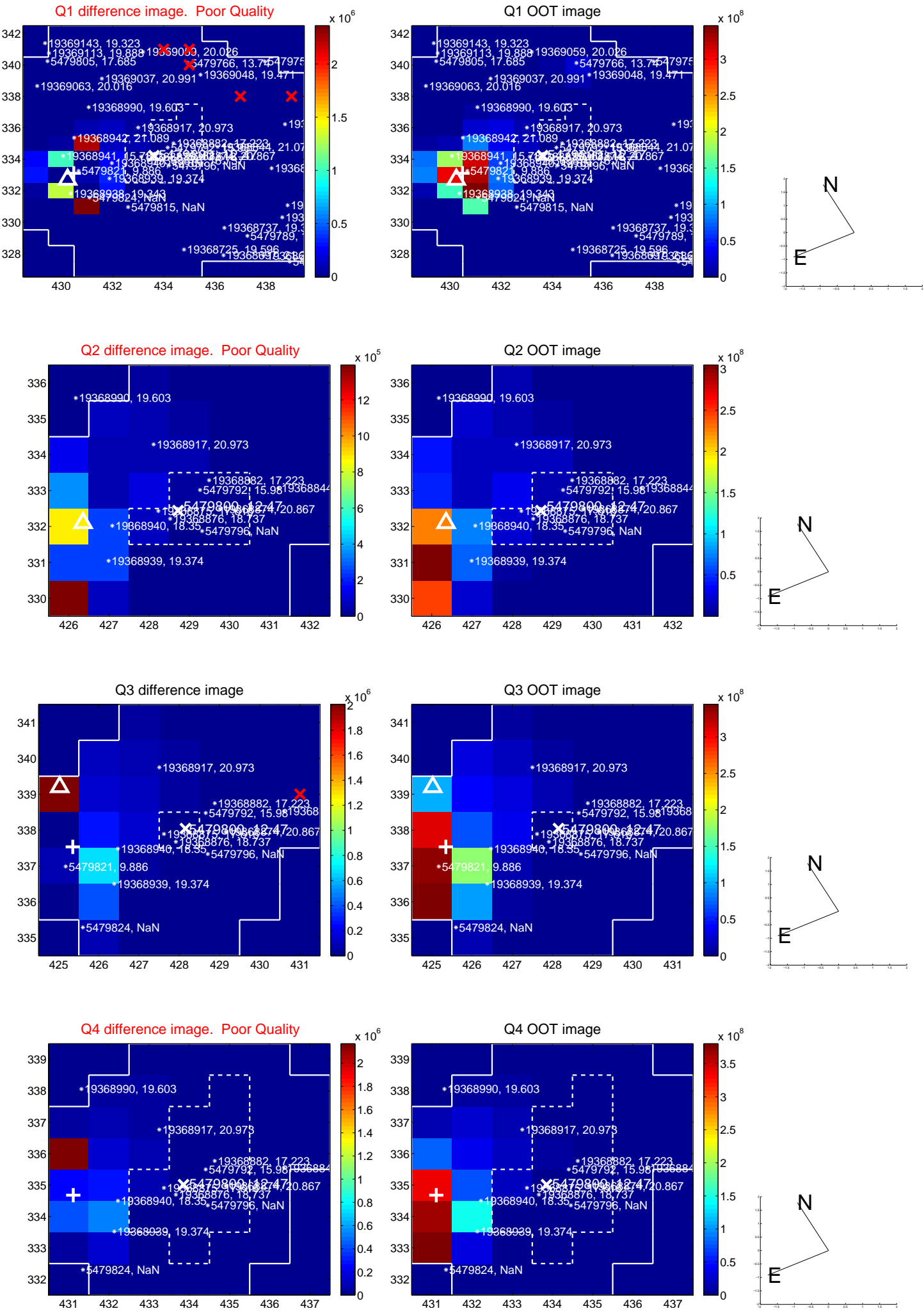
The OOT PRF centroid is offset from the target star catalog position by about 11.32 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.760 \pm 3.667$	0.21	$-0.061 \pm 2.009$	$0.757 \pm 3.676$
PRF-fit source offset from KIC position	$9.318 \pm 0.728$	12.81	$8.691 \pm 0.854$	$3.360 \pm 0.996$
photometric centroid source offset	$4.47 \pm 0.03$	130.46	$4.18 \pm 0.03$	$1.58 \pm 0.04$

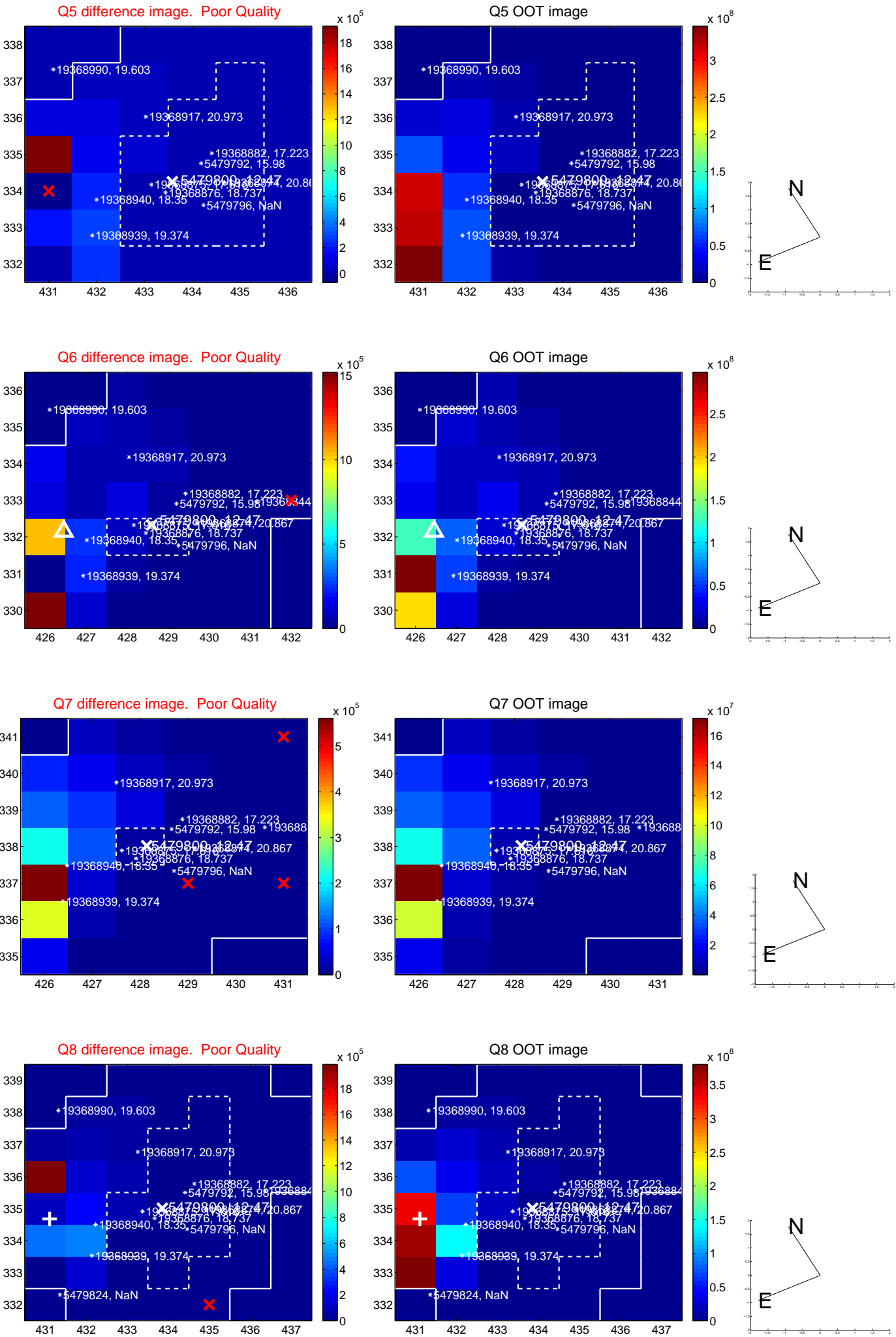


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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

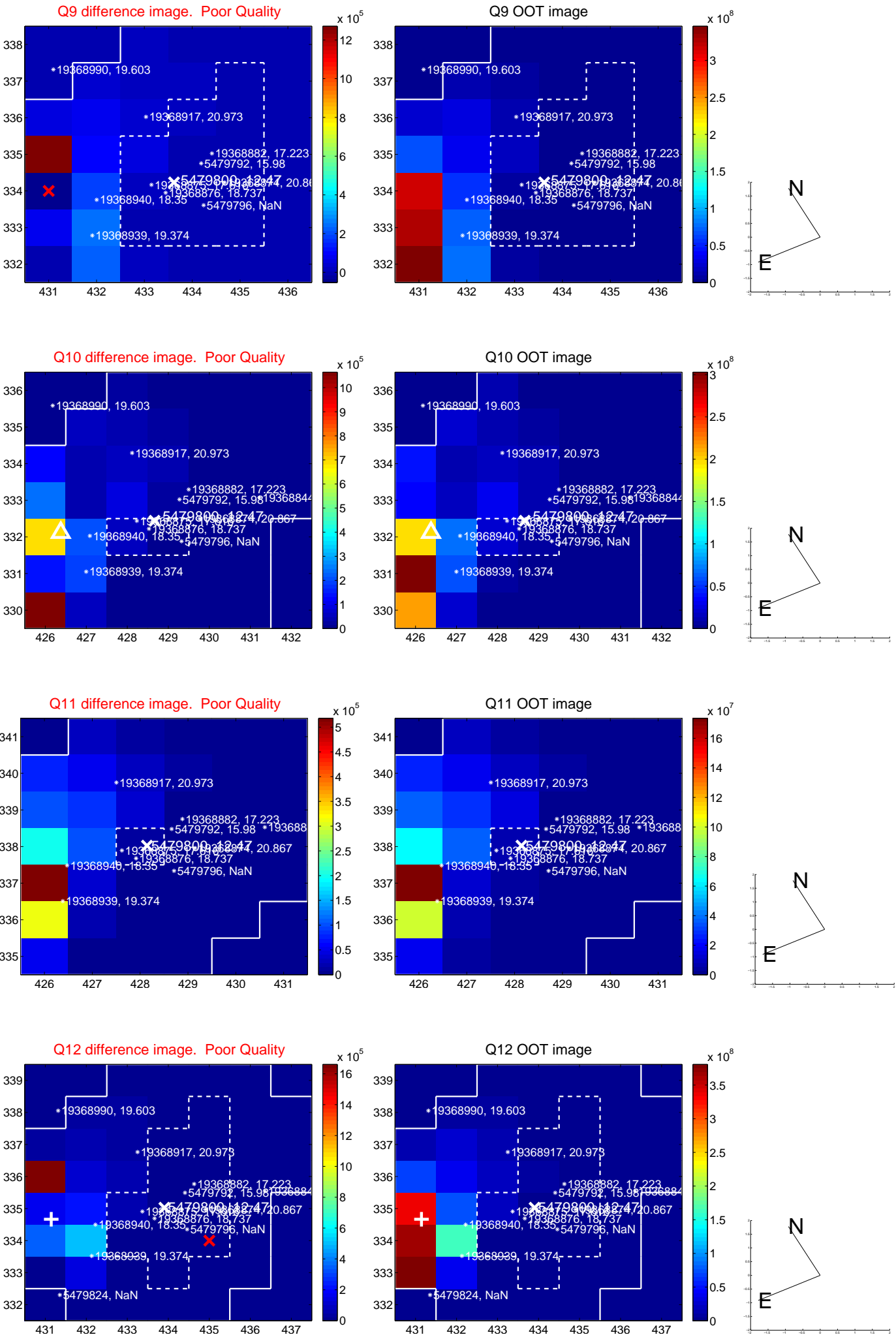
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



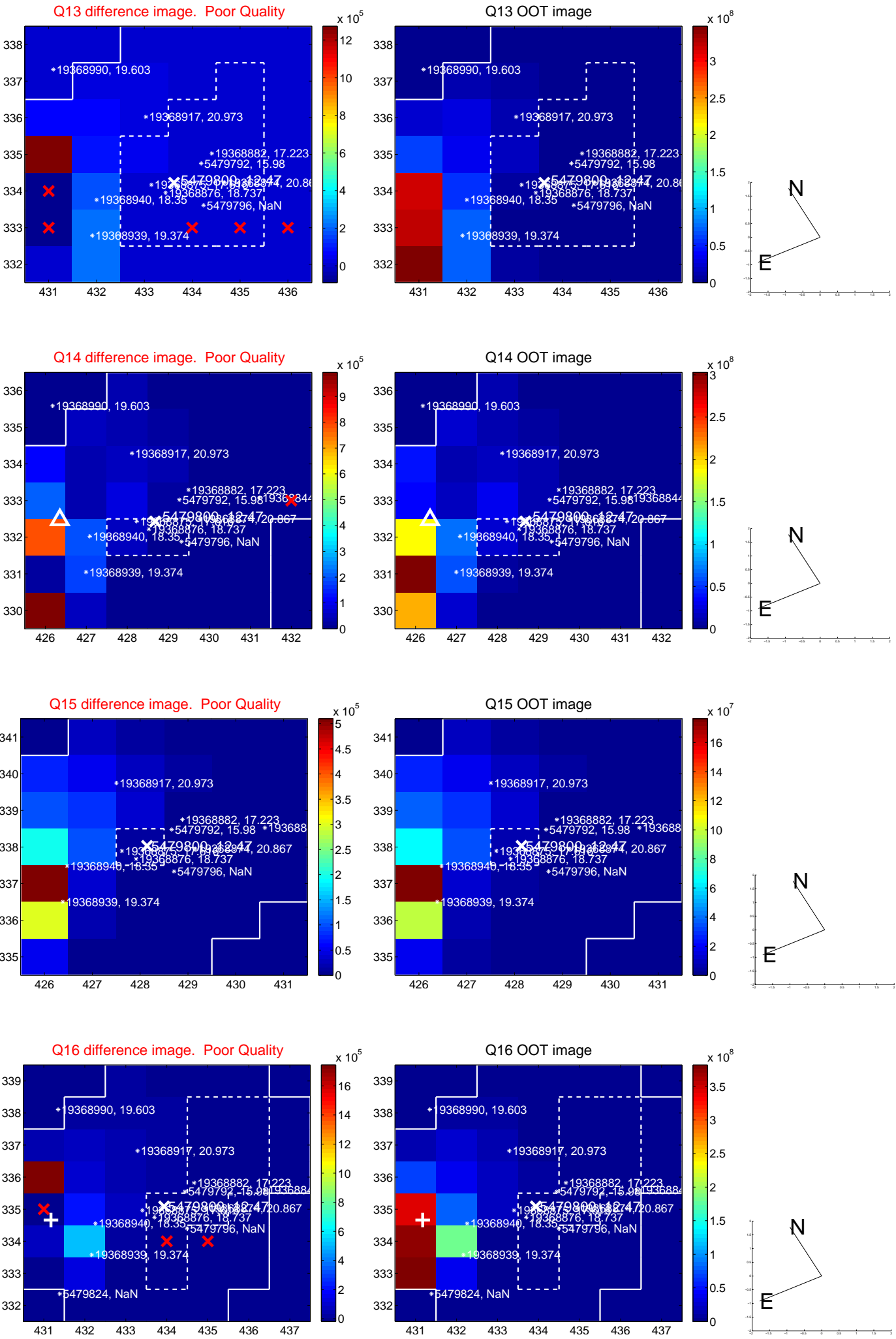
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

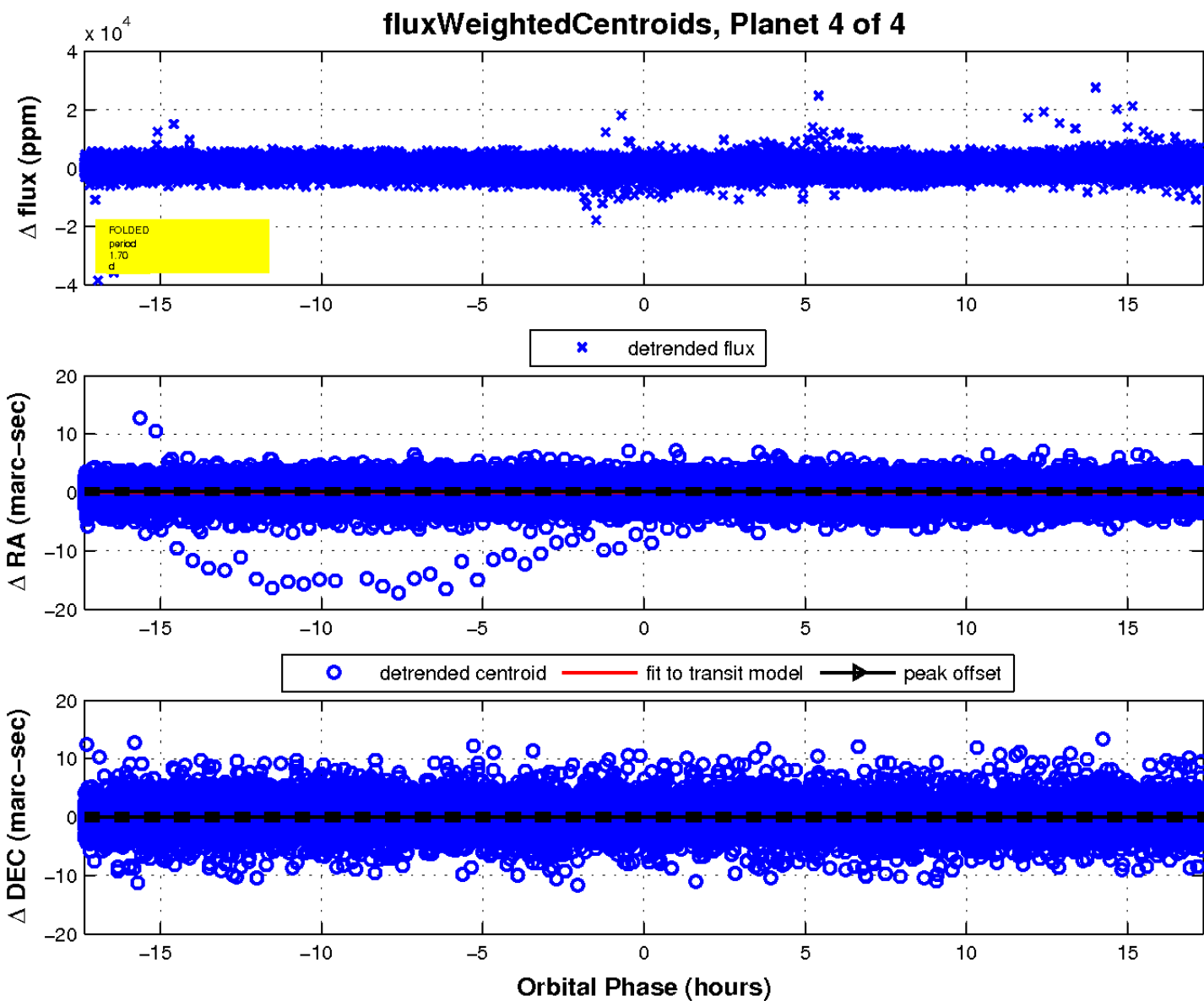
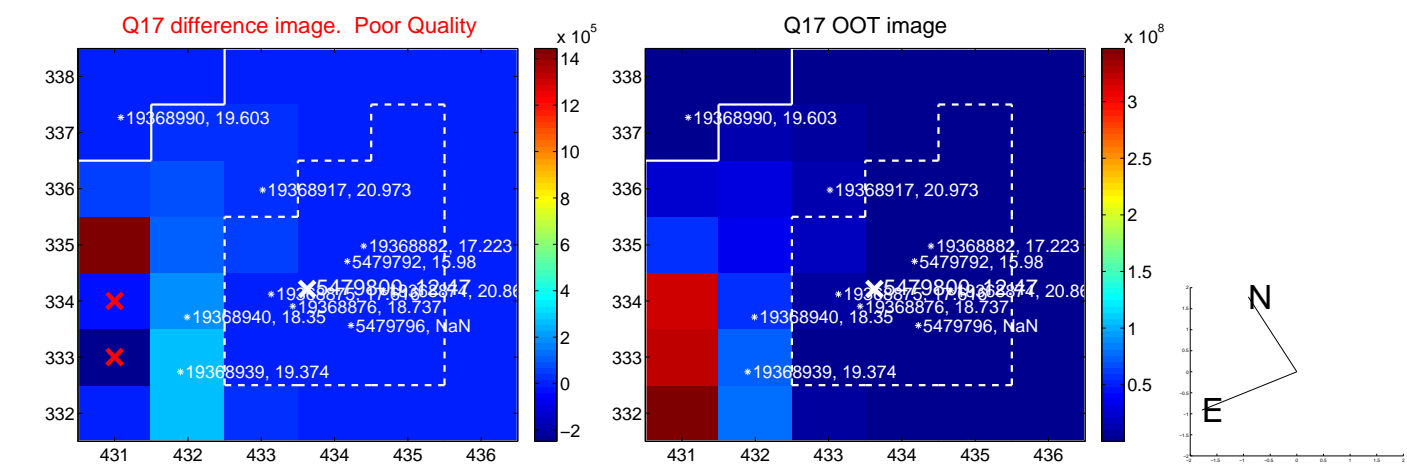


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.





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



UKIRT Image

