

# KIC 008314525

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
008314525-01	OBS	No	0.800686	132.004627	258.4	3.279	13.1	14.0	2.03	7384	3.81	28212.55
008314525-02	OBS	No	6.708188	135.117091	700.2	25.914	9.3	13.6	2.03	7384	9.64	1658.00
008314525-03	OBS	No	6.707459	138.014946	819.1	28.957	8.1	16.0	2.03	7384	8.10	1658.24

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008314525-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT
008314525-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
008314525-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD

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

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

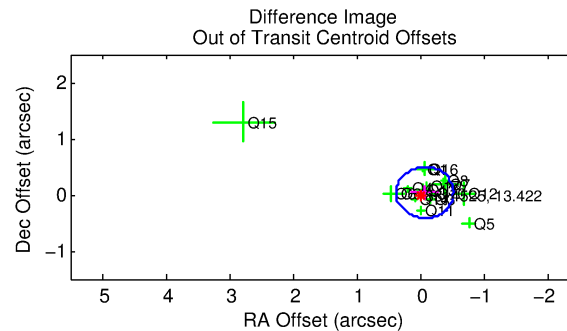
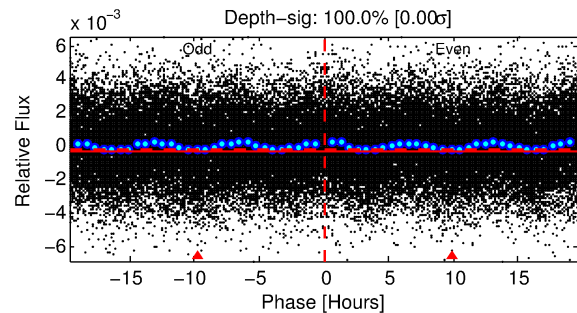
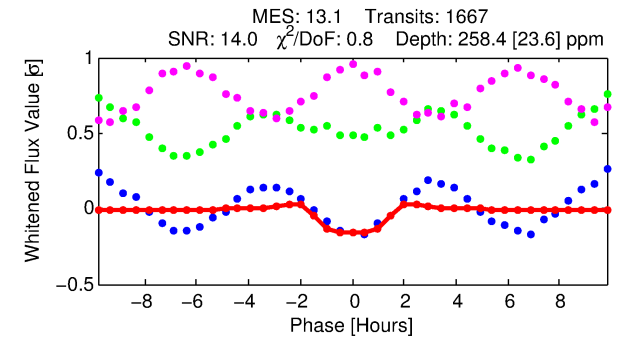
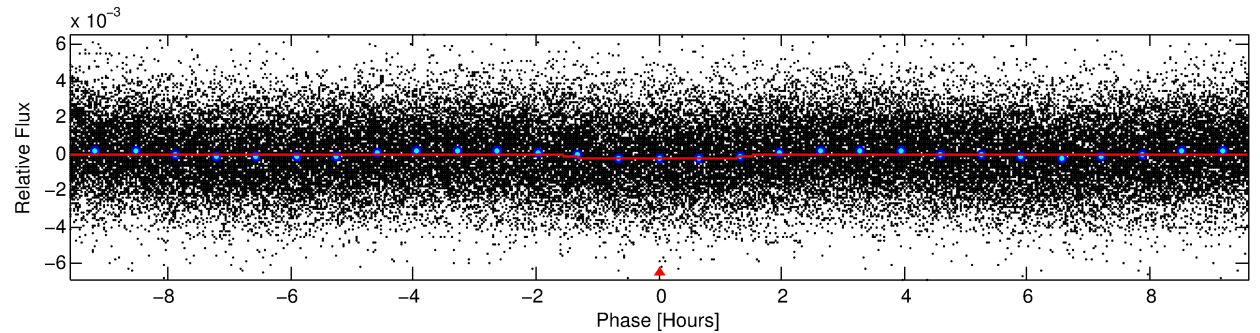
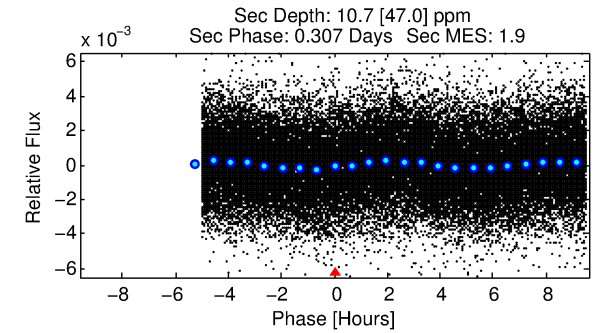
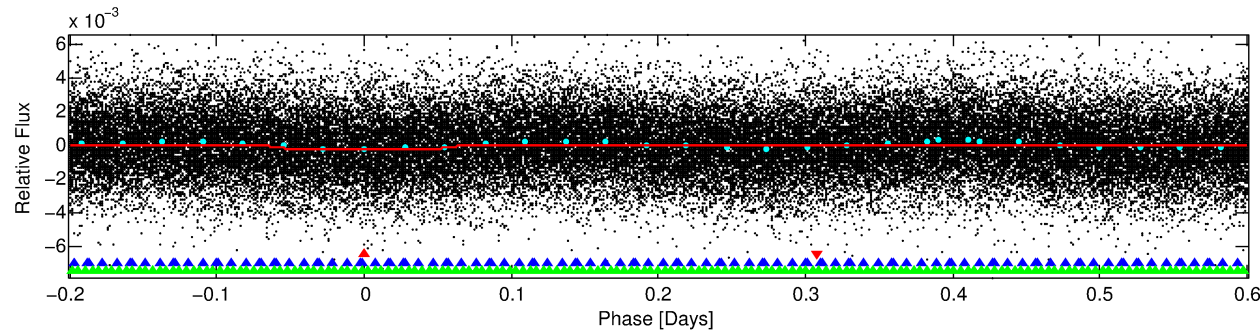
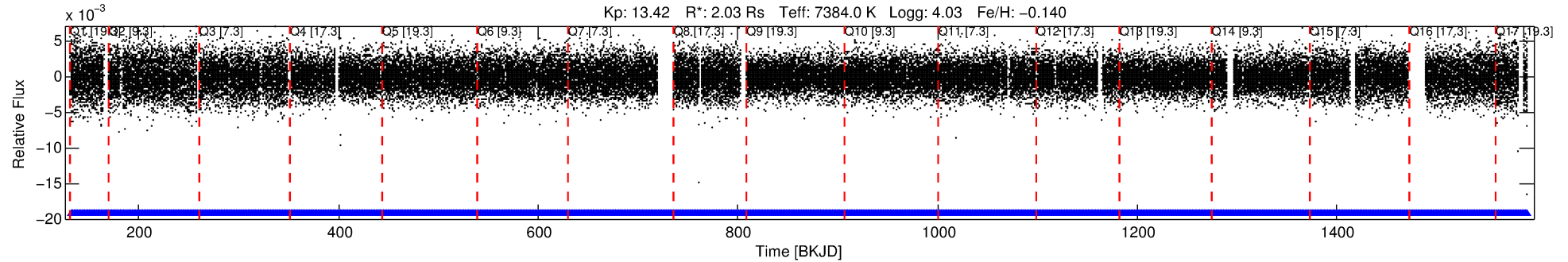
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

Ephemeris Match Information For 008314525-01

No Significant Match Found

# DV One-Page Summary

KIC: 8314525 Candidate: 1 of 3 Period: 0.801 d



## DV Fit Results:

Period = 0.80069 [0.00001] d  
Epoch = 132.0046 [0.0026] BKJD  
Rp/R\* = 0.0172 [0.0046]  
a/R\* = 1.29 [0.81]  
b = 0.90 [0.33]  
Seff = 28212.55 [10989.16]  
Teq = 3305 [322] K  
Rp = 3.80 [1.44] Re  
a = 0.0197 [0.0046] AU  
Ag = 0.16 [0.70] [-1.20σ]  
Teffp = 3219 [3577] K [-0.02σ]

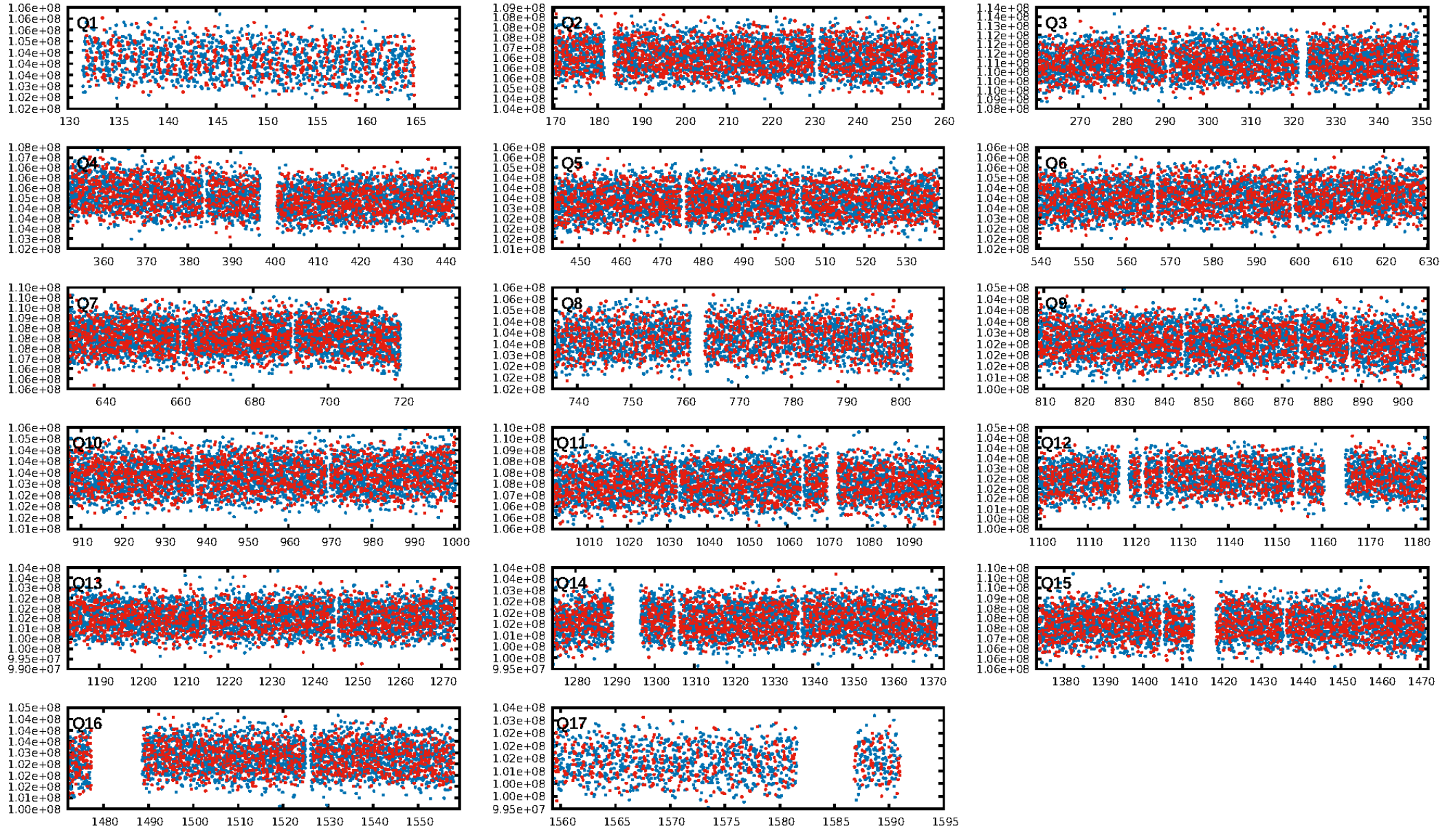
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: 100.0% [4.86σ]  
ModelChiSquare2-sig: N/A  
ModelChiSquareGoF-sig: N/A  
Bootstrap-pfa: N/A  
RollingBand-fgt: 1.00 [1591/1591]  
GhostDiagnostic-chr: 1.512  
Centroid-sig: 87.4%  
Centroid-so: 0.078 arcsec [1.04σ]  
OotOffset-rm: 0.084 arcsec [0.56σ]  
KicOffset-rm: 0.145 arcsec [1.49σ]  
OotOffset-st: 3/4/4/5 [16]  
KicOffset-st: 3/4/4/5 [16]  
DiffImageQuality-fgm: 0.81 [13/16]  
DiffImageOverlap-fno: 1.00 [17/17]

Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 20:05:50 Z

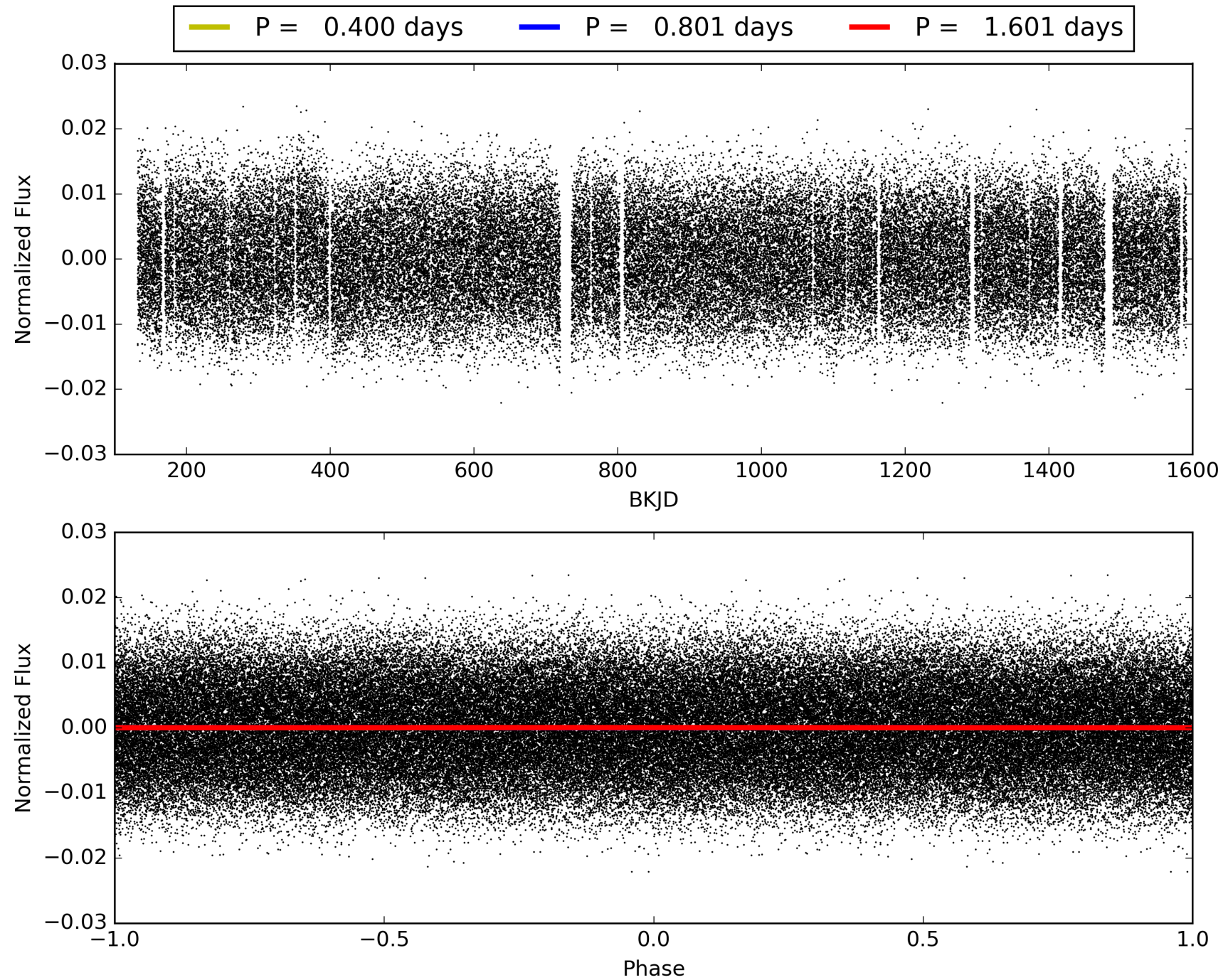
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

# TCE 008314525-01, PDC Light Curves





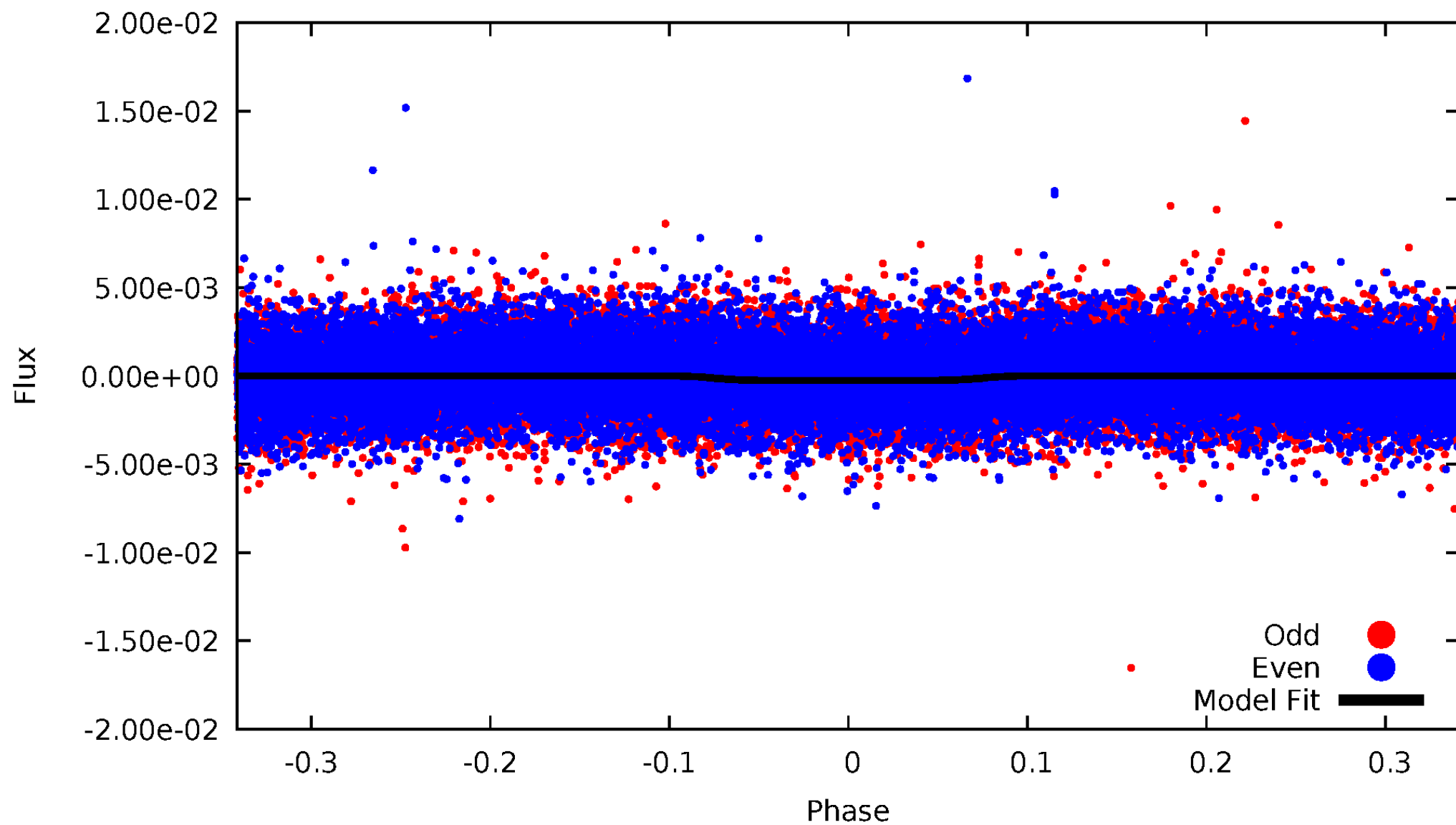
TCE 008314525-01





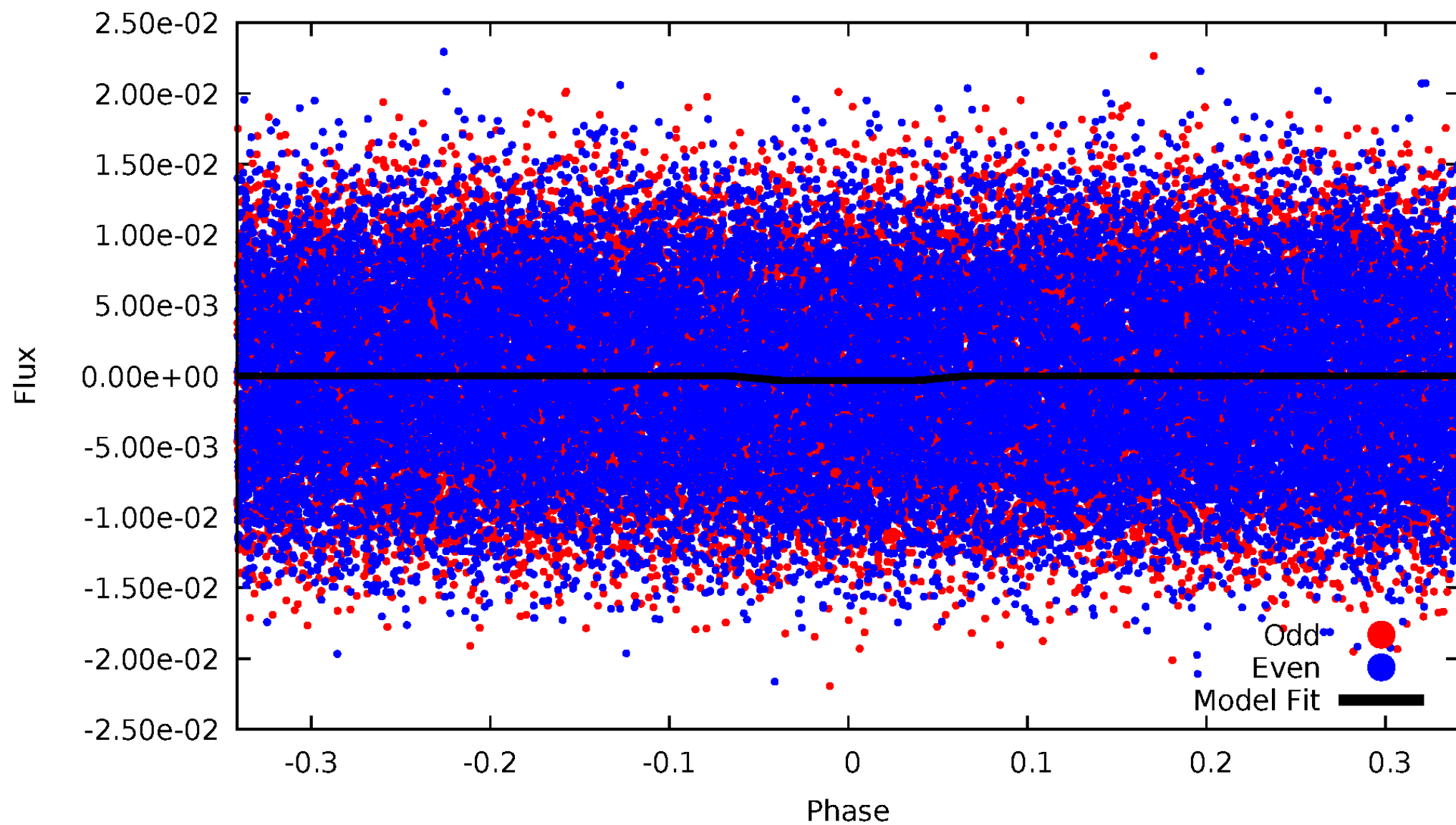
# DV Odd/Even

TCE 008314525-01



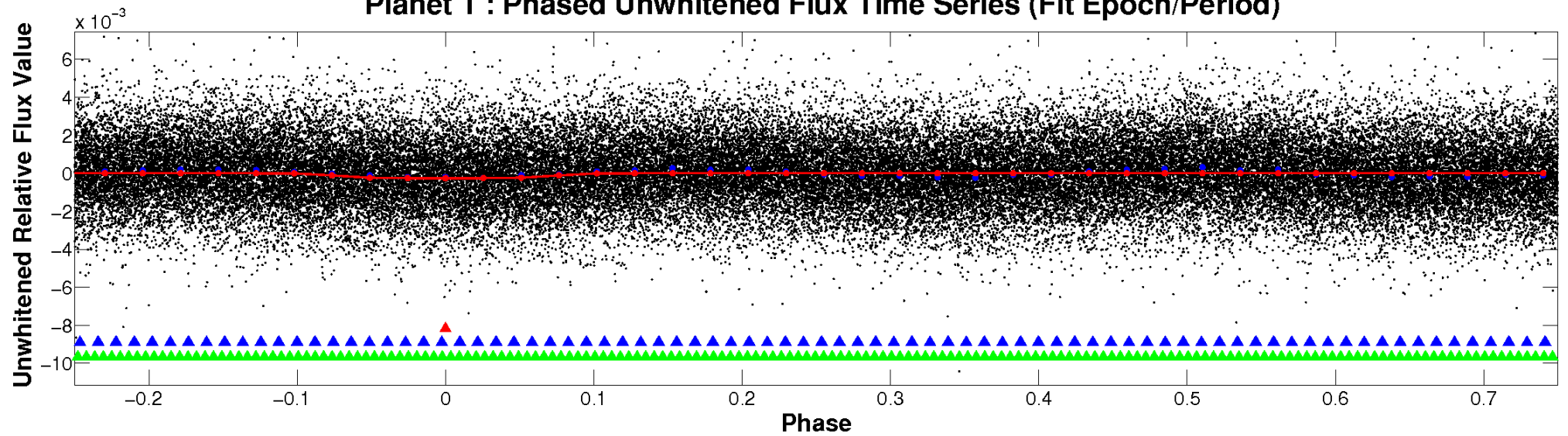
# ALT Odd/Even

TCE 008314525-01

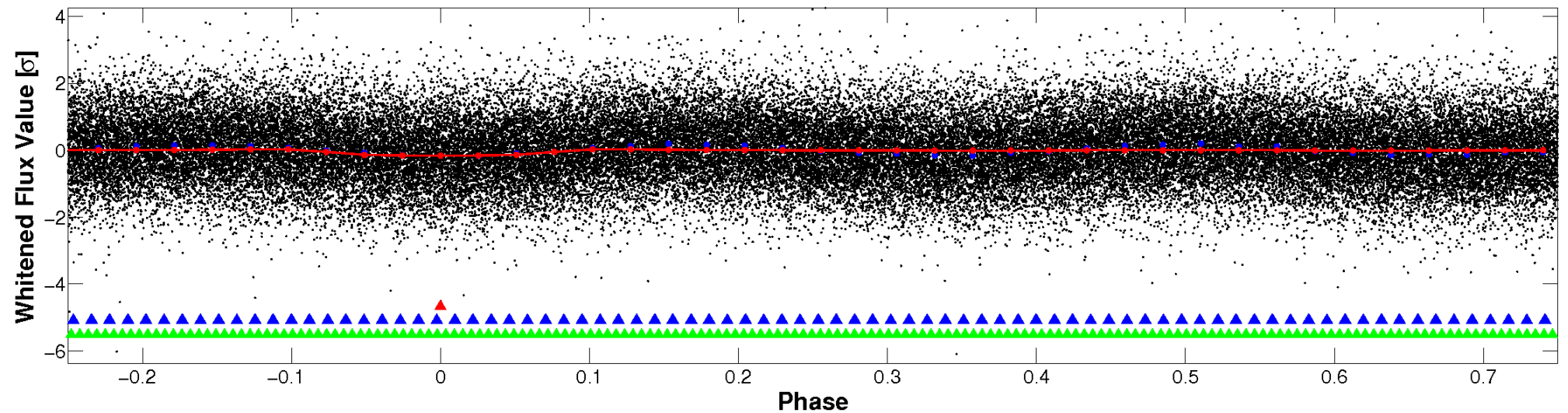


# Non-Whitened Vs. Whitened Light Curve

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



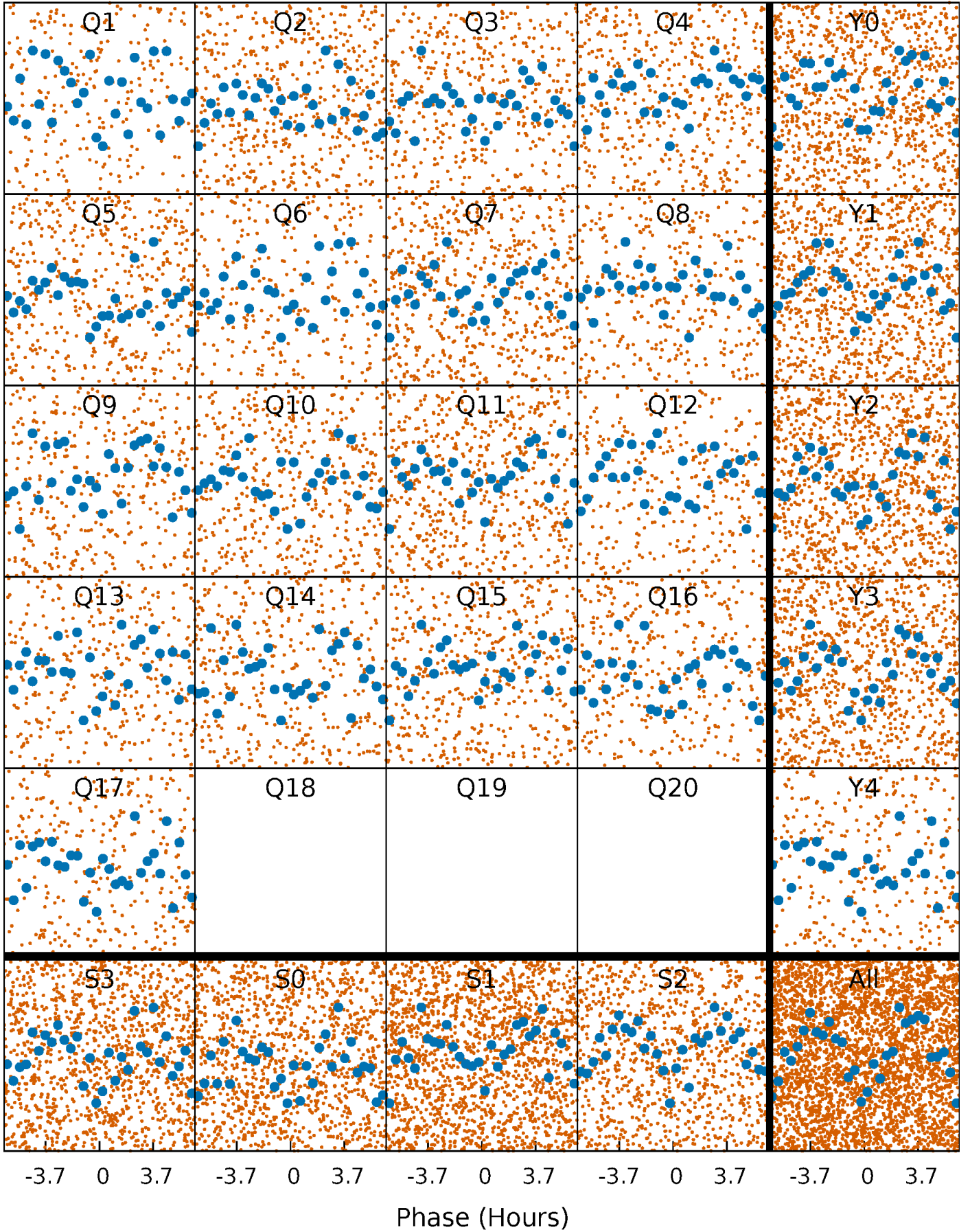
**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**





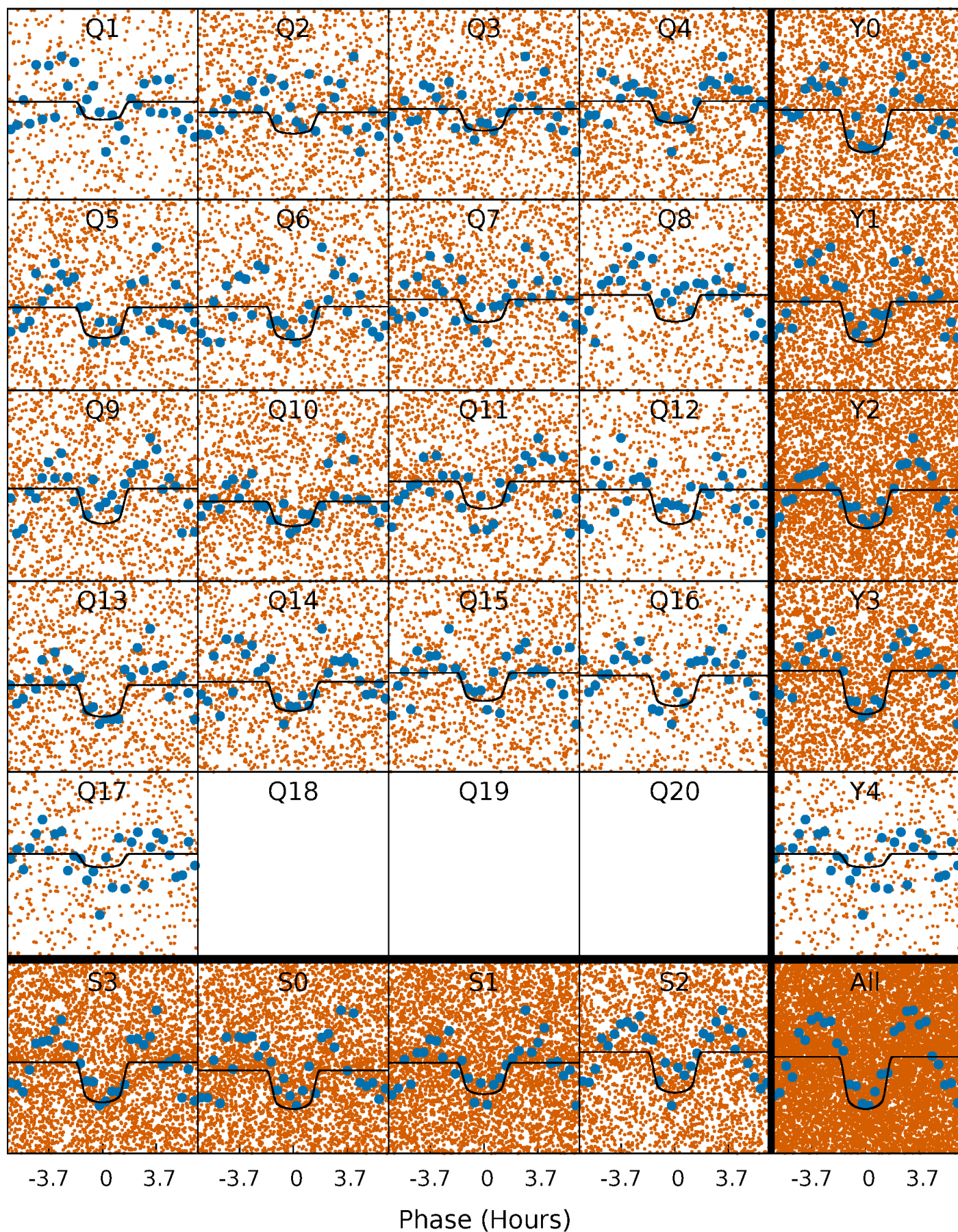
# PDC Quarter-Phased Transit Curves

TCE 008314525-01   P= 0.800686 Days    $T_0=132.004627$  (BKJD)



# DV Quarter-Phased Transit Curves

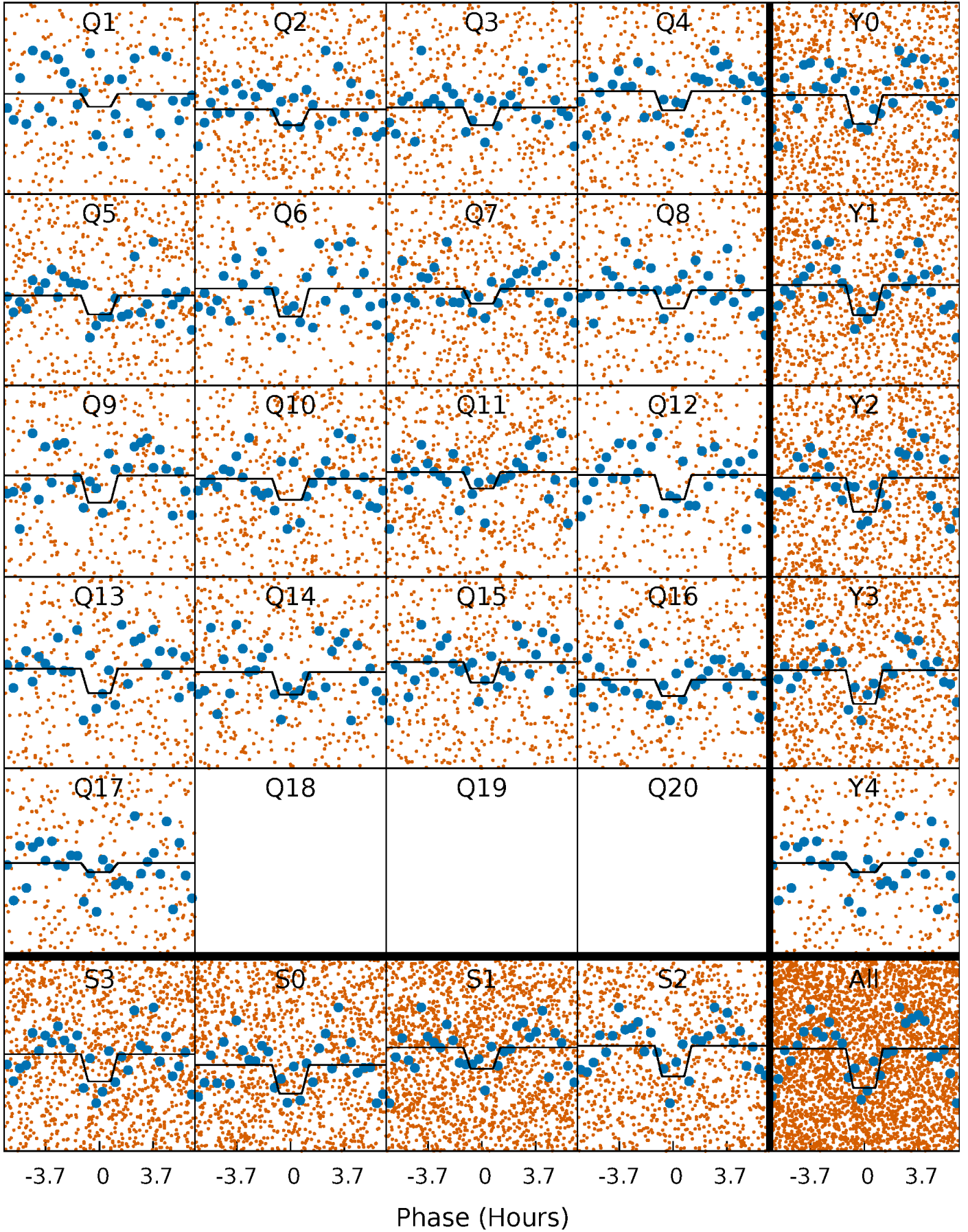
TCE 008314525-01 P= 0.800686 Days  $T_0=132.004627$  (BKJD)





# Alt. Detrend Quarter-Phased Transit Curves

TCE 008314525-01 P= 0.800686 Days  $T_0=132.004627$  (BKJD)

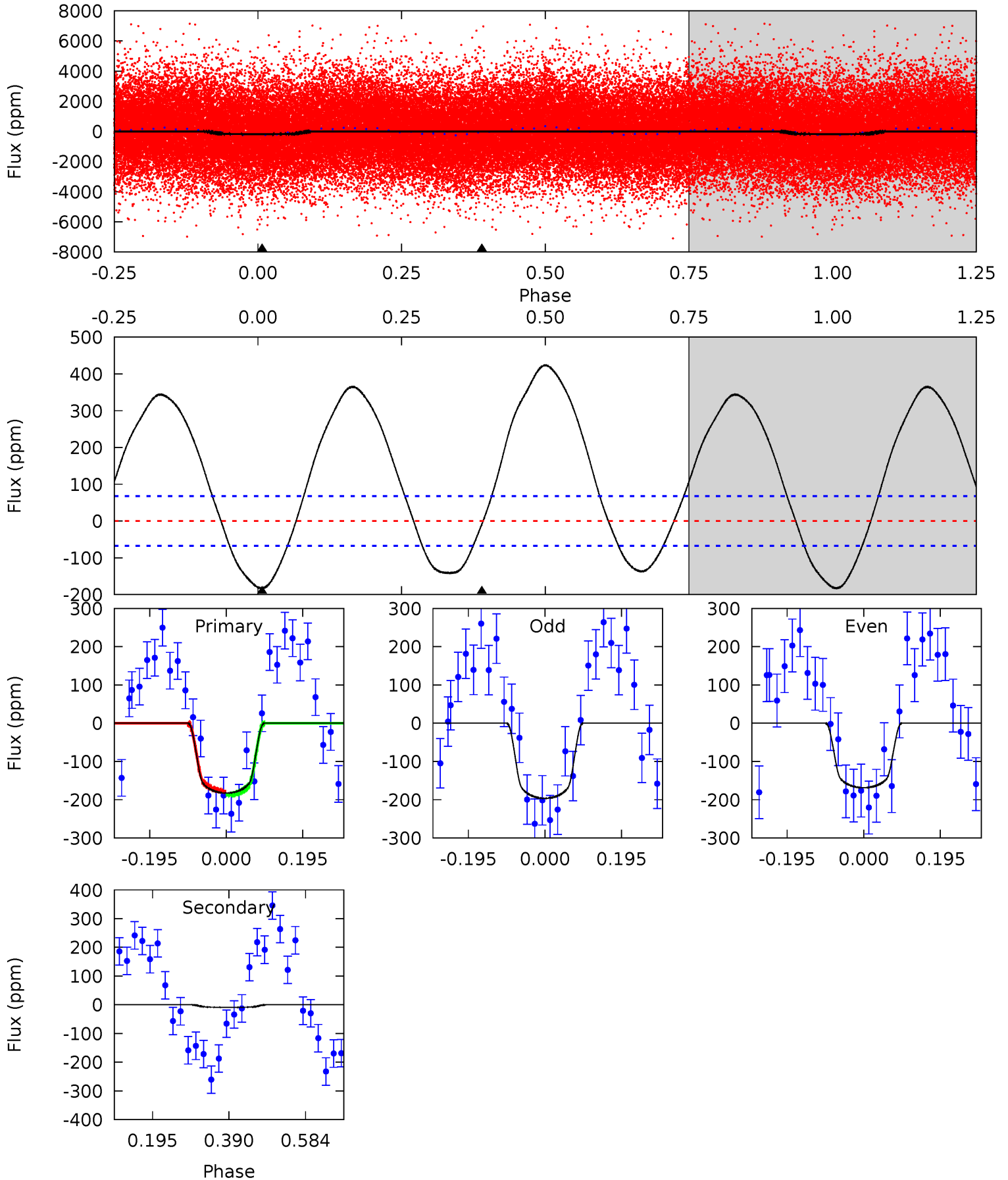




# DV Model-Shift Uniqueness Test

008314525-01, P = 0.800686 Days, E = 131.203941 Days

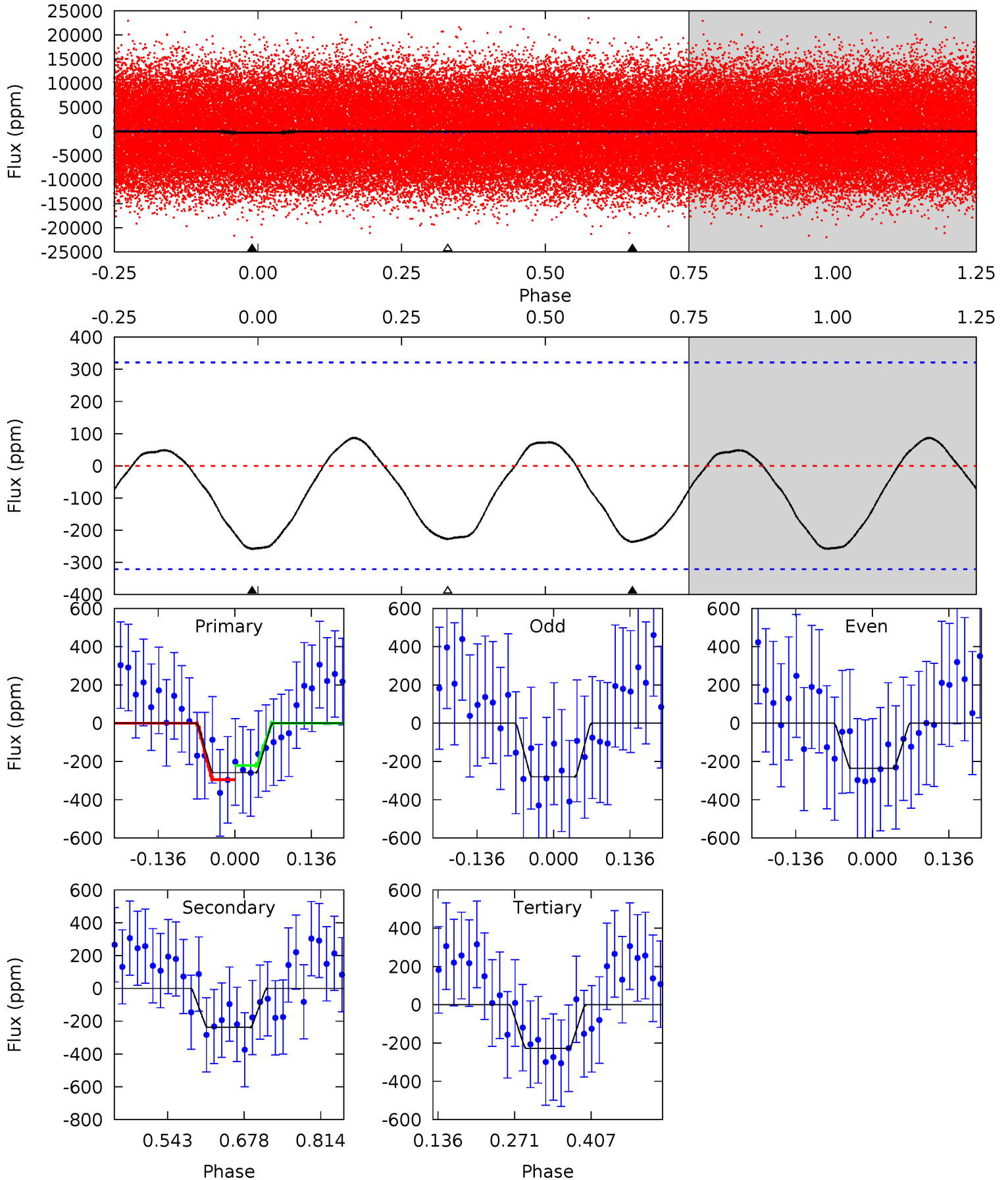
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.0	0.58	0	0	4.42	1.30	9.29	12.0	12.0	0.58	0.58	0.91	0.97	0.70	0.33



# Alt Model-Shift Uniqueness Test

008314525-01, P = 0.800686 Days, E = 131.203941 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
3.62	3.32	3.19	0	4.50	1.49	1.55	0.43	3.62	0.12	3.32	0.31	1.13	0.25	0.52



### Stellar Parameters For KIC 008314525

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$\rho_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$7384^{+230}_{-307}$	$4.026^{+0.198}_{-0.162}$	$-0.140^{+0.200}_{-0.350}$	$2.030^{+0.542}_{-0.542}$	$1.593^{+0.209}_{-0.255}$	$0.268^{+0.297}_{-0.121}$
	+3%/-4%	+5%/-4%	+143%/-250%	+27%/-27%	+13%/-16%	+111%/-45%
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 008314525-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$-9 \pm 15$	$3.65^{+1.25}_{-1.04}$	$4576^{+340}_{-358}$	$-3637^{+7265}_{-594}$	$0.133^{+0.344}_{-0.217}$
Alt.	$-237 \pm 71$	$3.72^{+1.18}_{-1.03}$	$4595^{+344}_{-353}$	$6725^{+1605}_{-1020}$	$3.540^{+3.885}_{-1.621}$

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



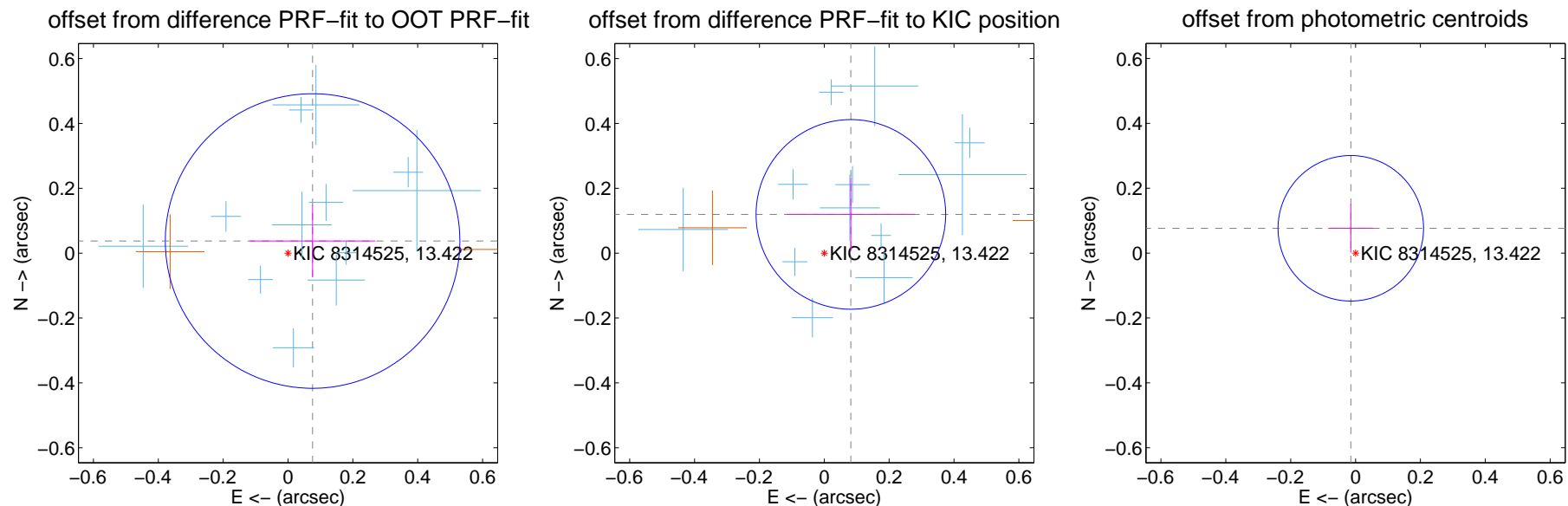
## DV Centroid Data

Supplemental centroid analysis for 008314525-01. Kepler magnitude: 13.42. Transit SNR 14.04

There are 13 quarters with good PRF difference image offsets

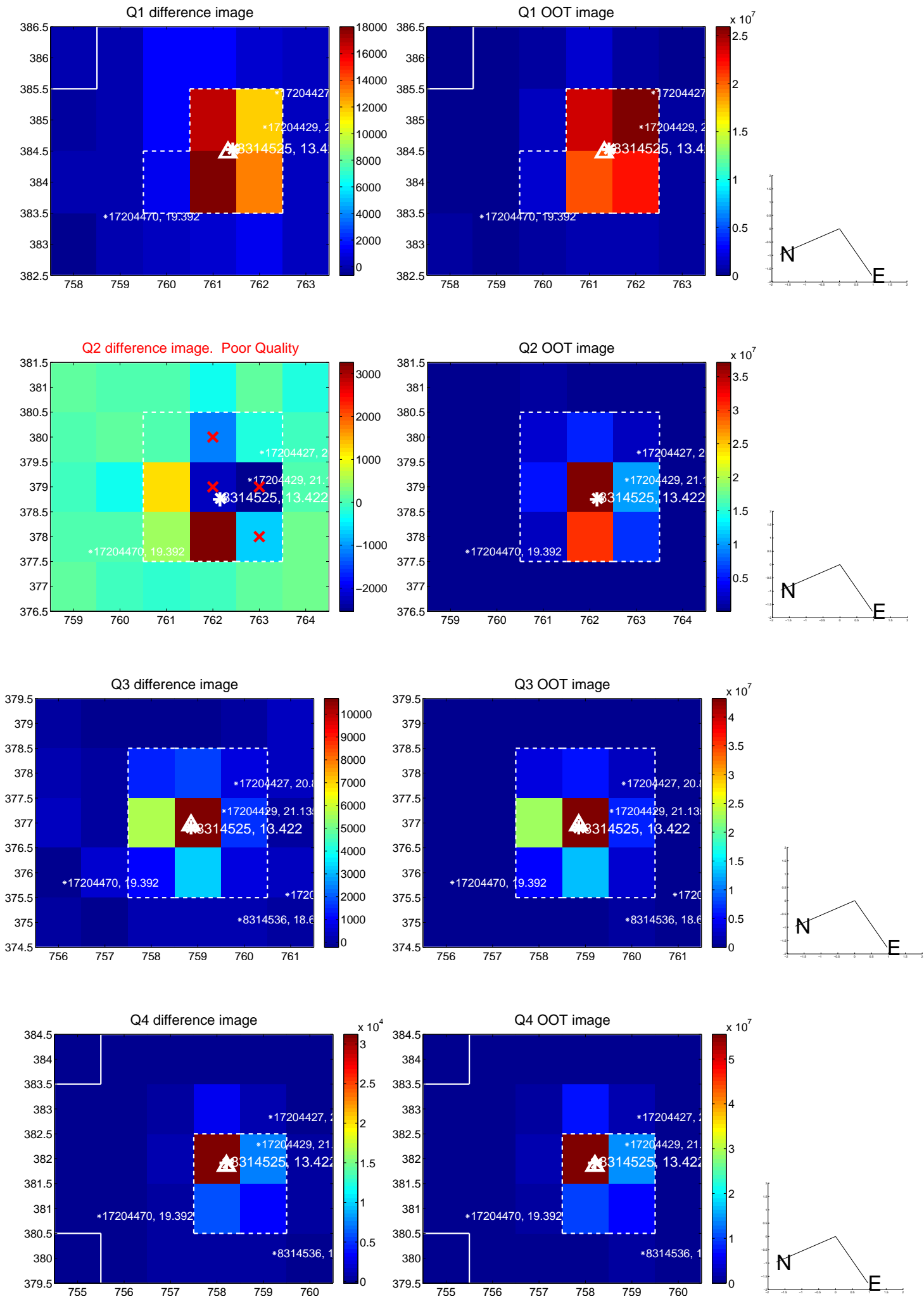
The direct PRF centroid is offset from the target star catalog position by about 0.06 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.084 \pm 0.151$	0.56	$-0.076 \pm 0.193$	$0.037 \pm 0.111$
PRF-fit source offset from KIC position	$0.145 \pm 0.097$	1.49	$-0.082 \pm 0.198$	$0.119 \pm 0.113$
photometric centroid source offset	$0.08 \pm 0.07$	1.04	$0.01 \pm 0.07$	$0.08 \pm 0.07$

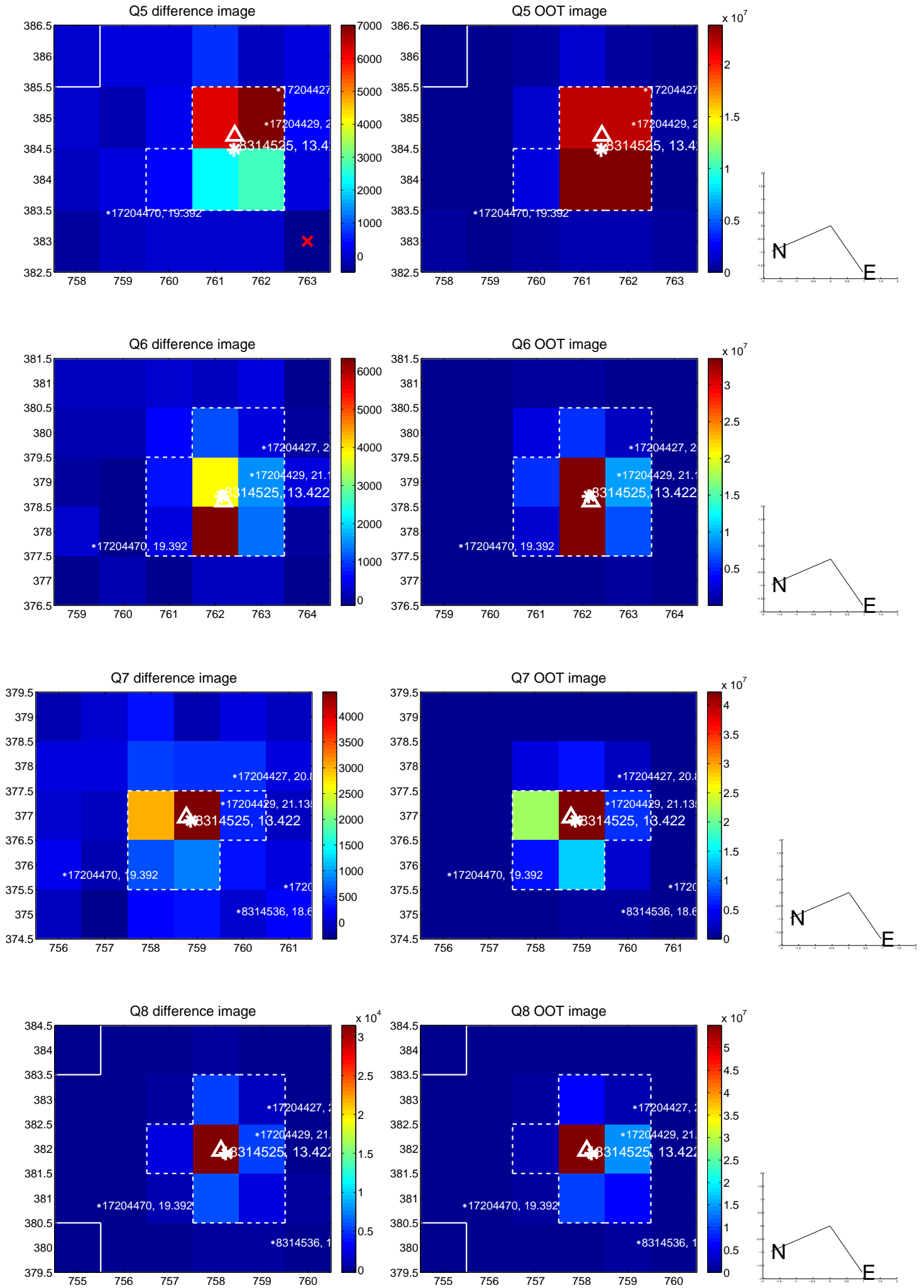


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

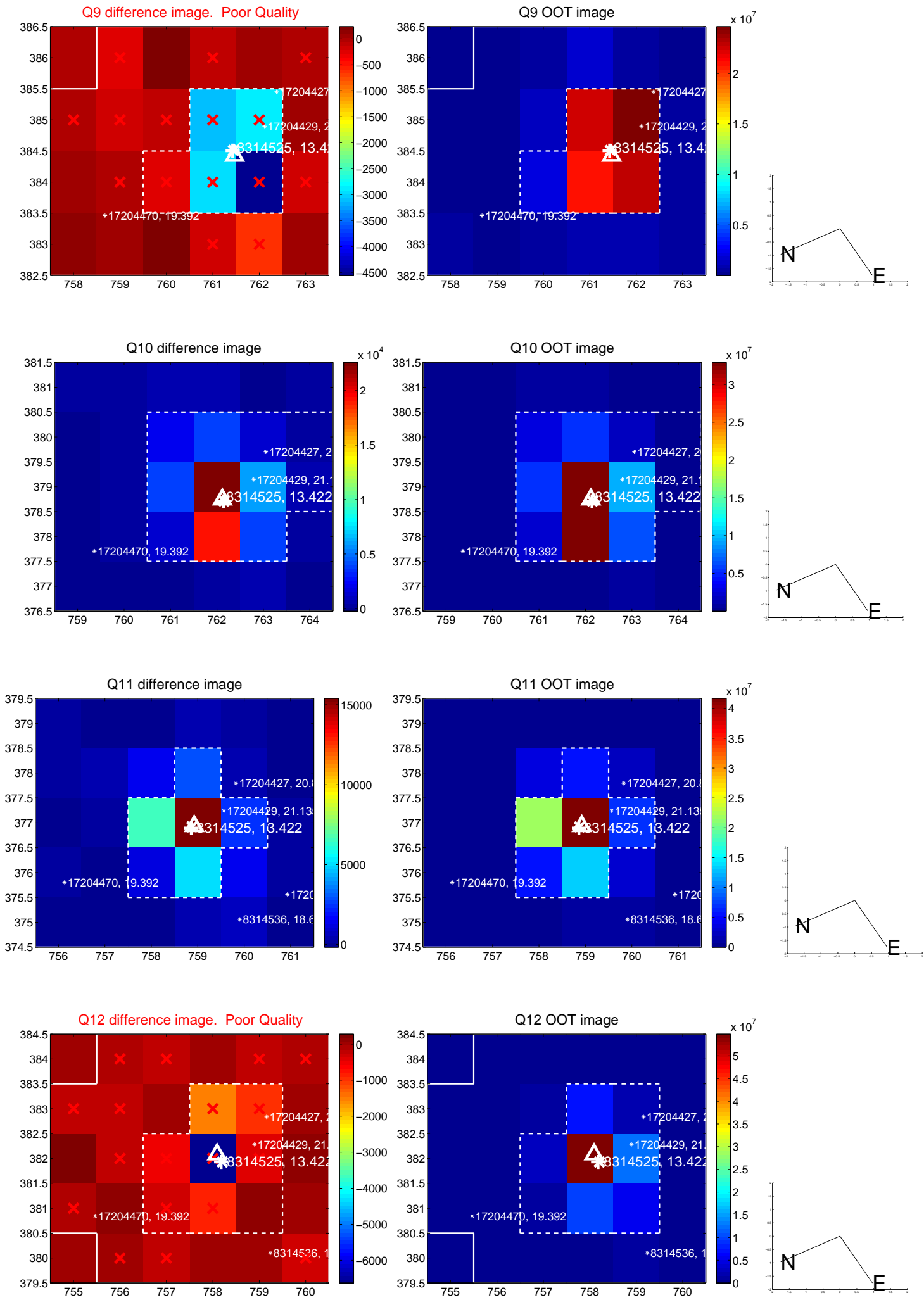


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

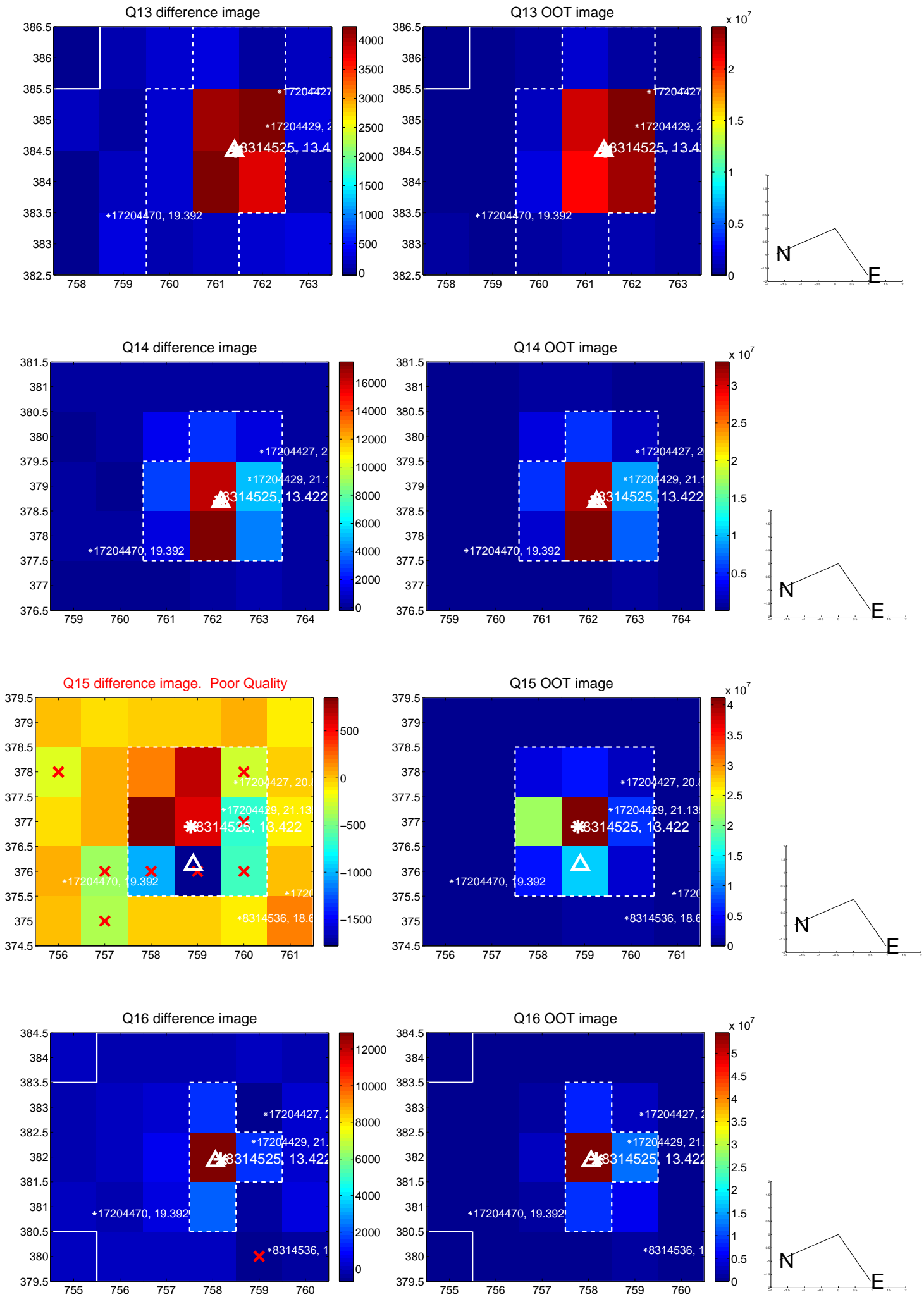




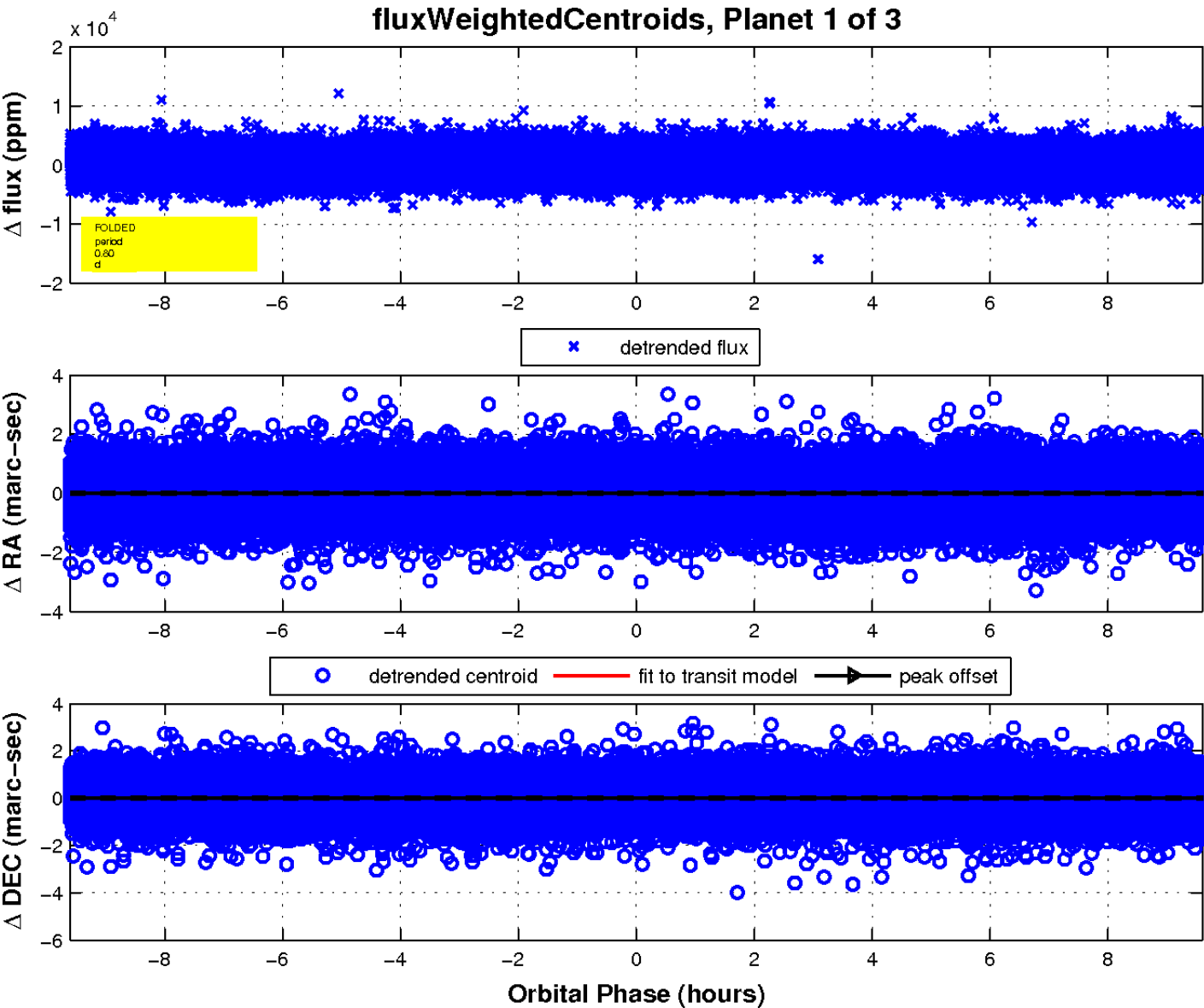
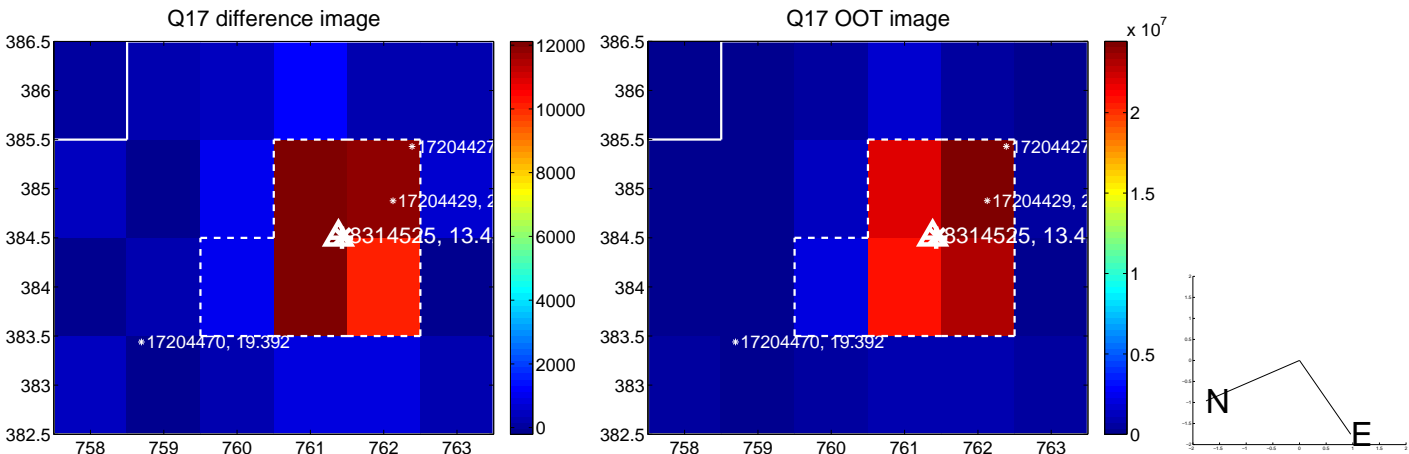
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

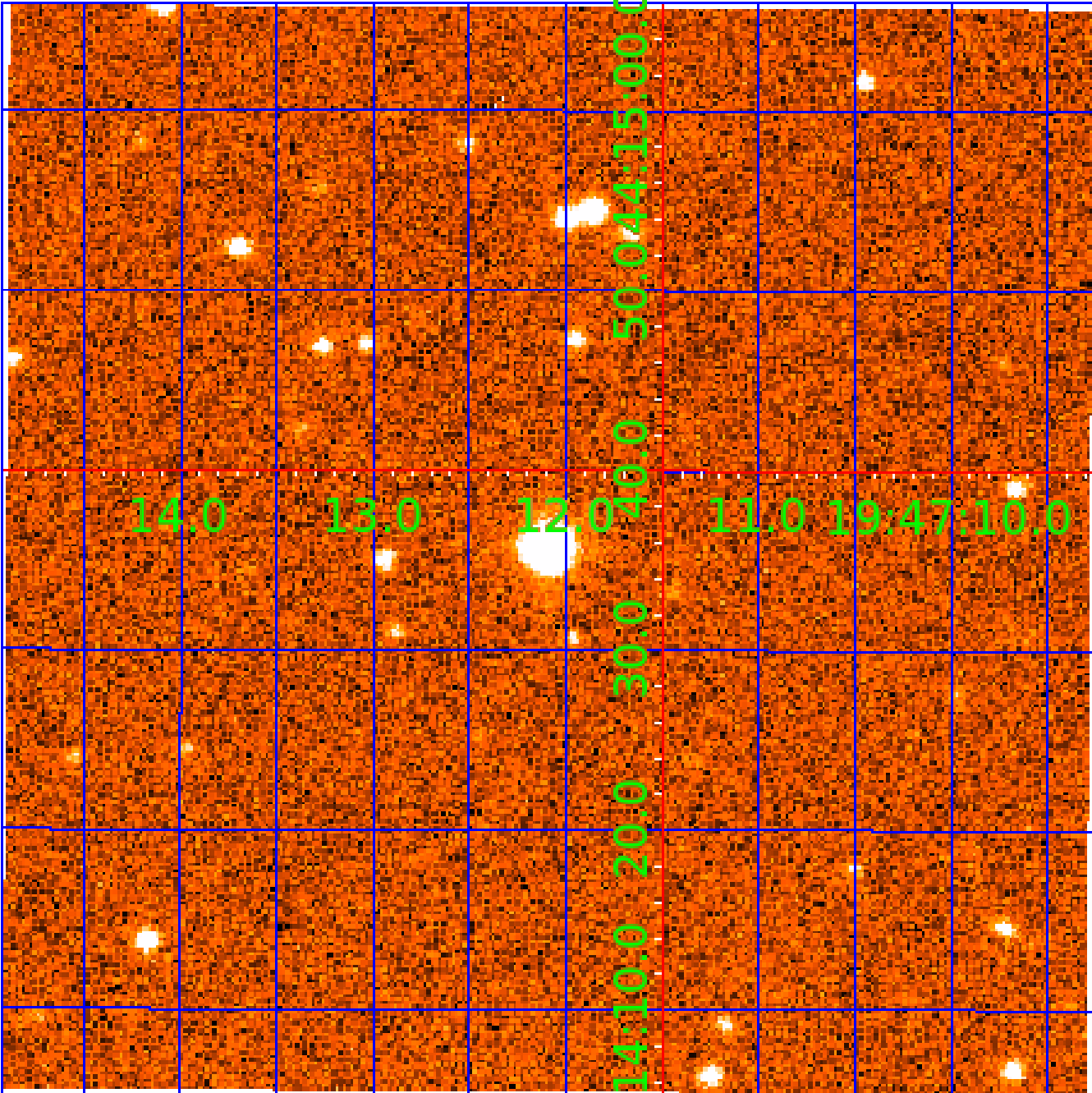


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



UKIRT Image

Declination



# KIC 008314525

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
008314525-01	OBS	No	0.800686	132.004627	258.4	3.279	13.1	14.0	2.03	7384	3.81	28212.55
008314525-02	OBS	No	6.708188	135.117091	700.2	25.914	9.3	13.6	2.03	7384	9.64	1658.00
008314525-03	OBS	No	6.707459	138.014946	819.1	28.957	8.1	16.0	2.03	7384	8.10	1658.24

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008314525-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT
008314525-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
008314525-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD

**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.

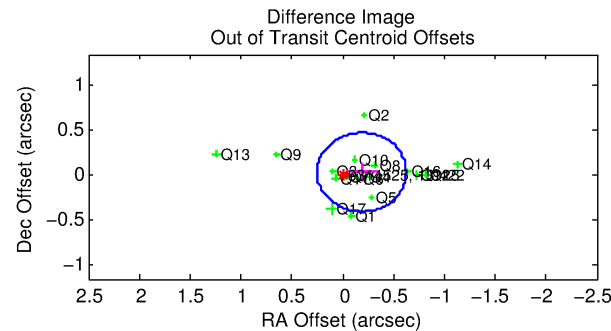
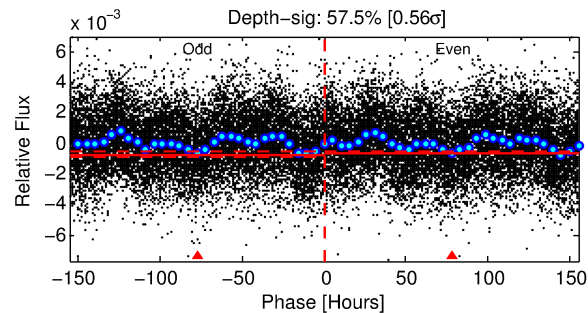
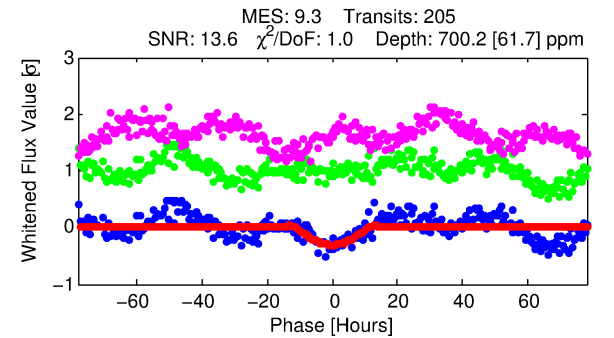
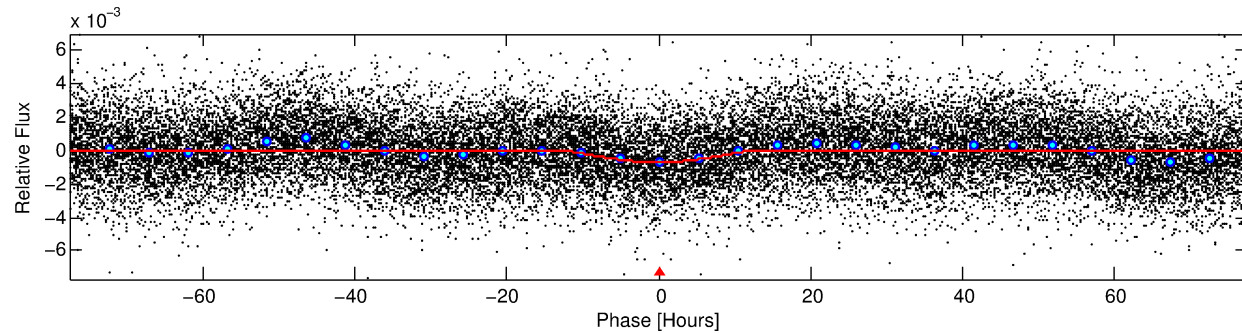
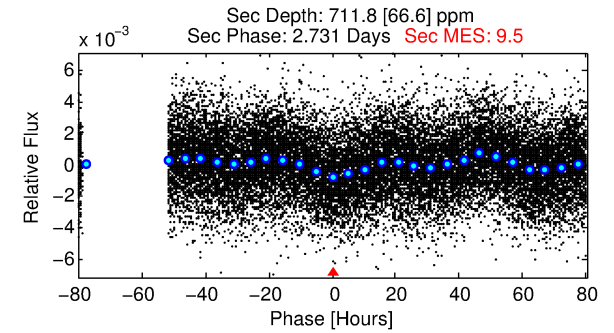
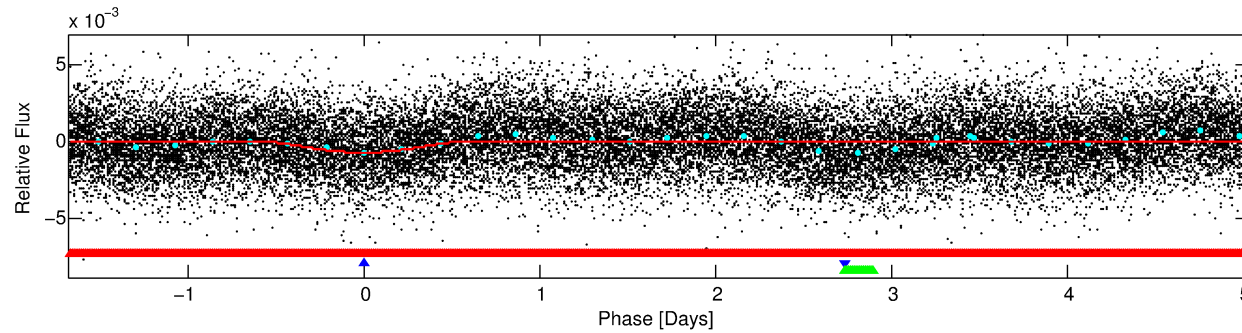
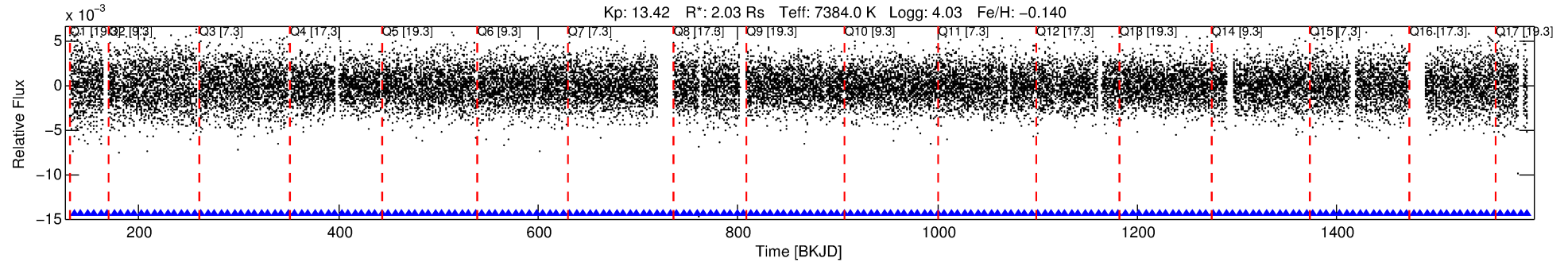
Ephemeris Match Information For 008314525-02

No Significant Match Found



# DV One-Page Summary

KIC: 8314525 Candidate: 2 of 3 Period: 6.708 d



## DV Fit Results:

Period = 6.70819 [0.00036] d  
Epoch = 135.1171 [0.0446] BKJD  
Rp/R\* = 0.0435 [0.0781]  
a/R\* = 1.18 [0.07]  
b = 1.00 [0.12]  
Seff = 1658.00 [645.81]  
Teq = 1627 [158] K  
Rp = 9.64 [17.50] Re  
a = 0.0814 [0.0190] AU  
Ag = 27.90 [100.69] [0.27σ]  
Teffp = 5782 [5198] K [0.80σ]

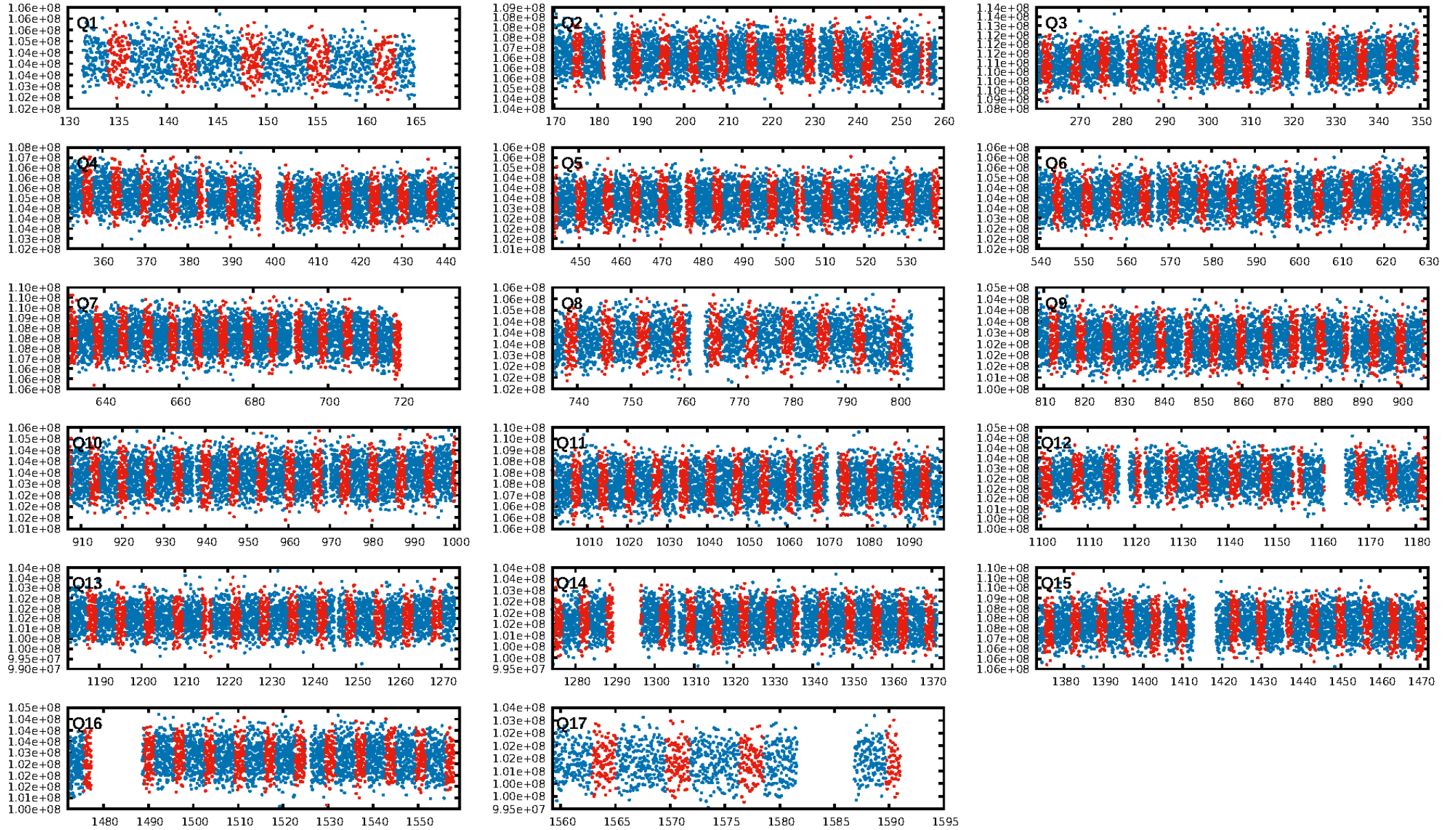
## DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00σ]  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: N/A  
RollingBand-fgt: 1.00 [196/196]  
GhostDiagnostic-chr: 1.236  
Centroid-sig: 0.2%  
Centroid-so: 0.046 arcsec [1.14σ]  
OotOffset-rm: 0.191 arcsec [1.30σ]  
KicOffset-rm: 0.210 arcsec [1.51σ]  
OotOffset-st: 4/4/4/5 [17]  
KicOffset-st: 4/4/4/5 [17]  
DiffImageQuality-fgm: 1.00 [17/17]  
DiffImageOverlap-fno: 0.00 [0/17]

Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 20:06:03 Z

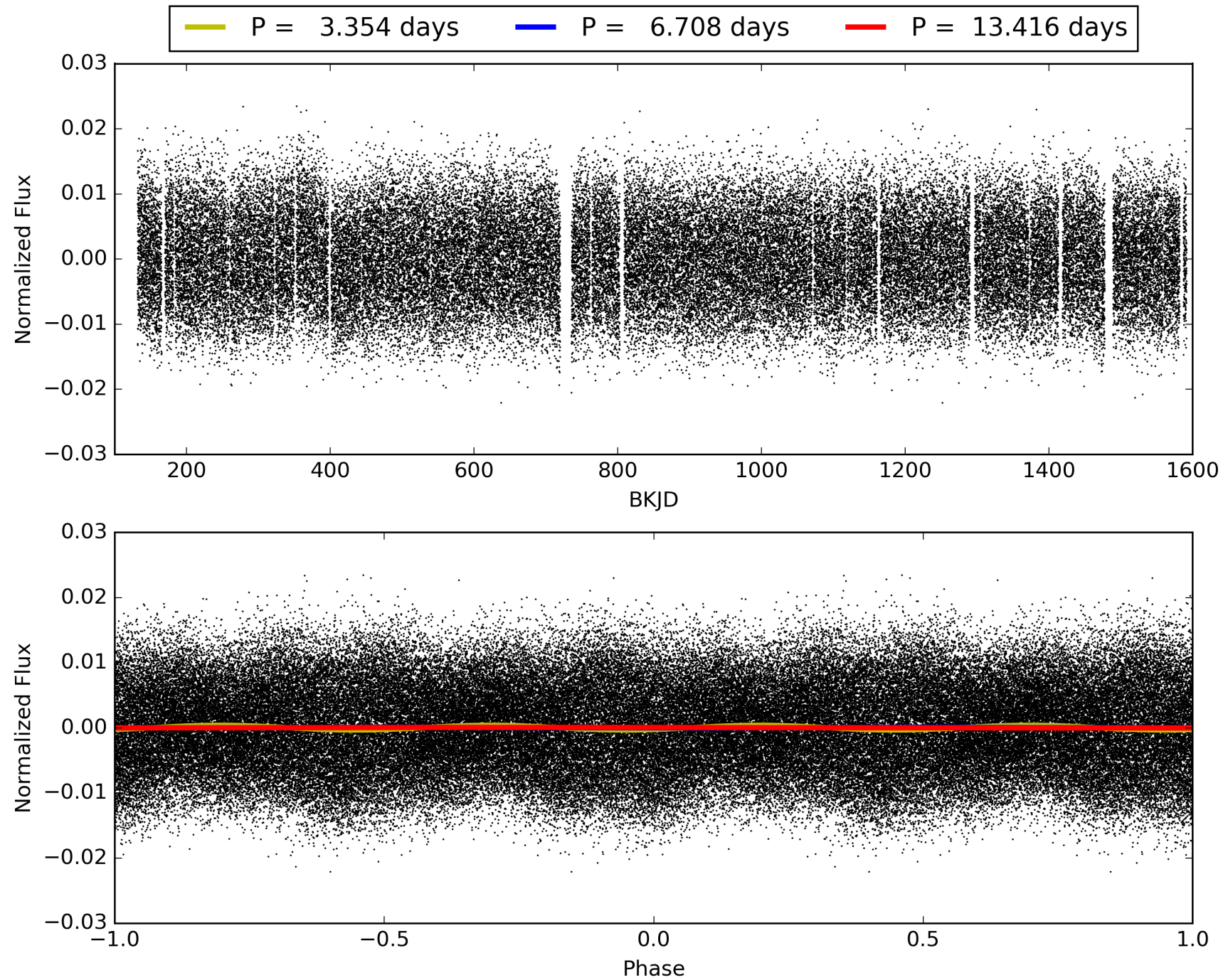
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

# TCE 008314525-02, PDC Light Curves



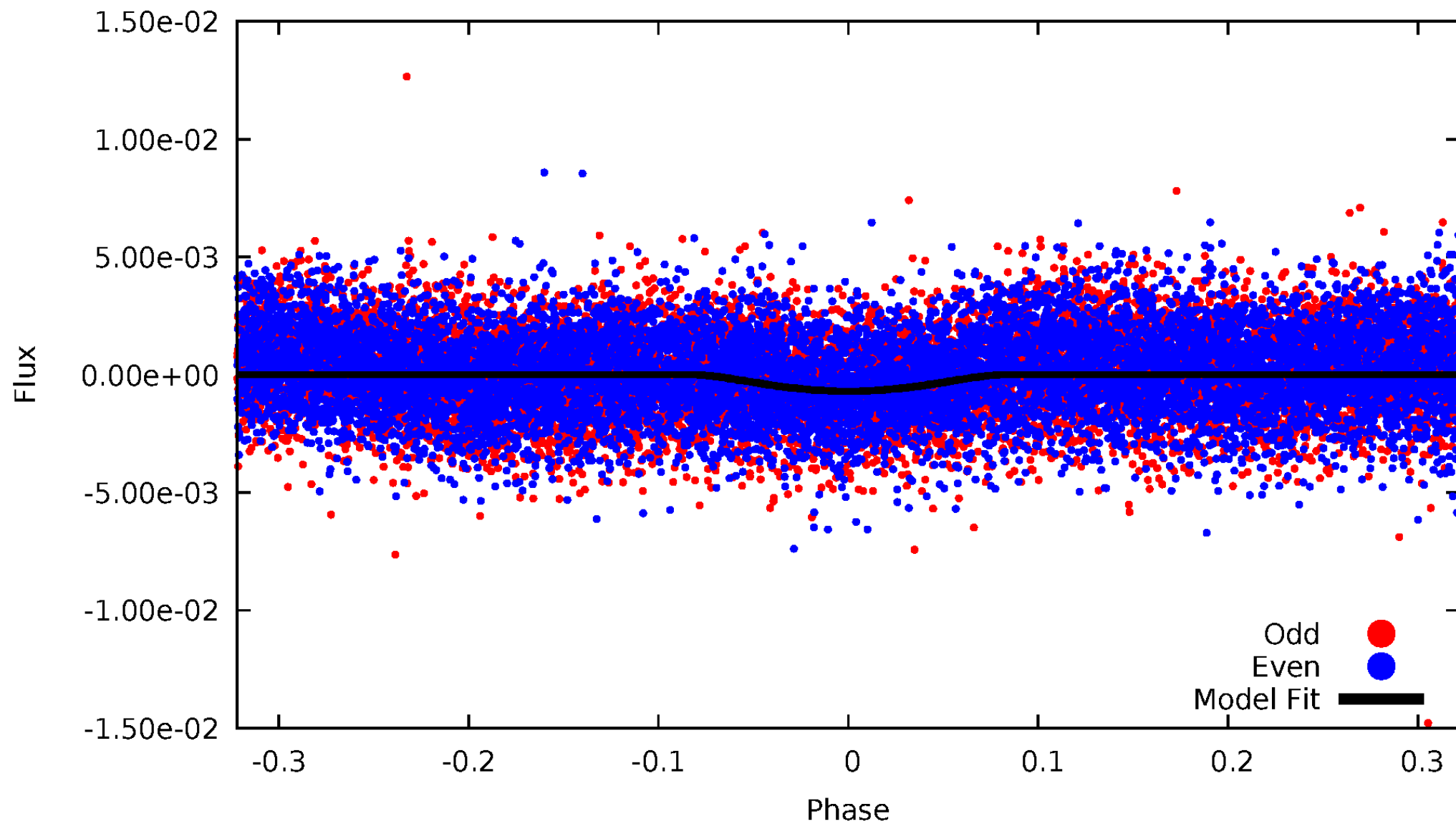


TCE 008314525-02



# DV Odd/Even

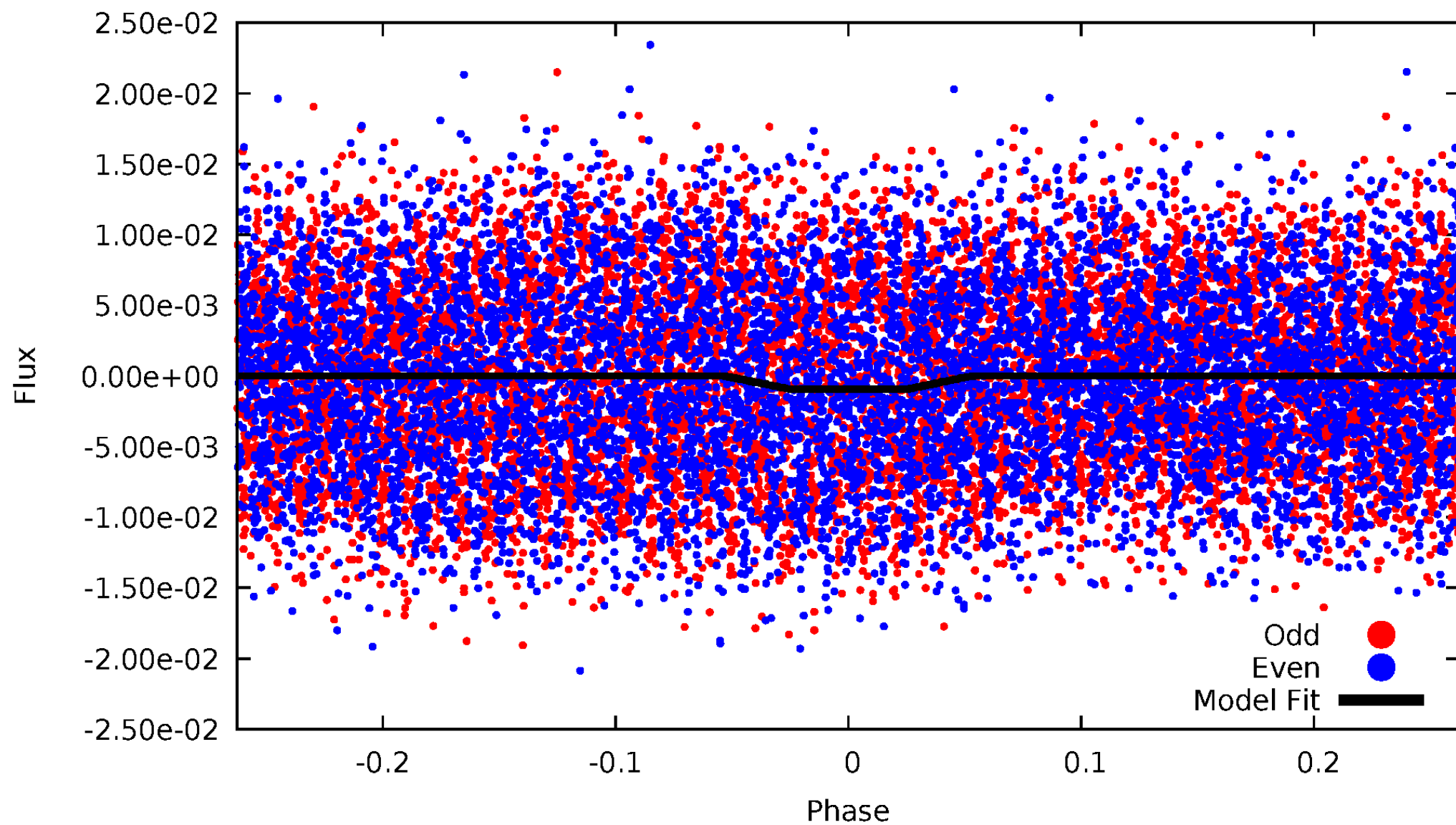
TCE 008314525-02





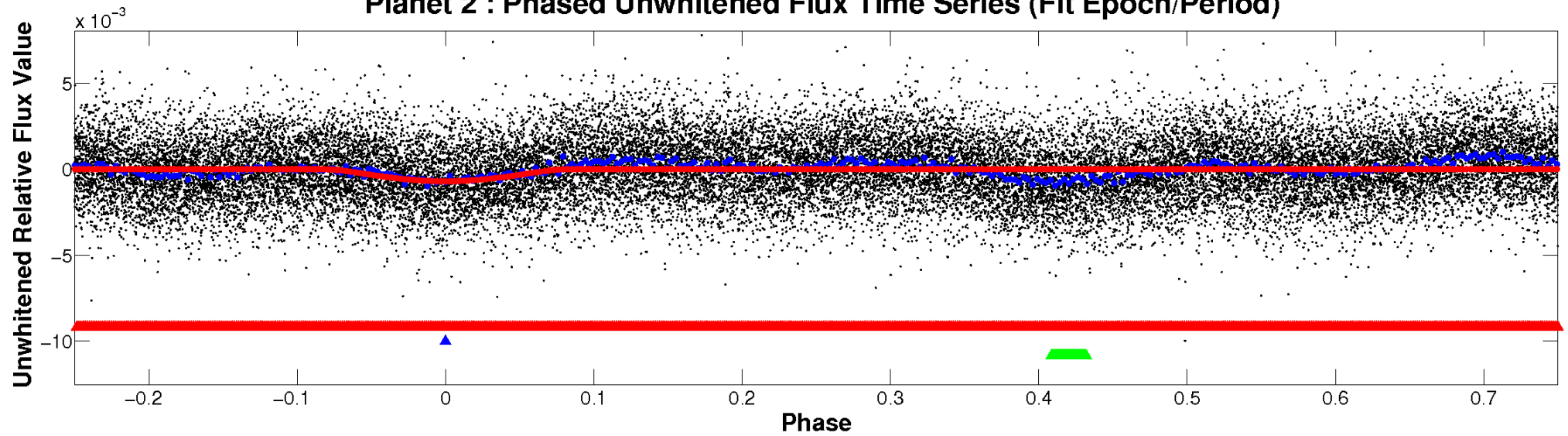
# ALT Odd/Even

TCE 008314525-02

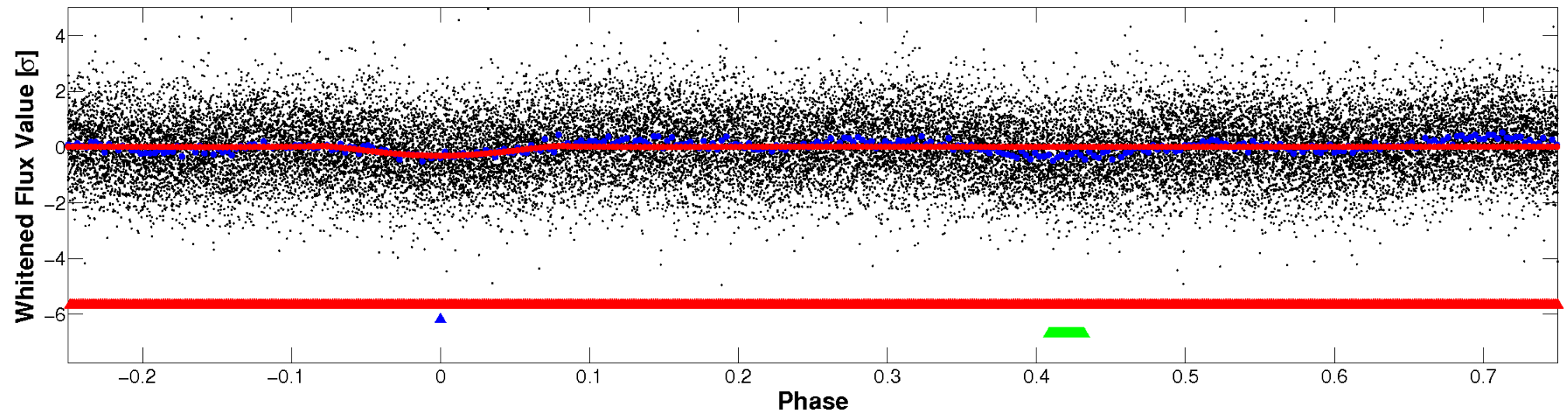


# Non-Whitened Vs. Whitened Light Curve

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

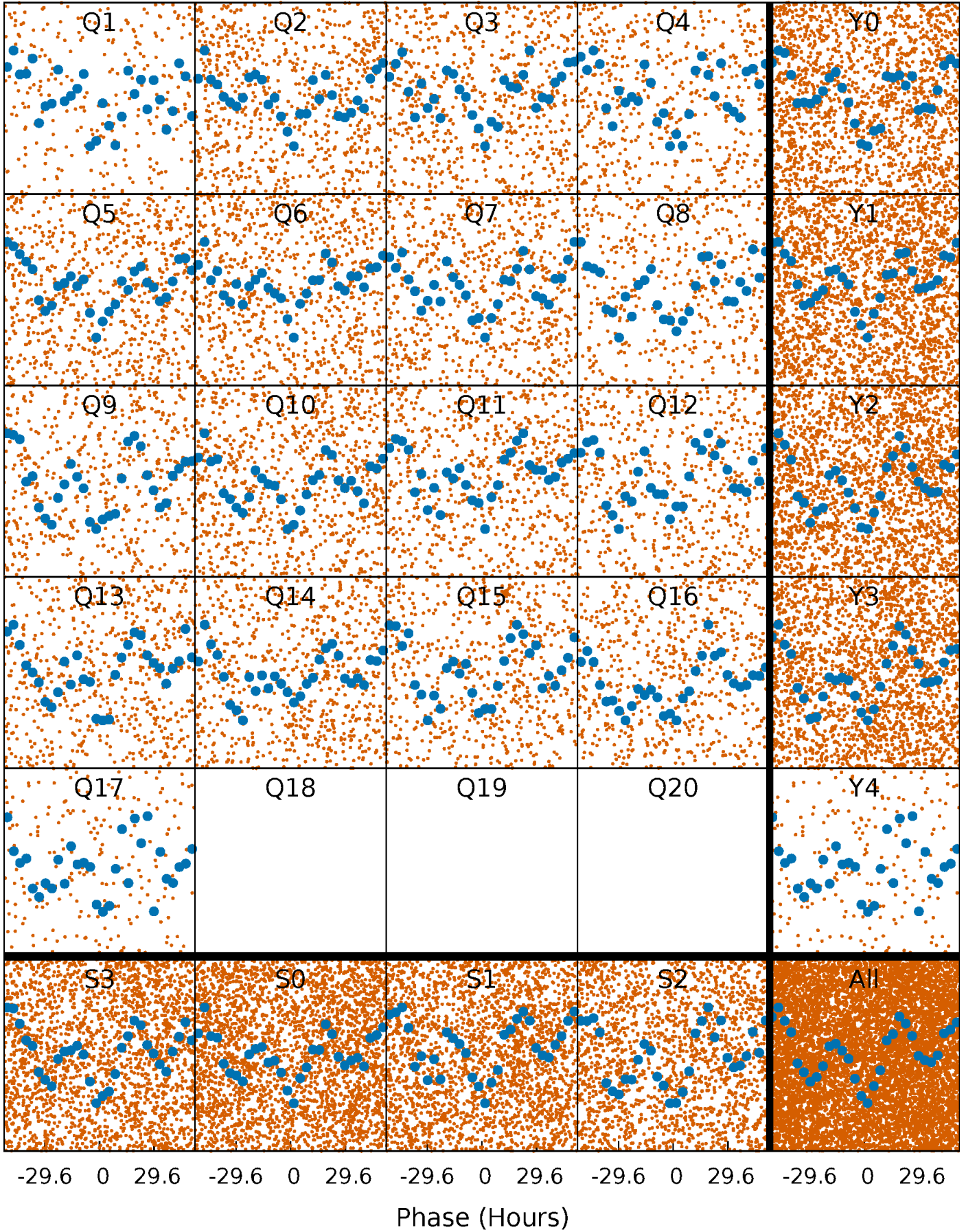


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



# PDC Quarter-Phased Transit Curves

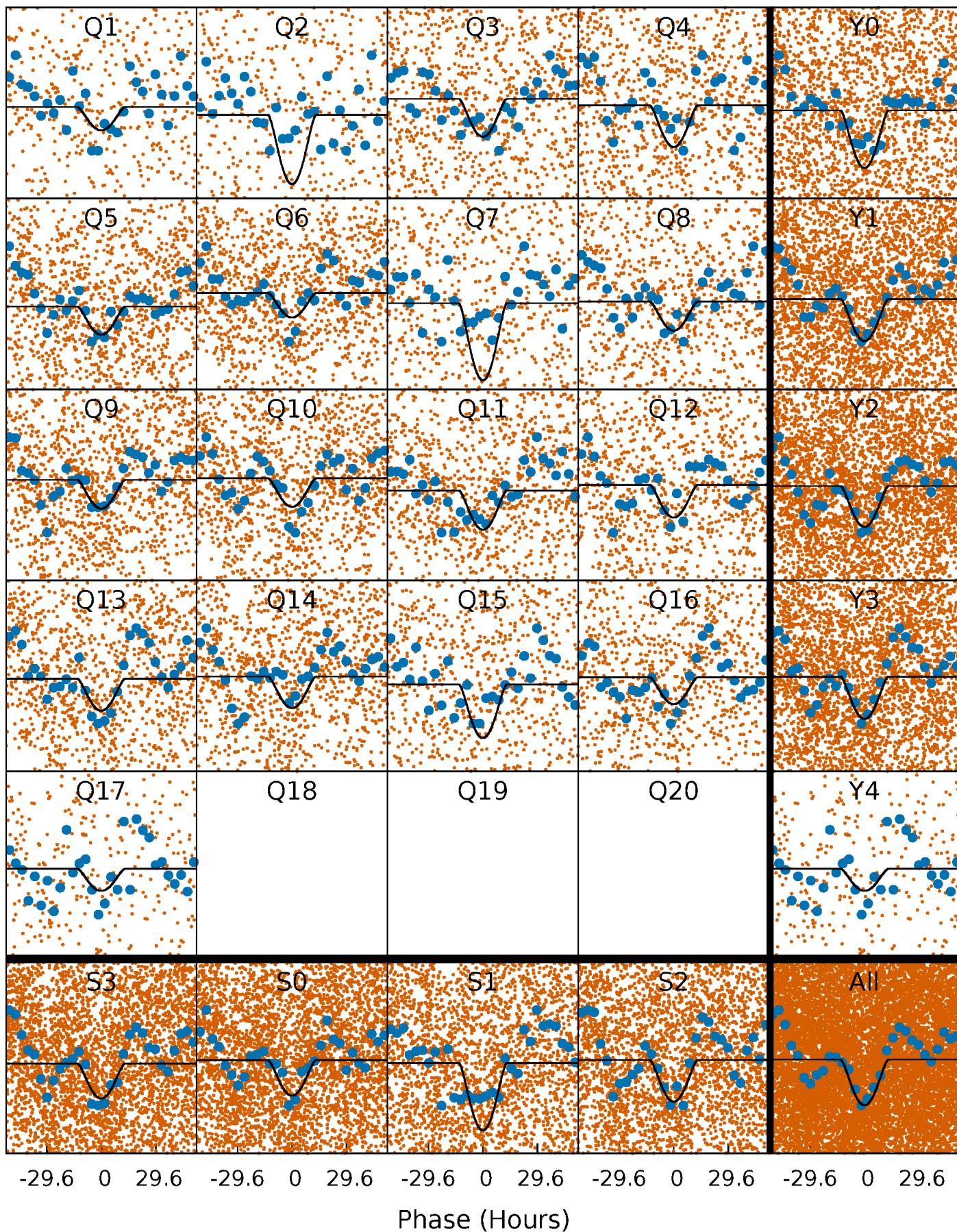
TCE 008314525-02 P= 6.708188 Days  $T_0=135.117091$  (BKJD)





# DV Quarter-Phased Transit Curves

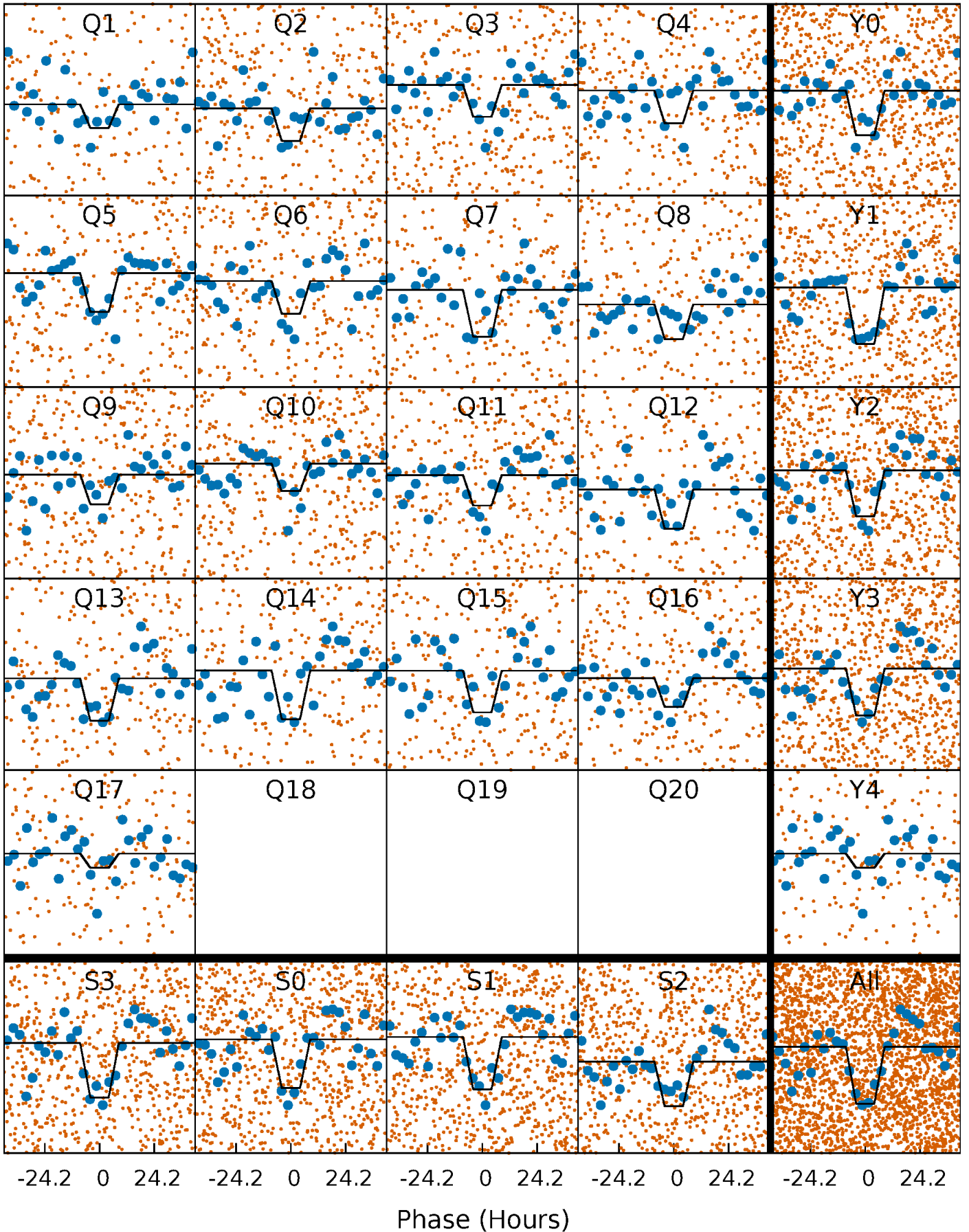
TCE 008314525-02 P= 6.708188 Days  $T_0=135.117091$  (BKJD)





# Alt. Detrend Quarter-Phased Transit Curves

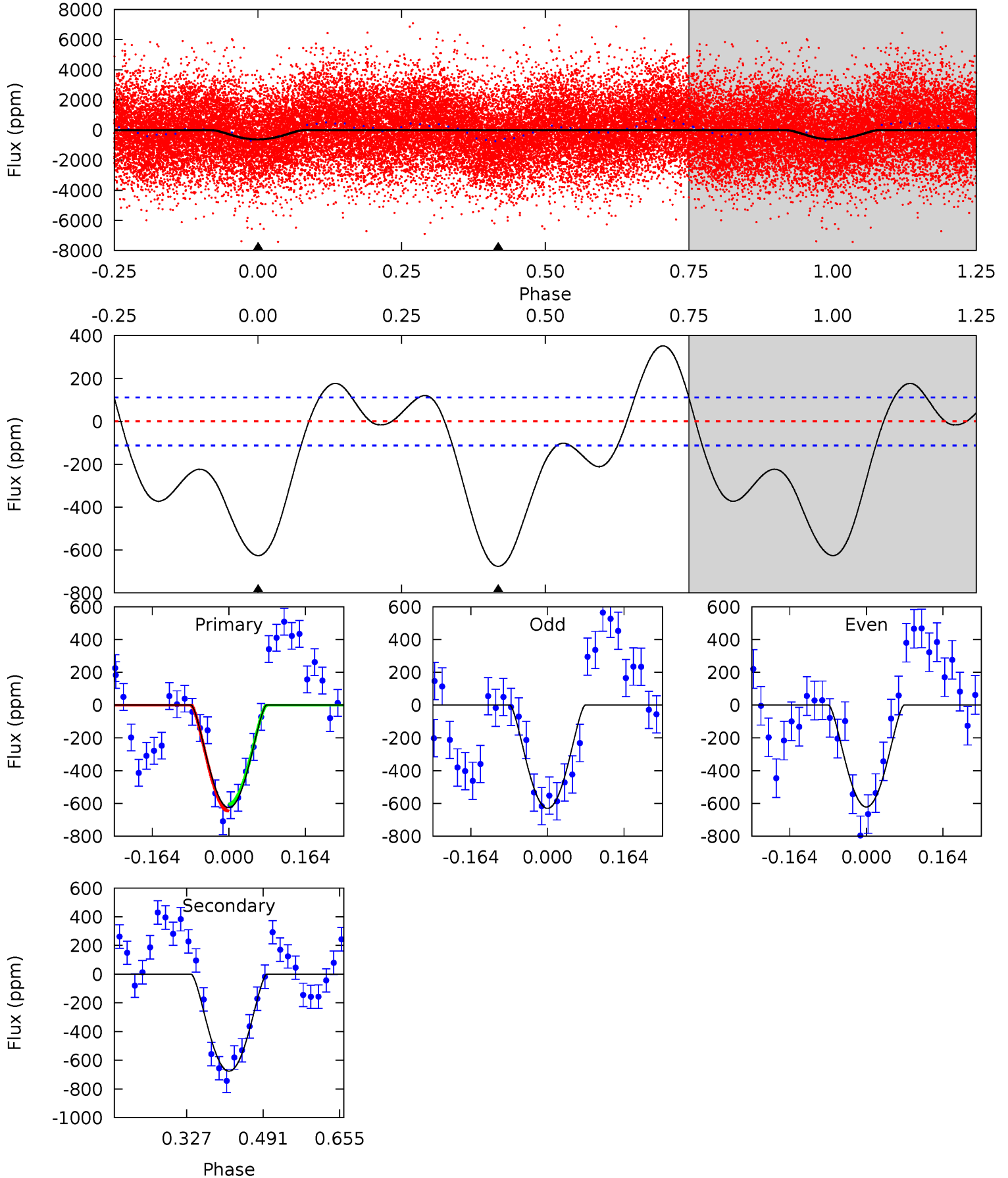
TCE 008314525-02 P= 6.708387 Days  $T_0=135.147007$  (BKJD)



# DV Model-Shift Uniqueness Test

008314525-02, P = 6.708188 Days, E = 128.408903 Days

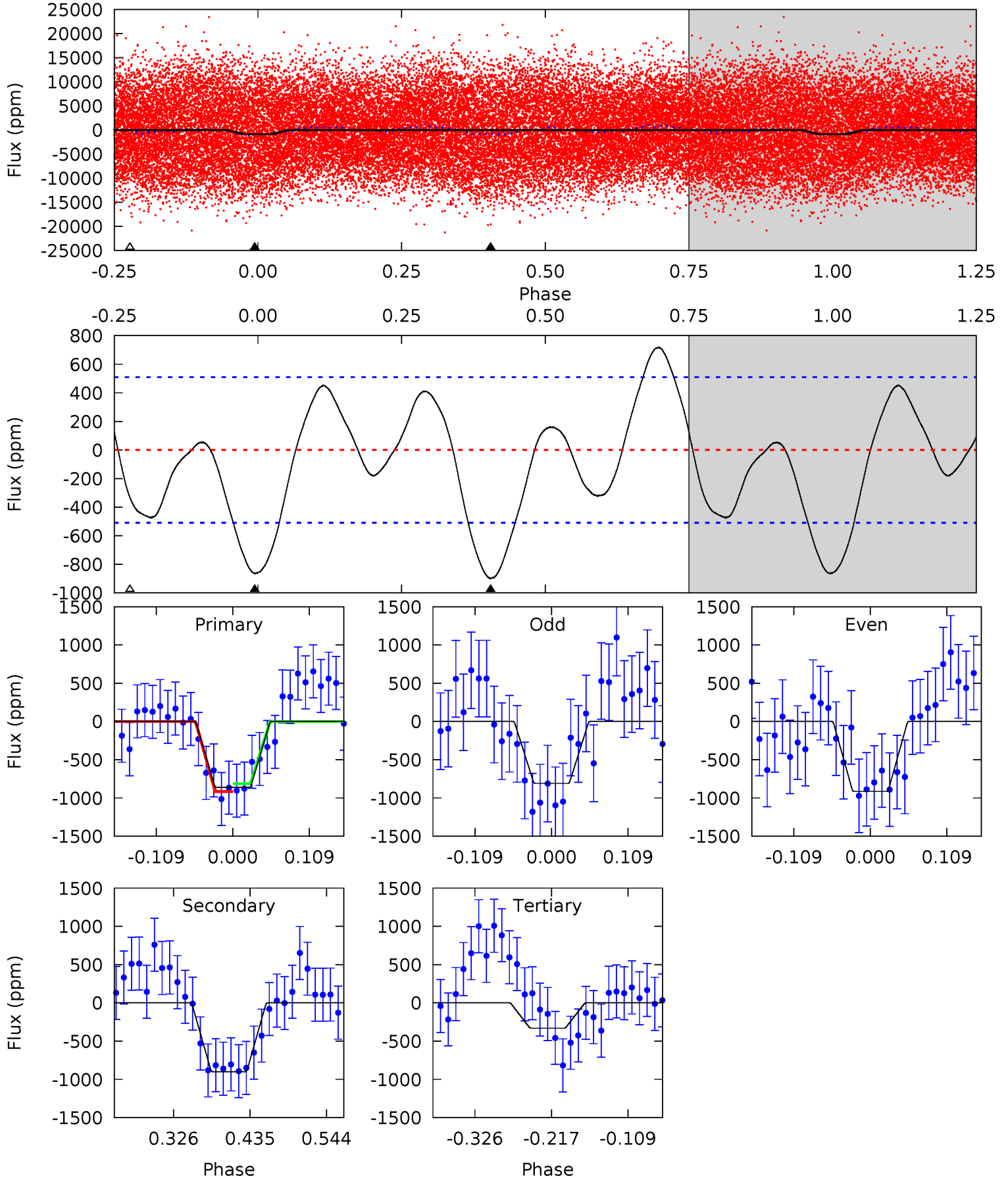
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
24.9	26.8	0	0	4.46	1.39	8.37	24.9	24.9	26.8	26.8	0.17	0.90	0.34	0.81



# Alt Model-Shift Uniqueness Test

008314525-02, P = 6.708387 Days, E = 128.438620 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
7.70	8.03	2.95	0	4.55	1.60	2.89	4.75	7.70	5.08	8.03	0.47	0.92	0.44	0.46



### Stellar Parameters For KIC 008314525

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$7384^{+230}_{-307}$	$4.026^{+0.198}_{-0.162}$	$-0.140^{+0.200}_{-0.350}$	$2.030^{+0.542}_{-0.542}$	$1.593^{+0.209}_{-0.255}$	$0.268^{+0.297}_{-0.121}$
	+3%/-4%	+5%/-4%	+143%/-250%	+27%/-27%	+13%/-16%	+111%/-45%
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 008314525-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$-676 \pm 25$	$16.27^{+15.65}_{-10.60}$	$2275^{+164}_{-168}$	$4450^{+3098}_{-970}$	$8.982^{+67.372}_{-6.506}$
Alt.	$-899 \pm 112$	$14.71^{+13.99}_{-9.99}$	$2253^{+182}_{-163}$	$4901^{+3906}_{-1095}$	$14^{+131}_{-10}$

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



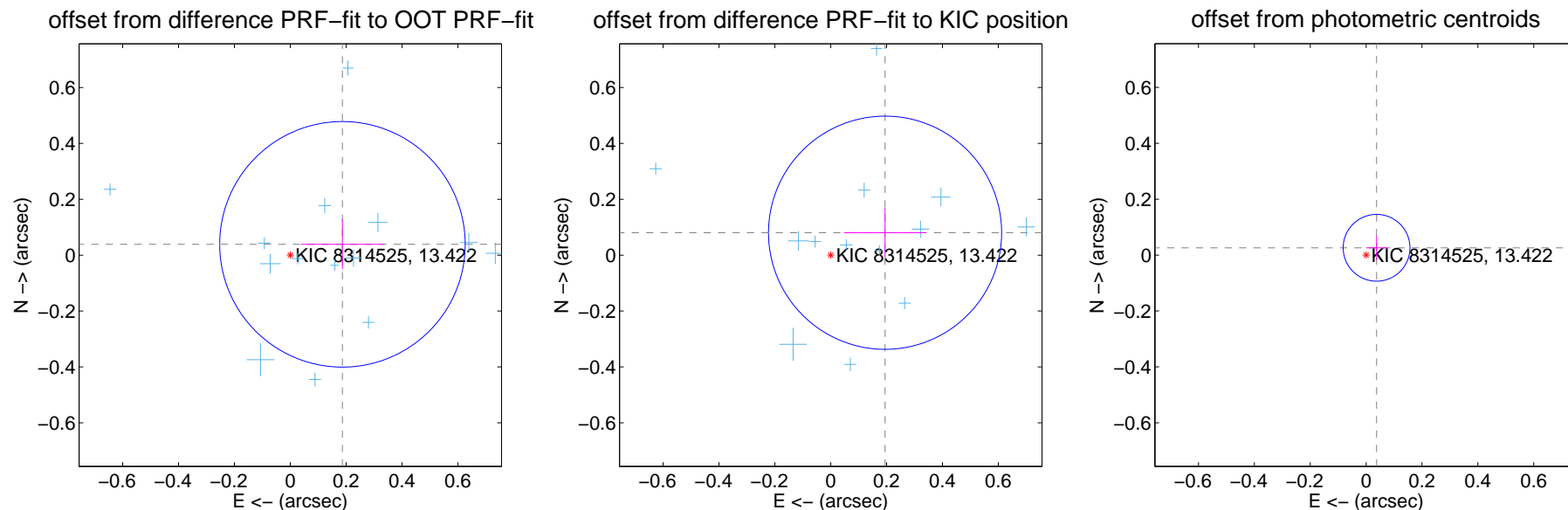
## DV Centroid Data

Supplemental centroid analysis for 008314525-02. Kepler magnitude: 13.42. Transit SNR 13.62

There are 17 quarters with good PRF difference image offsets

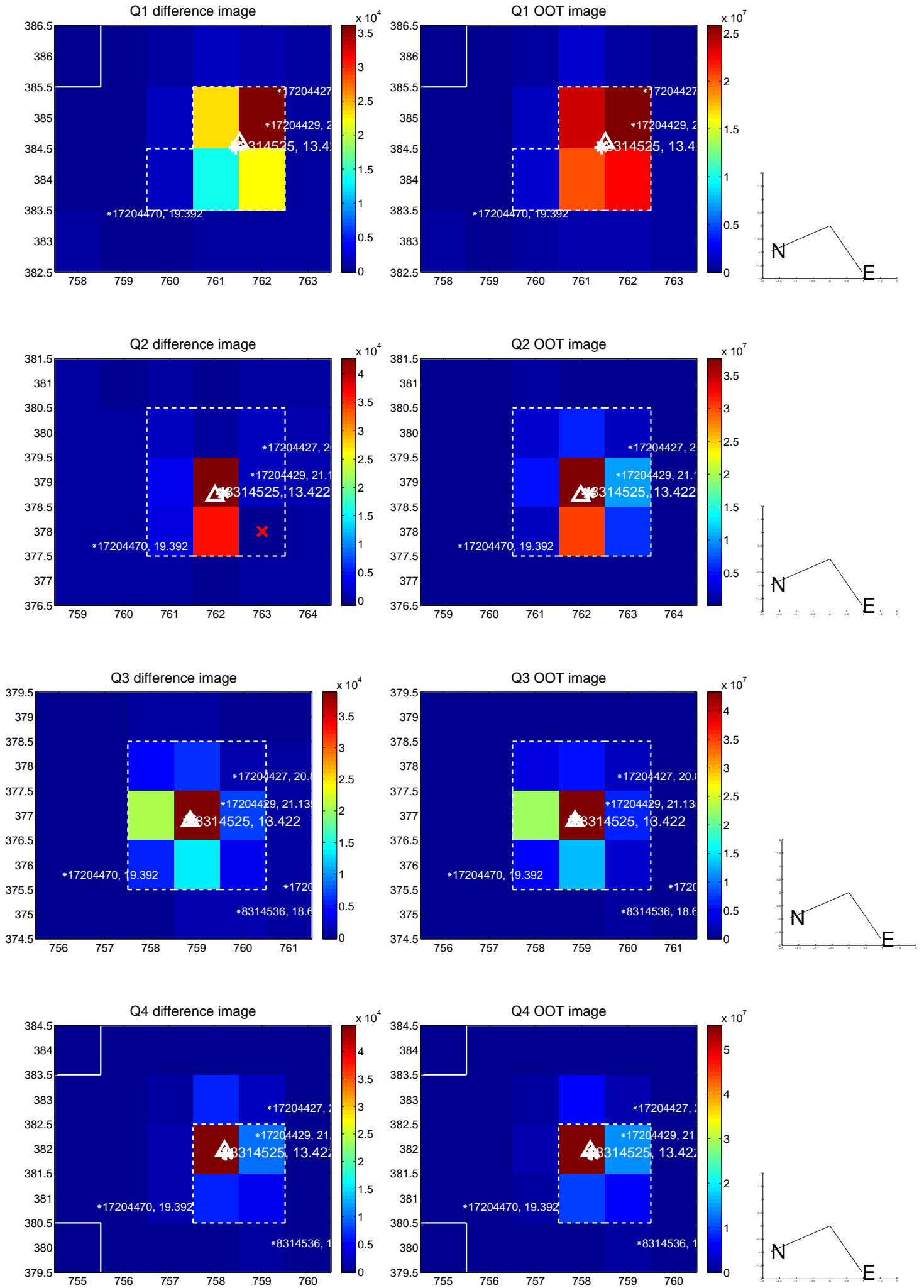
The direct PRF centroid is offset from the target star catalog position by about 0.06 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.191 \pm 0.146$	1.30	$-0.187 \pm 0.148$	$0.039 \pm 0.089$
PRF-fit source offset from KIC position	$0.210 \pm 0.139$	1.51	$-0.195 \pm 0.147$	$0.080 \pm 0.090$
photometric centroid source offset	$0.05 \pm 0.04$	1.14	$-0.04 \pm 0.04$	$0.03 \pm 0.04$

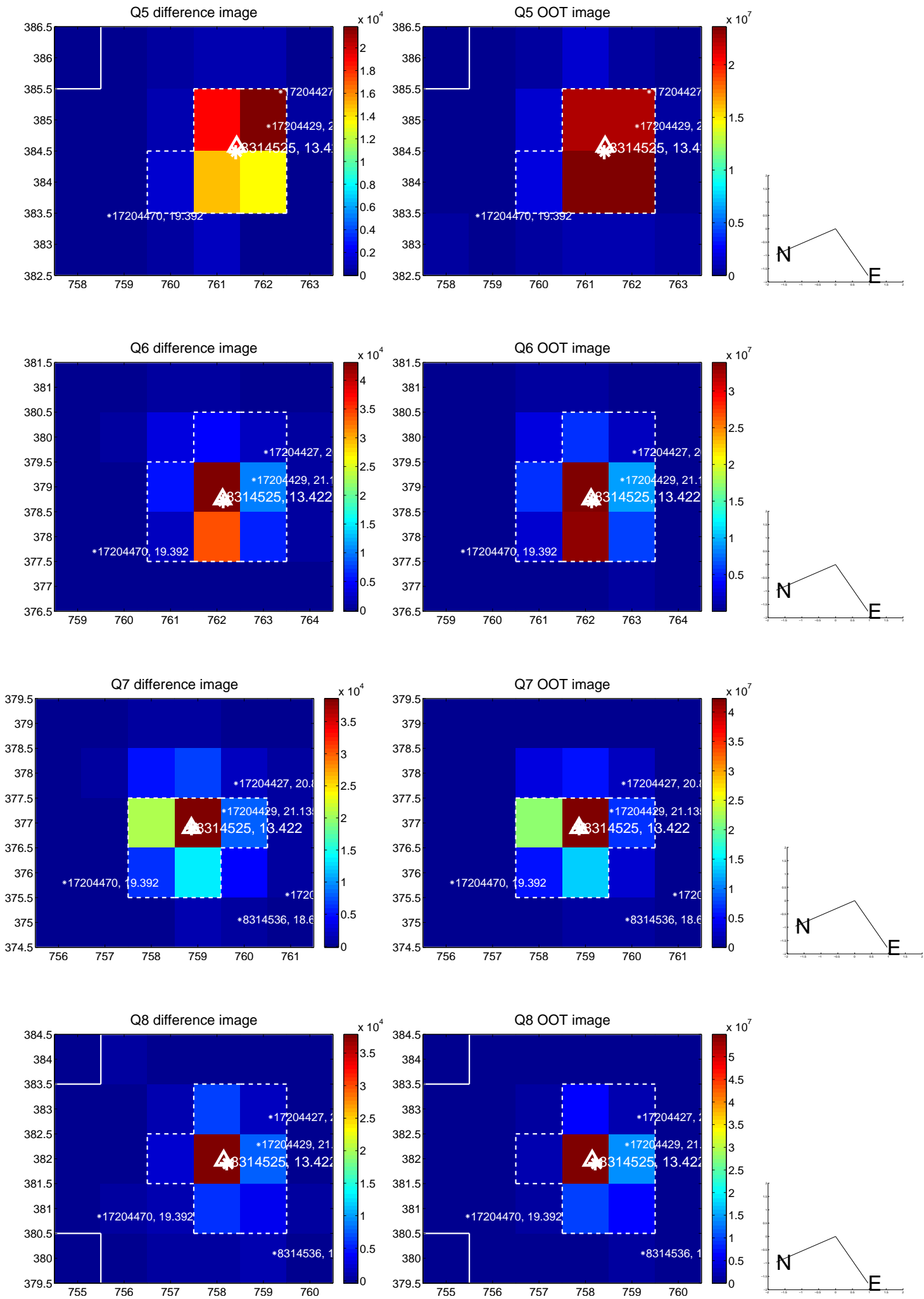


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

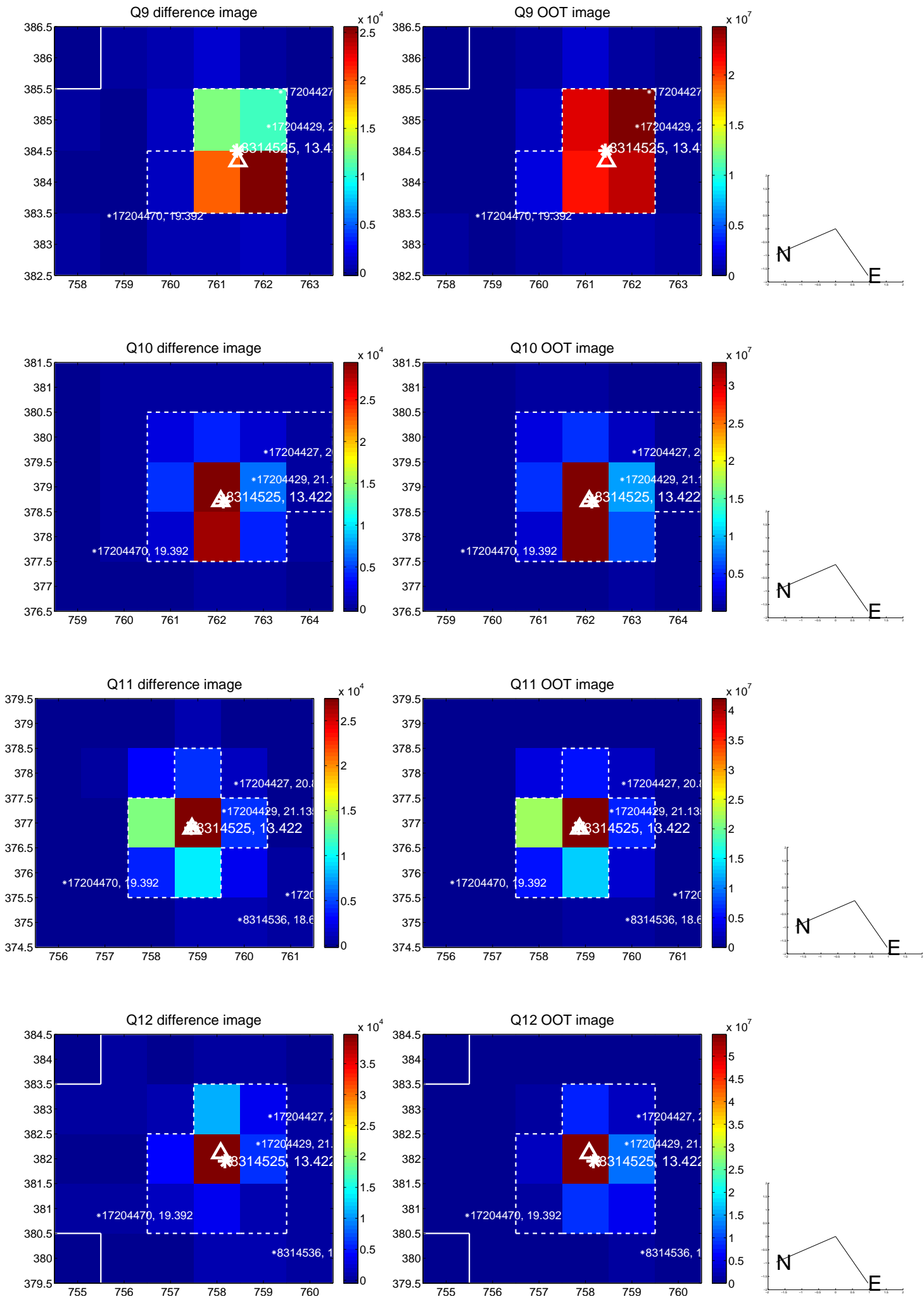
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



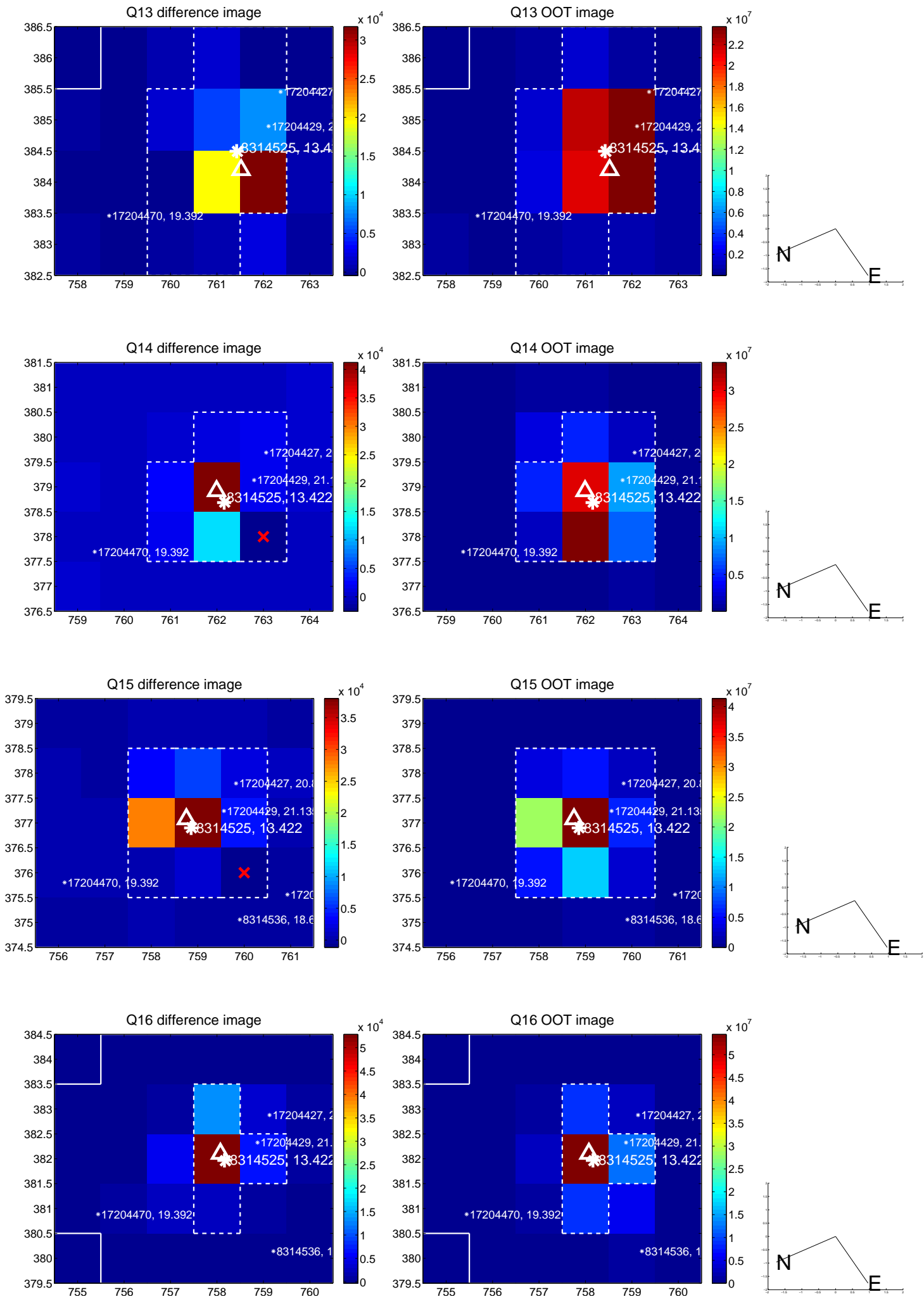
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

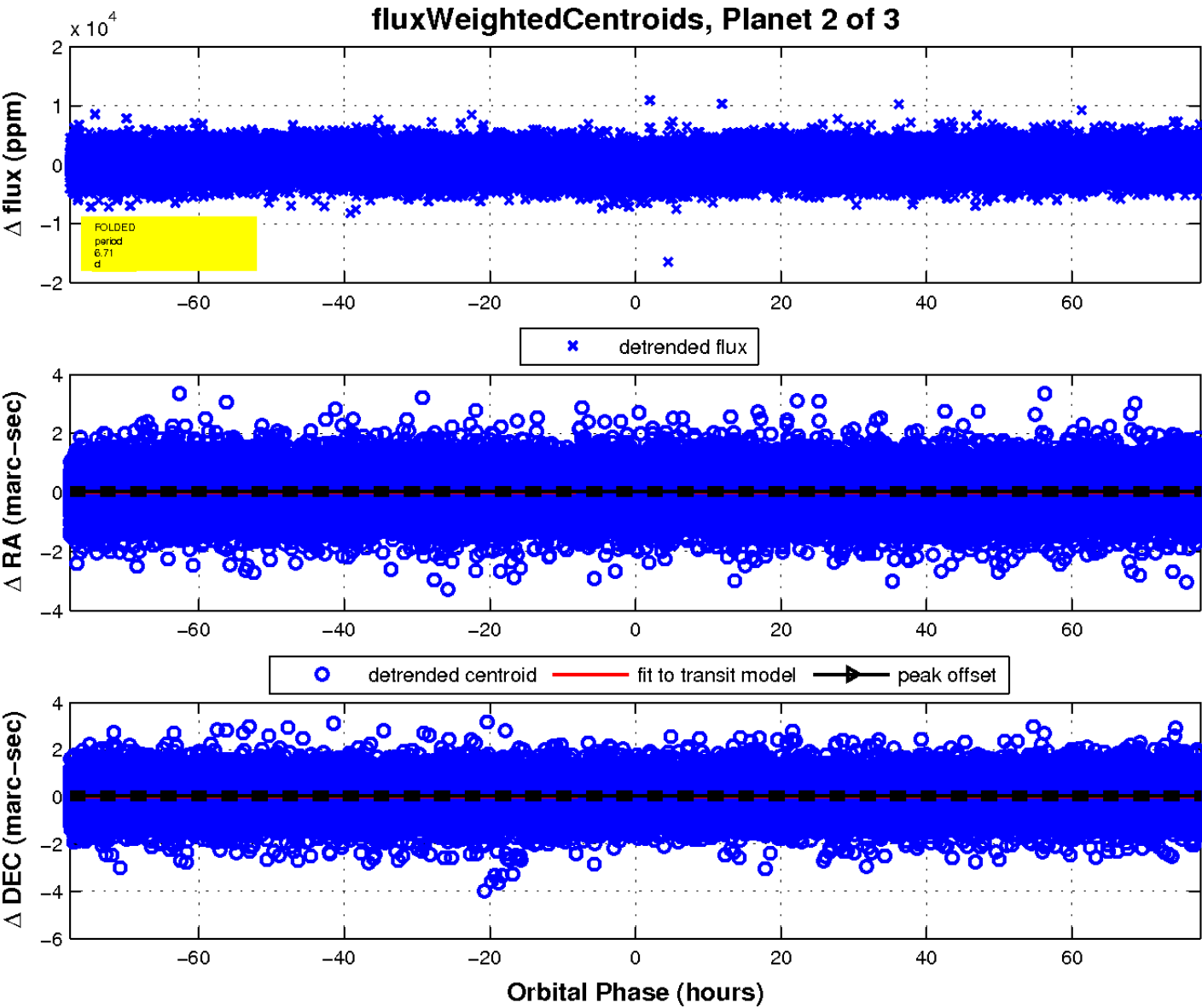
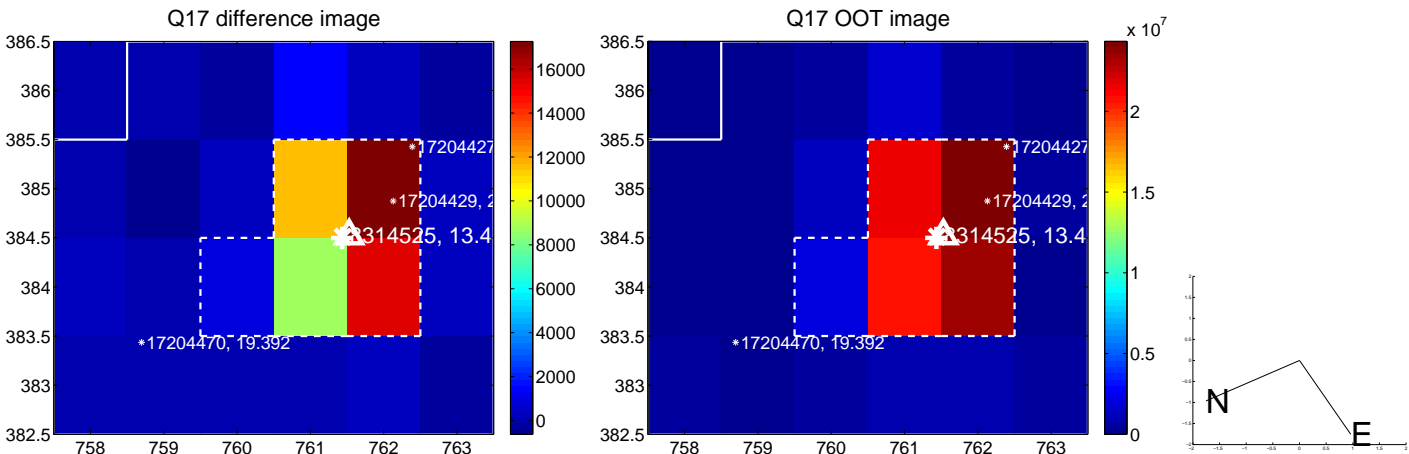


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



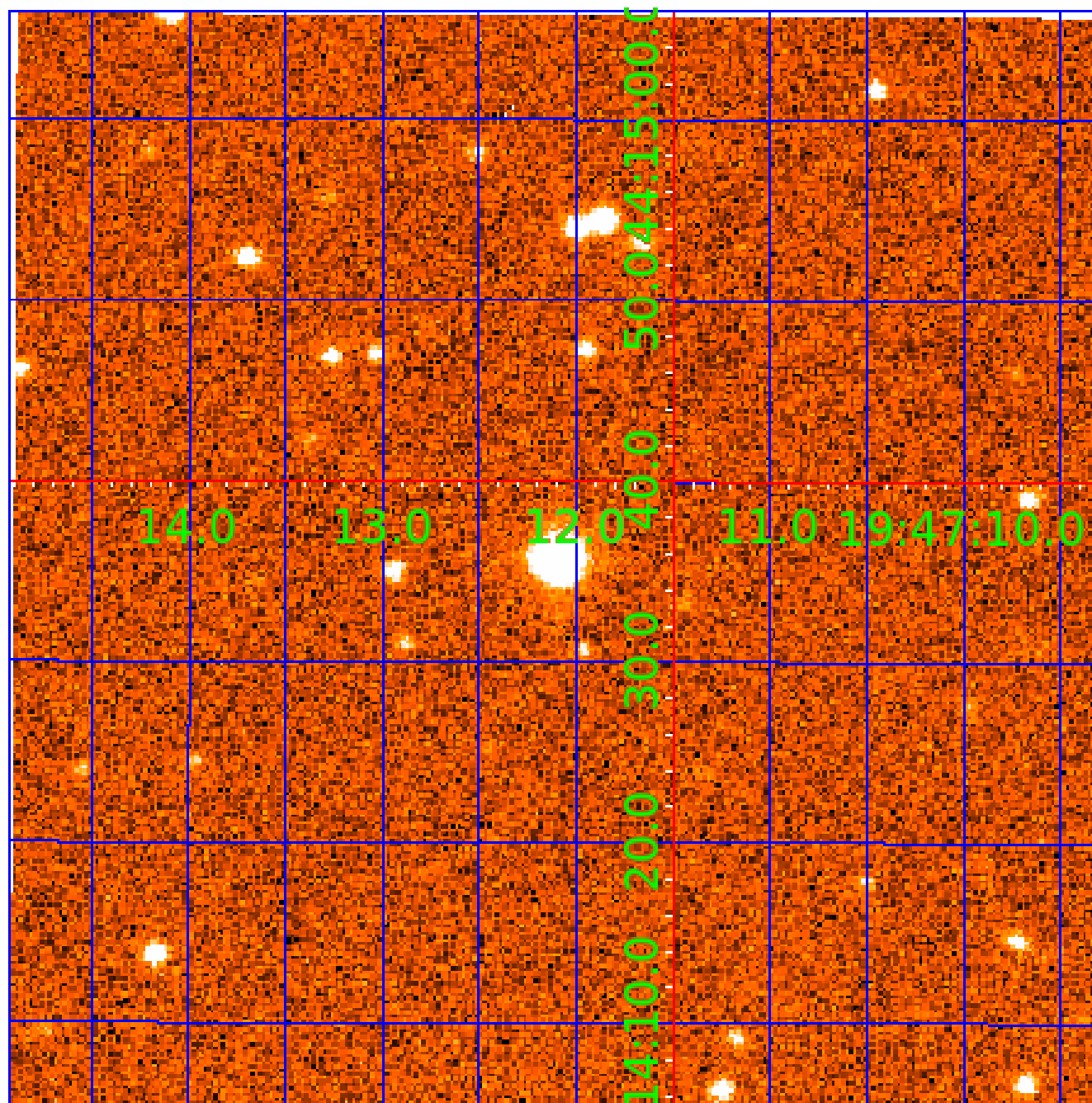


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



# UKIRT Image

Declination



# KIC 008314525

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
008314525-01	OBS	No	0.800686	132.004627	258.4	3.279	13.1	14.0	2.03	7384	3.81	28212.55
008314525-02	OBS	No	6.708188	135.117091	700.2	25.914	9.3	13.6	2.03	7384	9.64	1658.00
008314525-03	OBS	No	6.707459	138.014946	819.1	28.957	8.1	16.0	2.03	7384	8.10	1658.24

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008314525-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT
008314525-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
008314525-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD

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

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

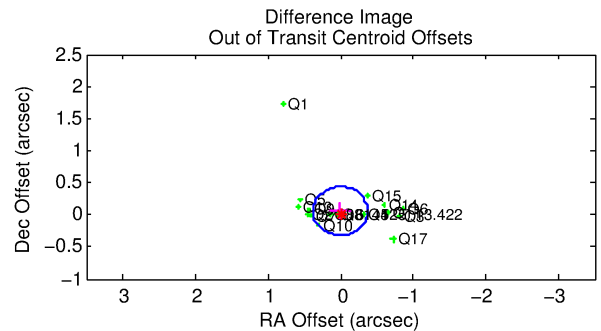
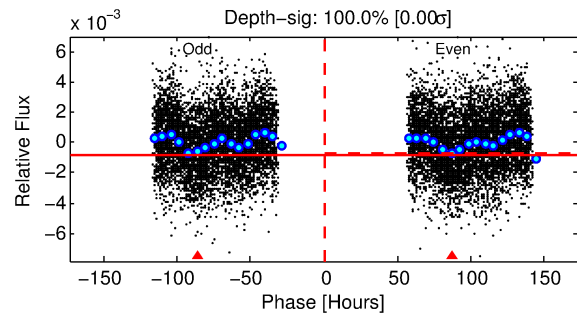
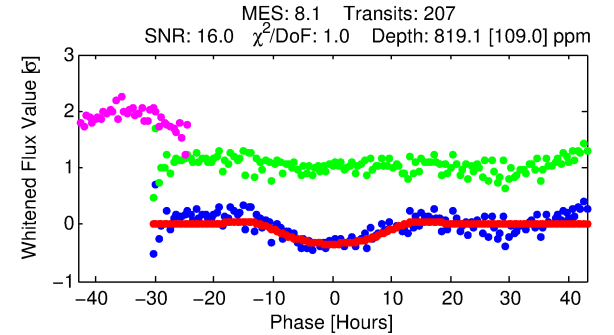
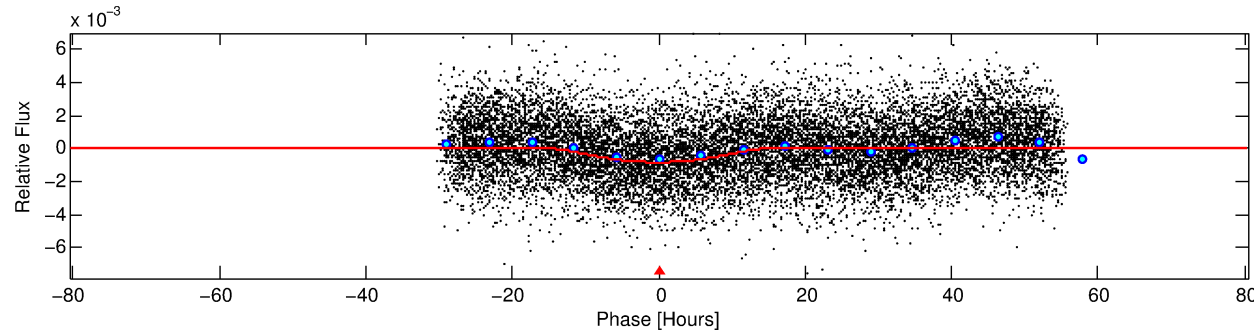
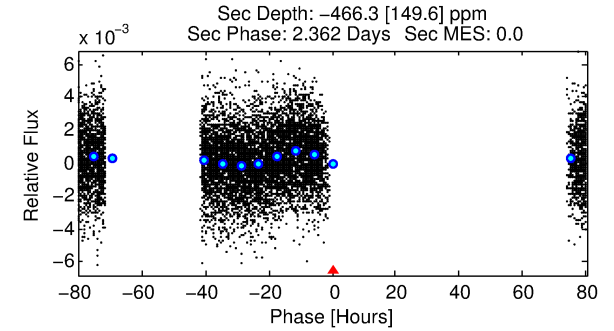
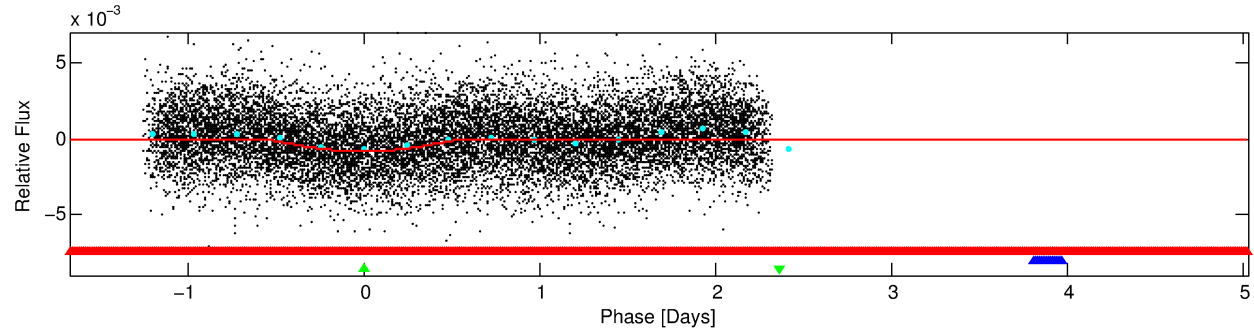
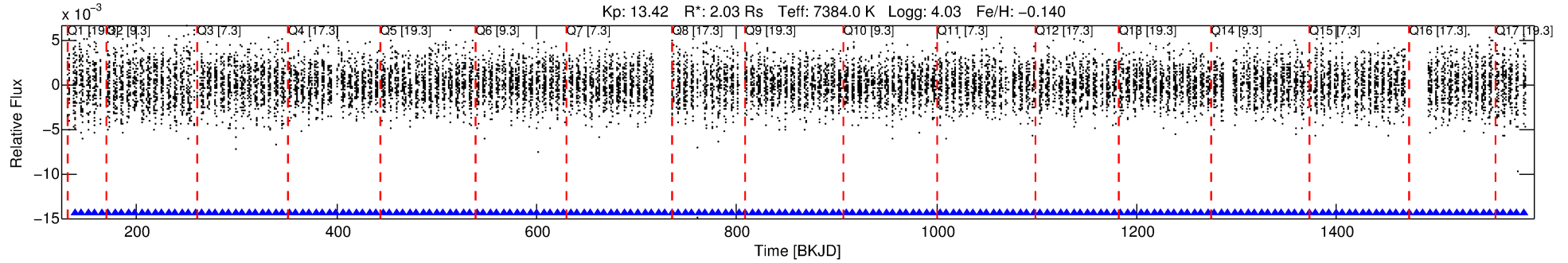
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

Ephemeris Match Information For 008314525-03

No Significant Match Found

# DV One-Page Summary

KIC: 8314525 Candidate: 3 of 3 Period: 6.707 d



## DV Fit Results:

Period = 6.70746 [0.00032] d  
Epoch = 138.0149 [0.0402] BKJD  
Rp/R\* = 0.0366 [0.0141]  
a/R\* = 1.17 [0.04]  
b = 0.98 [0.03]  
Seff = 1658.24 [645.91]  
Teq = 1627 [158] K  
Rp = 8.10 [3.80] Re  
a = 0.0814 [0.0190] AU  
Ag = N/A  
Teffp = N/A

## DV Diagnostic Results:

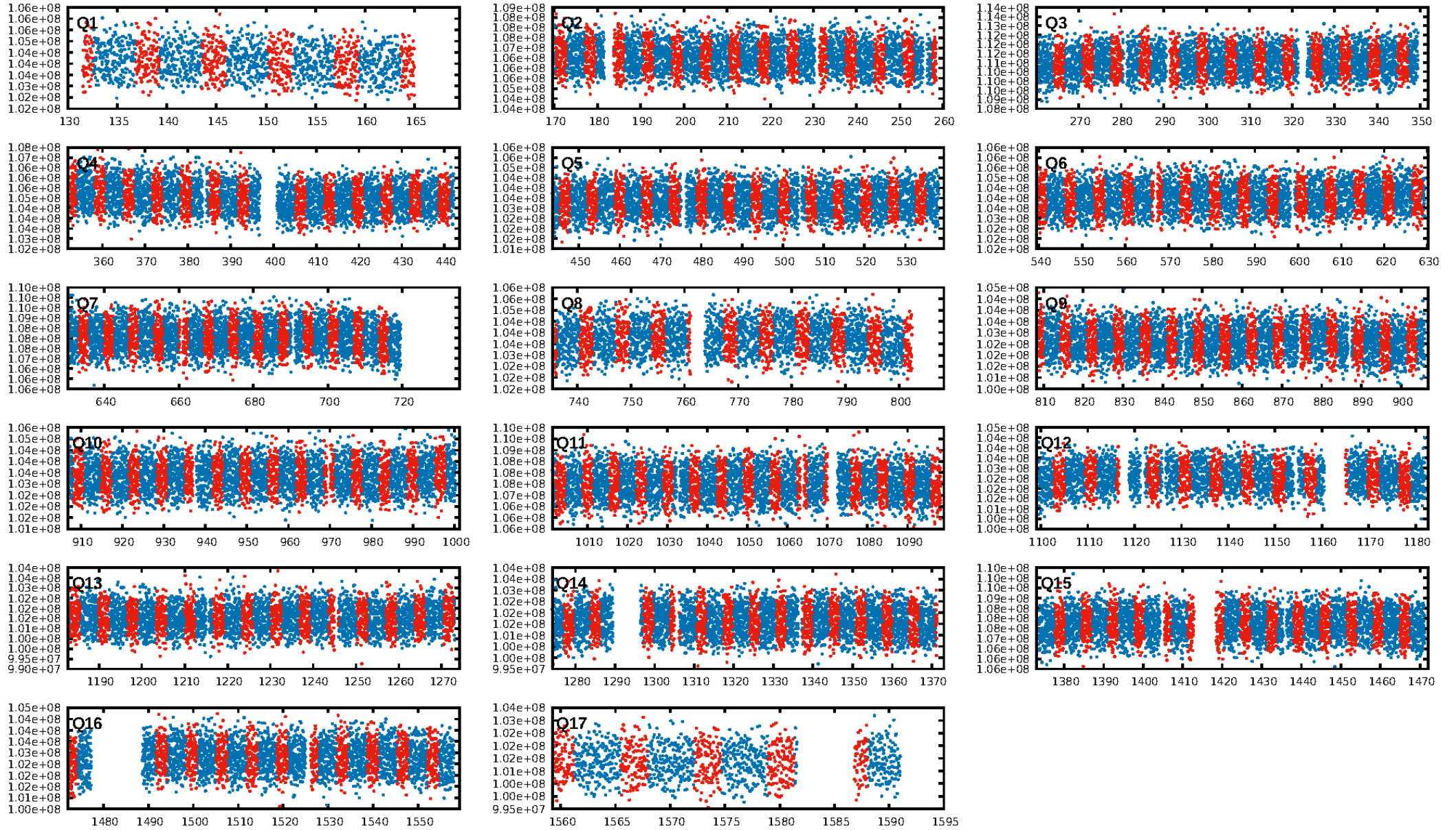
ShortPeriod-sig: 100.0% [4.86σ]  
LongPeriod-sig: 0.0% [0.00σ]  
ModelChiSquare2-sig: N/A  
ModelChiSquareGoF-sig: N/A  
Bootstrap-pfa: N/A  
RollingBand-fgt: 1.00 [196/196]  
GhostDiagnostic-chr: 0.5988  
Centroid-sig: 0.6%  
Centroid-so: 0.090 arcsec [2.67σ]  
OotOffset-rm: 0.060 arcsec [0.48σ]  
KicOffset-rm: 0.130 arcsec [1.15σ]  
OotOffset-st: 4/4/4/5 [17]  
KicOffset-st: 4/4/4/5 [17]  
DiffImageQuality-fgm: 1.00 [17/17]  
DiffImageOverlap-fno: 0.00 [0/17]

Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 20:06:14 Z

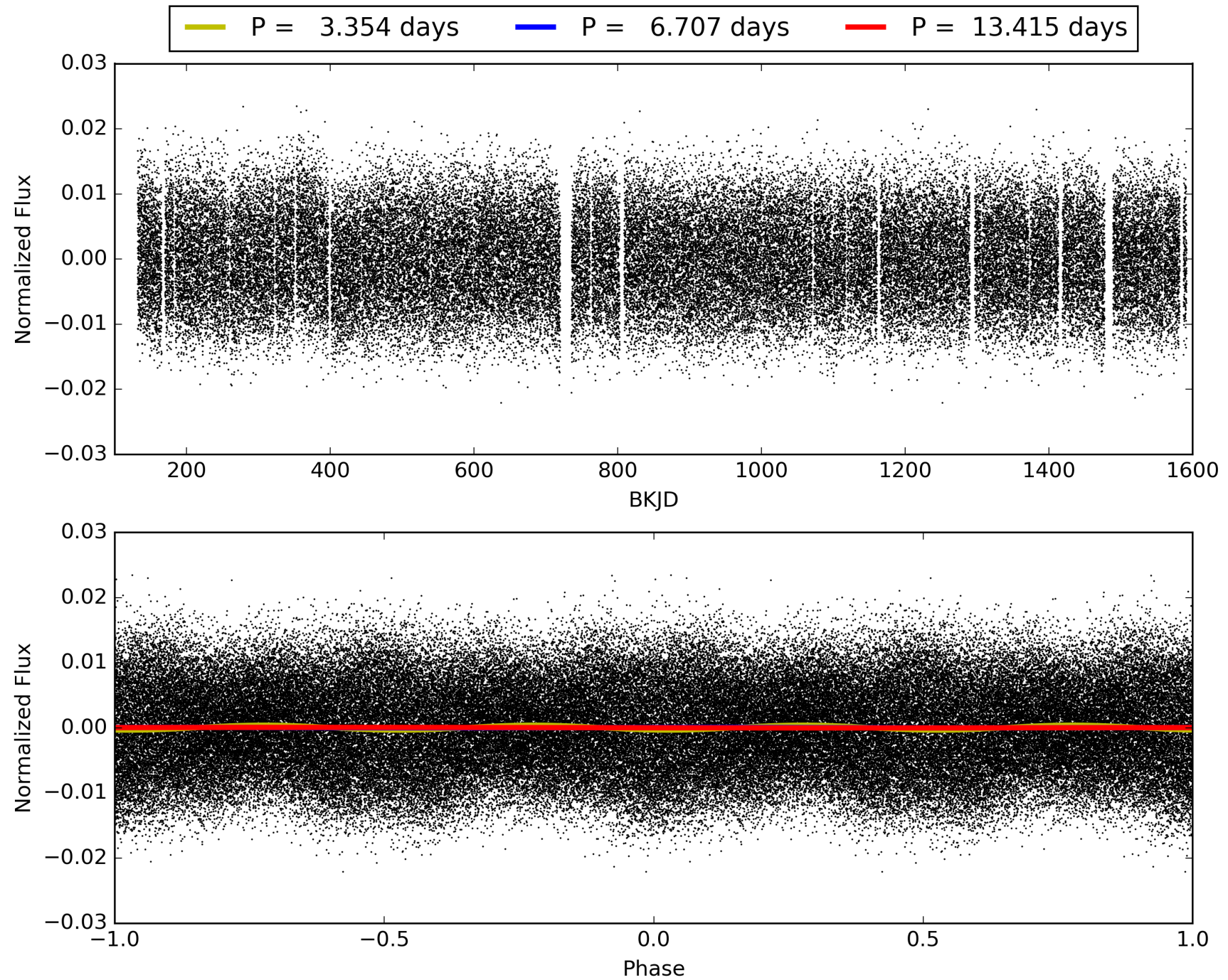
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center



# TCE 008314525-03, PDC Light Curves

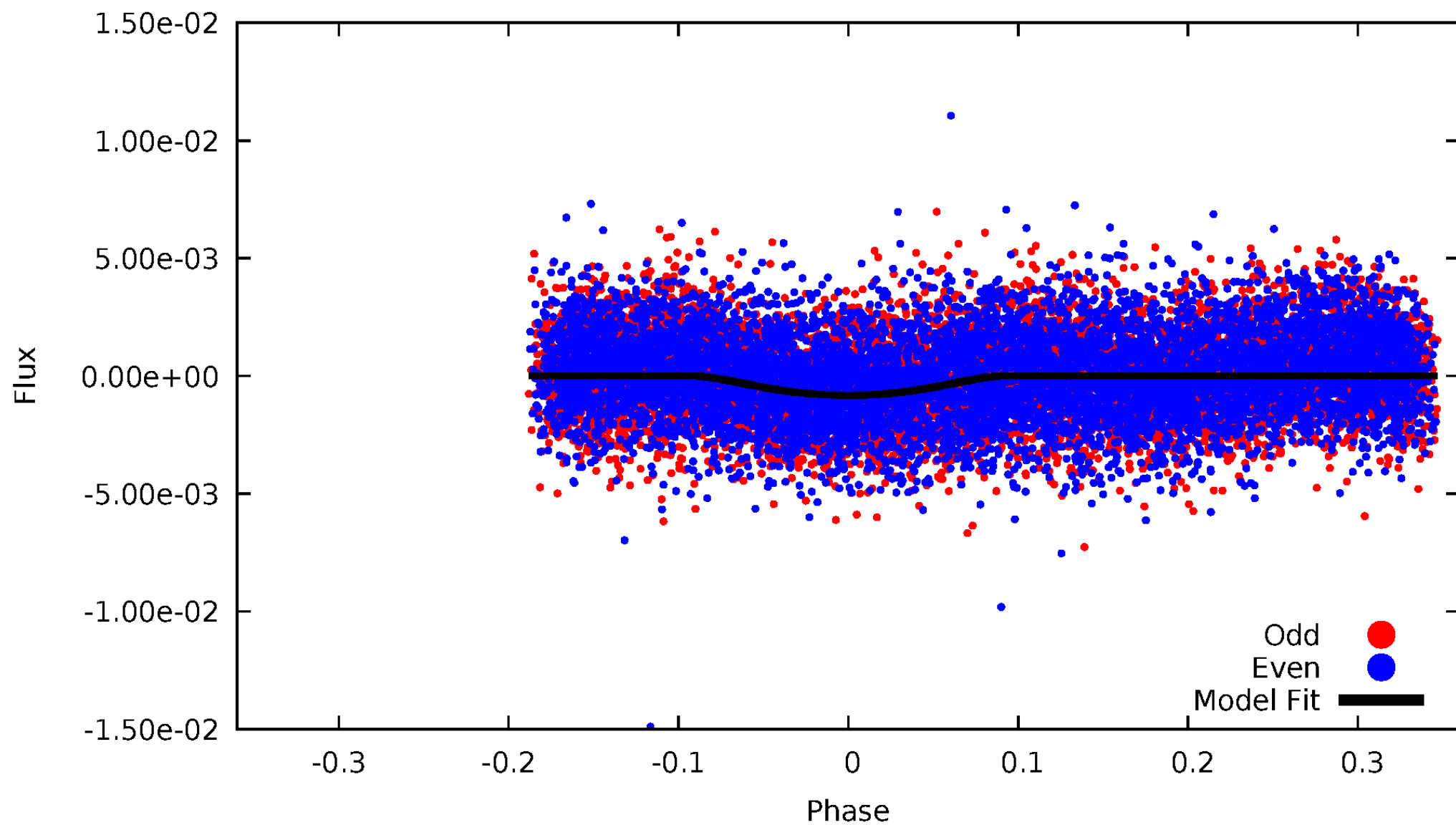


# TCE 008314525-03



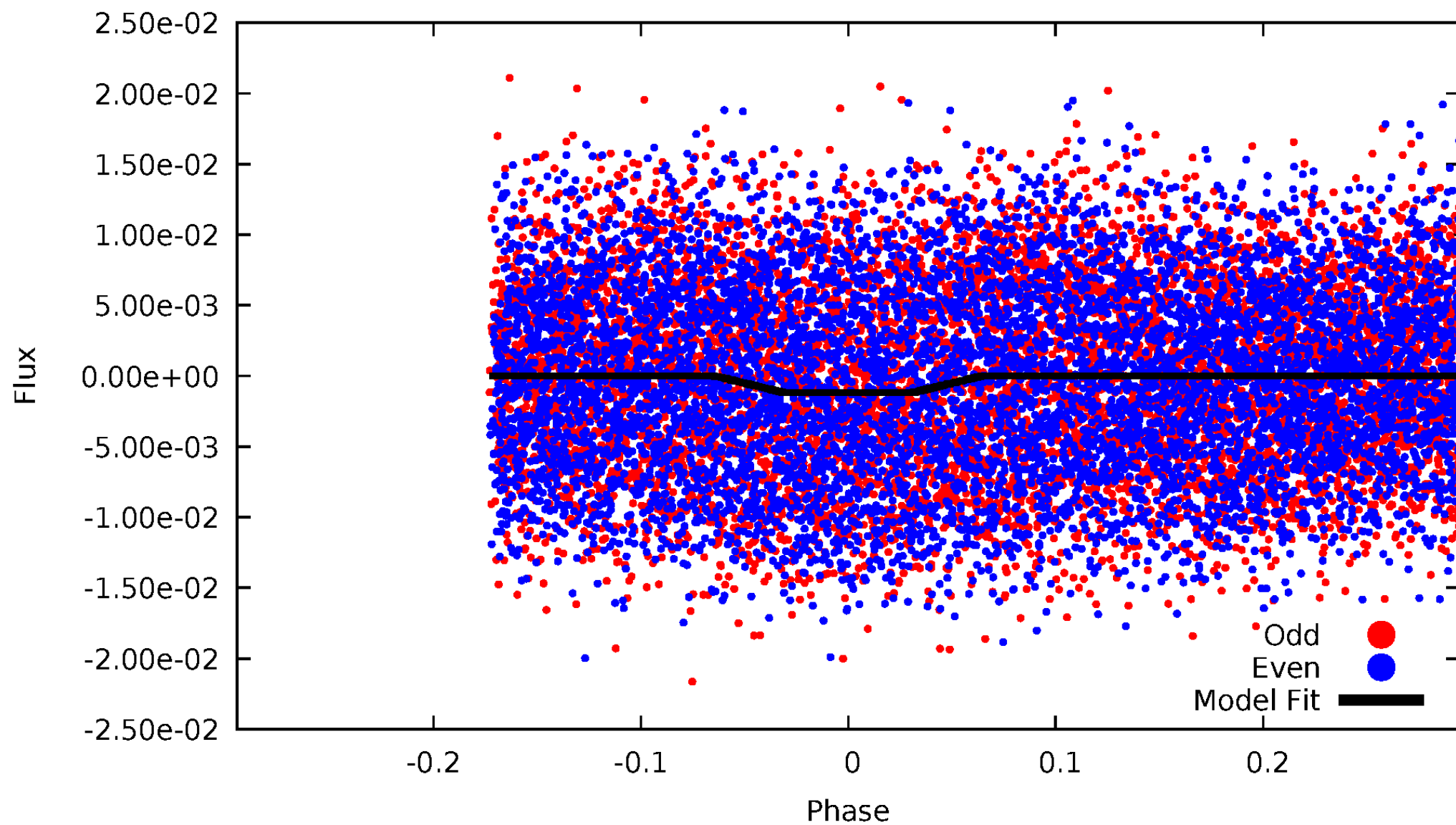
# DV Odd/Even

TCE 008314525-03



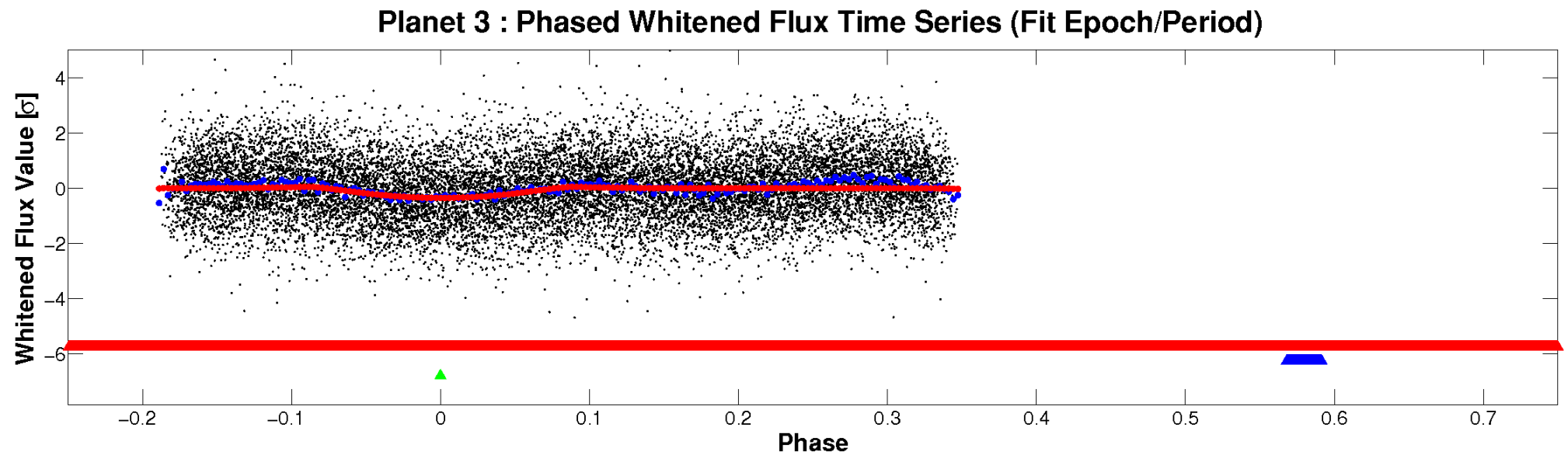
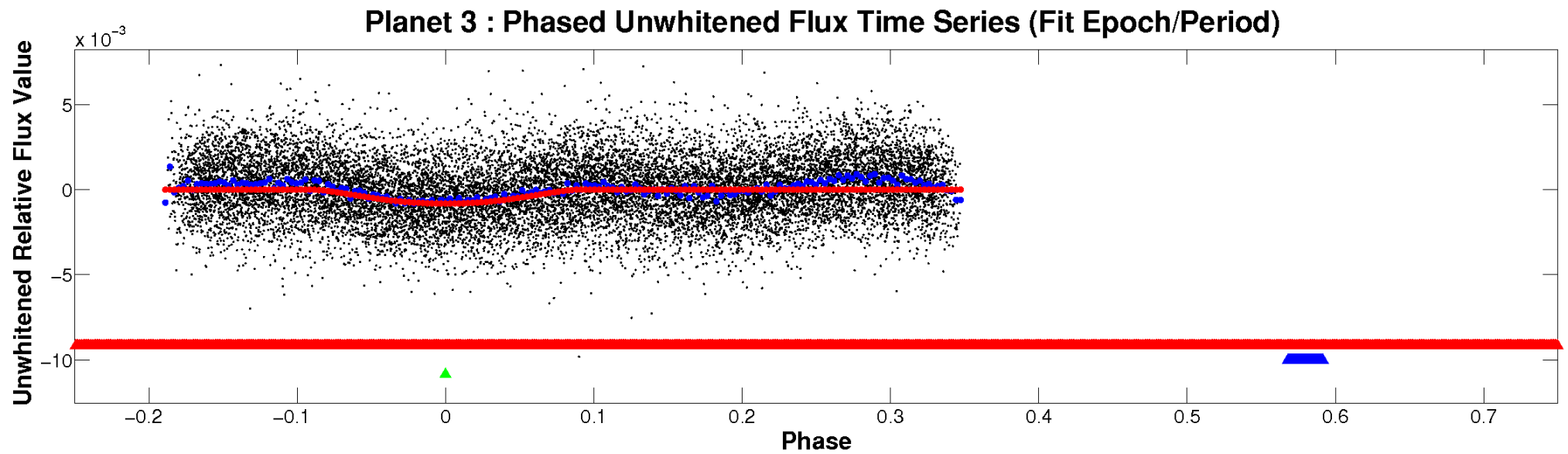
# ALT Odd/Even

TCE 008314525-03



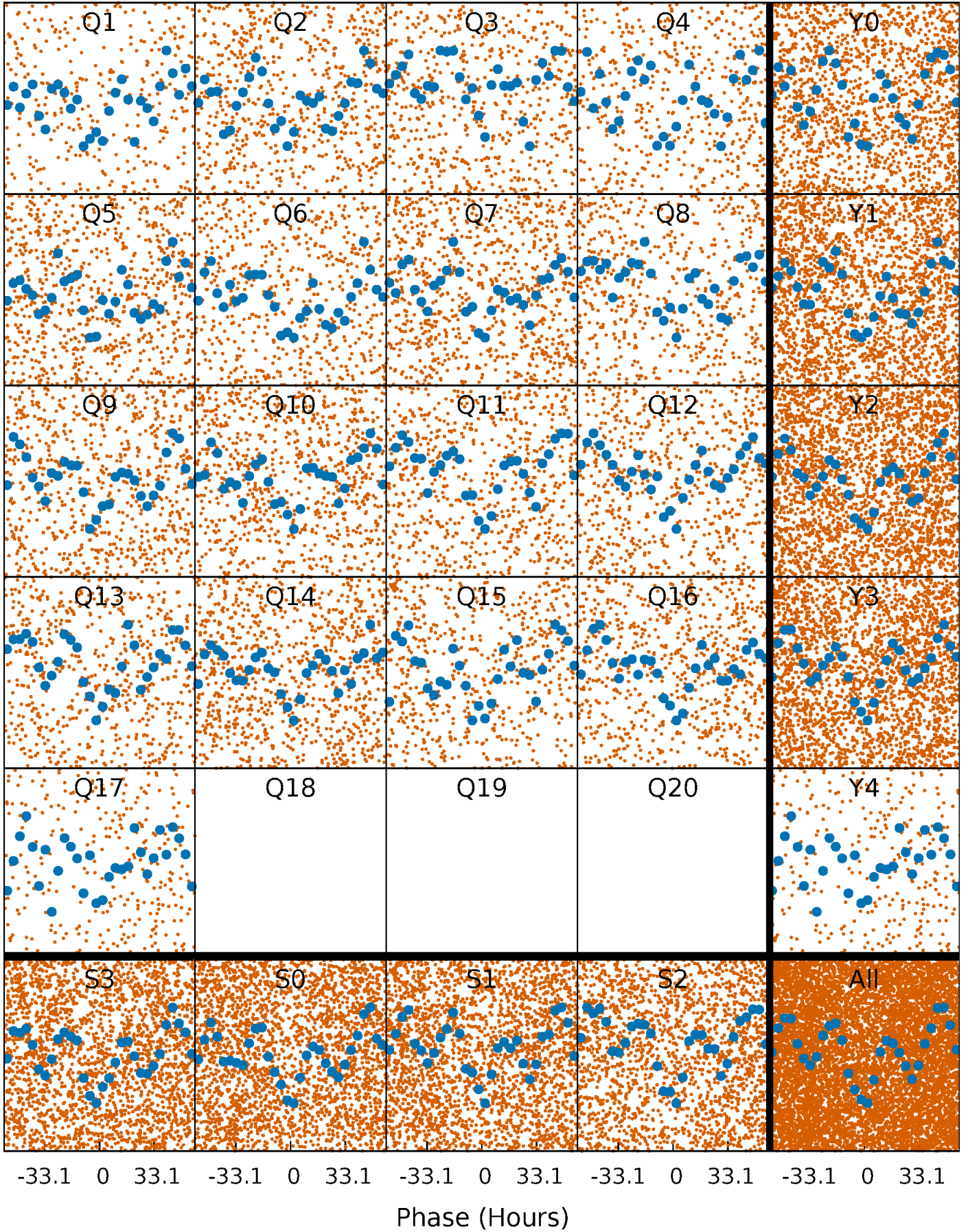


# Non-Whitened Vs. Whitened Light Curve



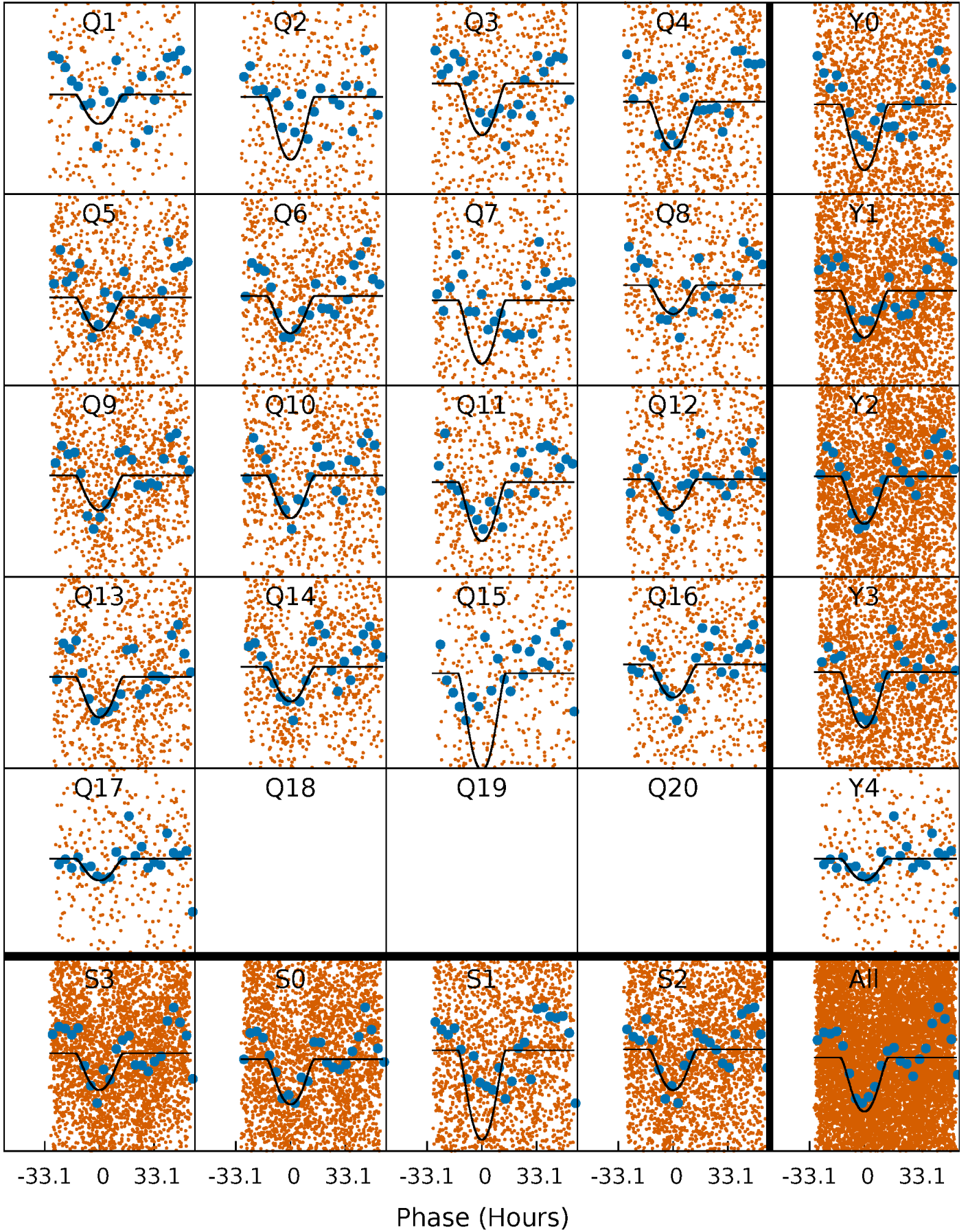
# PDC Quarter-Phased Transit Curves

TCE 008314525-03 P= 6.707459 Days  $T_0=138.014946$  (BKJD)



# DV Quarter-Phased Transit Curves

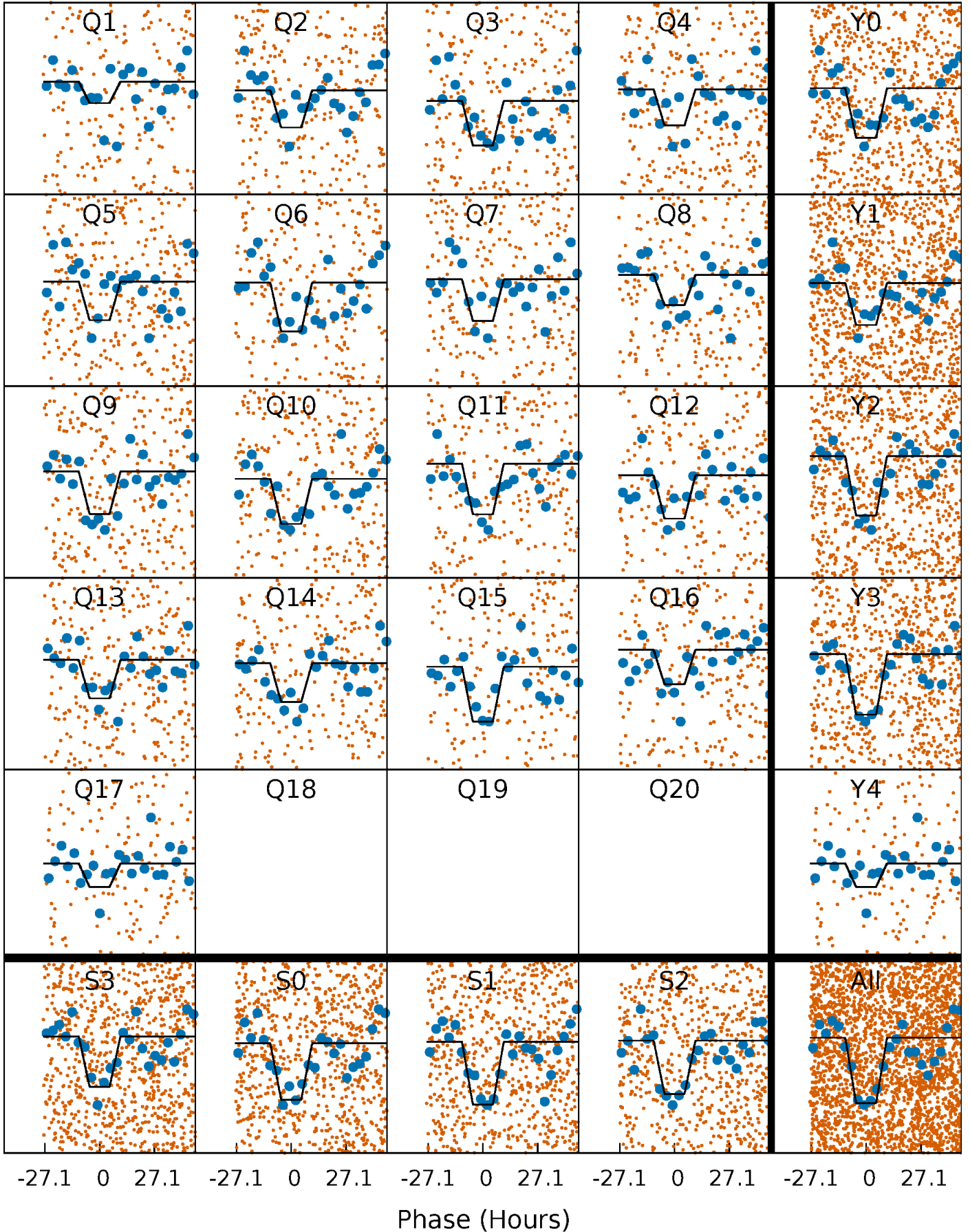
TCE 008314525-03   P= 6.707459 Days    $T_0=138.014946$  (BKJD)





# Alt. Detrend Quarter-Phased Transit Curves

TCE 008314525-03   P= 6.708008 Days    $T_0=137.911667$  (BKJD)

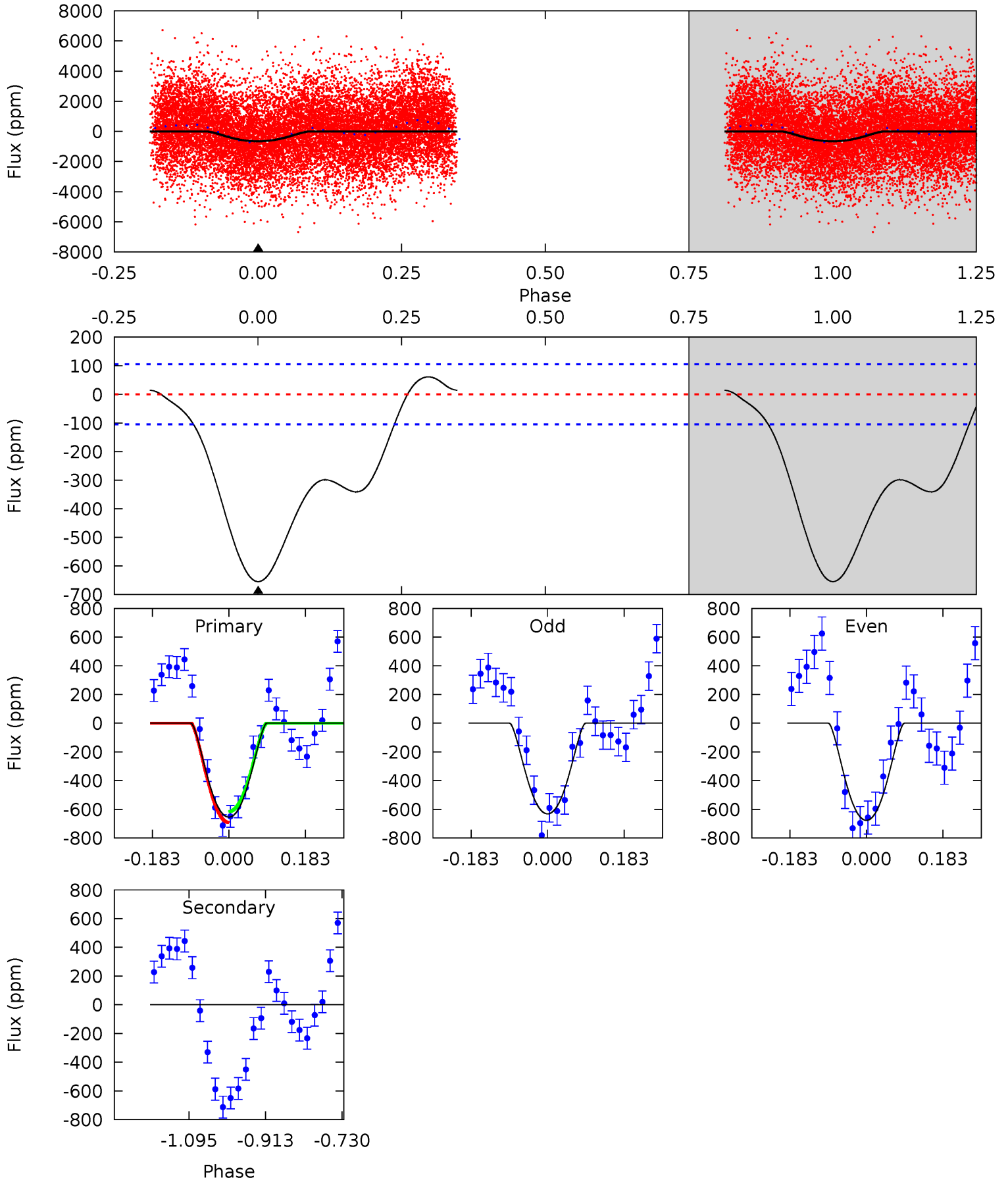




# DV Model-Shift Uniqueness Test

008314525-03, P = 6.707459 Days, E = 131.307487 Days

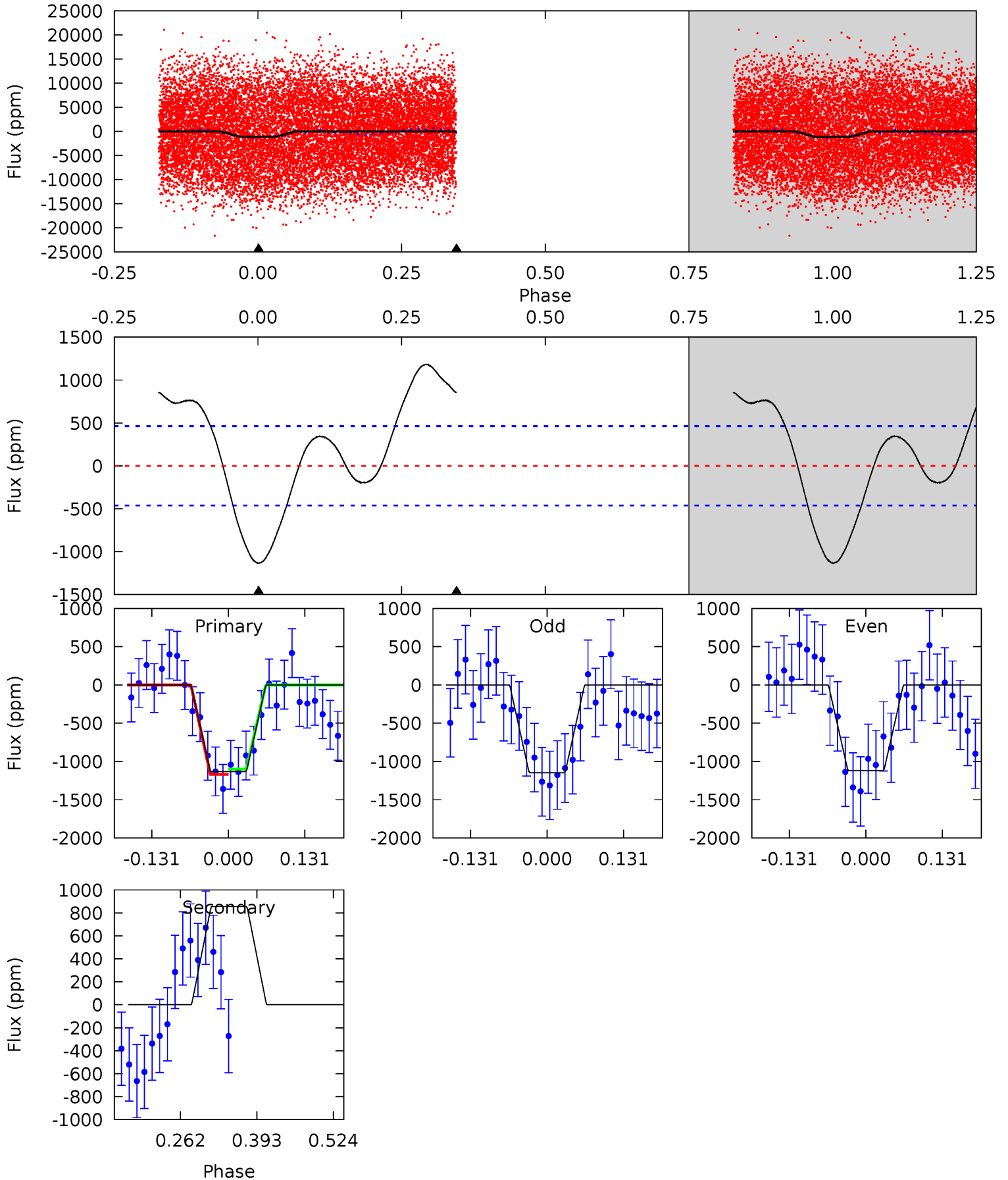
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
27.6	0	0	0	4.44	1.33	5.69	27.6	27.6	0	0	0.95	1.61	0.09	1.60



# Alt Model-Shift Uniqueness Test

008314525-03, P = 6.708008 Days, E = 131.203659 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
11.1	-8.35	0	0	4.51	1.51	3.97	11.1	11.1	-8.35	-8.35	0.12	1.03	0.51	0.35



### Stellar Parameters For KIC 008314525

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$7384^{+230}_{-307}$	$4.026^{+0.198}_{-0.162}$	$-0.140^{+0.200}_{-0.350}$	$2.030^{+0.542}_{-0.542}$	$1.593^{+0.209}_{-0.255}$	$0.268^{+0.297}_{-0.121}$
	+3%/-4%	+5%/-4%	+143%/-250%	+27%/-27%	+13%/-16%	+111%/-45%
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 008314525-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$0 \pm 24$	$8.05^{+3.71}_{-3.25}$	$2265^{+164}_{-178}$	$-2614^{+5777}_{-810}$	$0.038^{+1.458}_{-1.764}$
Alt.	$855 \pm 103$	$7.55^{+3.34}_{-3.01}$	$2259^{+155}_{-157}$	$-6668^{+1056}_{-2272}$	$-52.633^{+26.924}_{-93.473}$

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

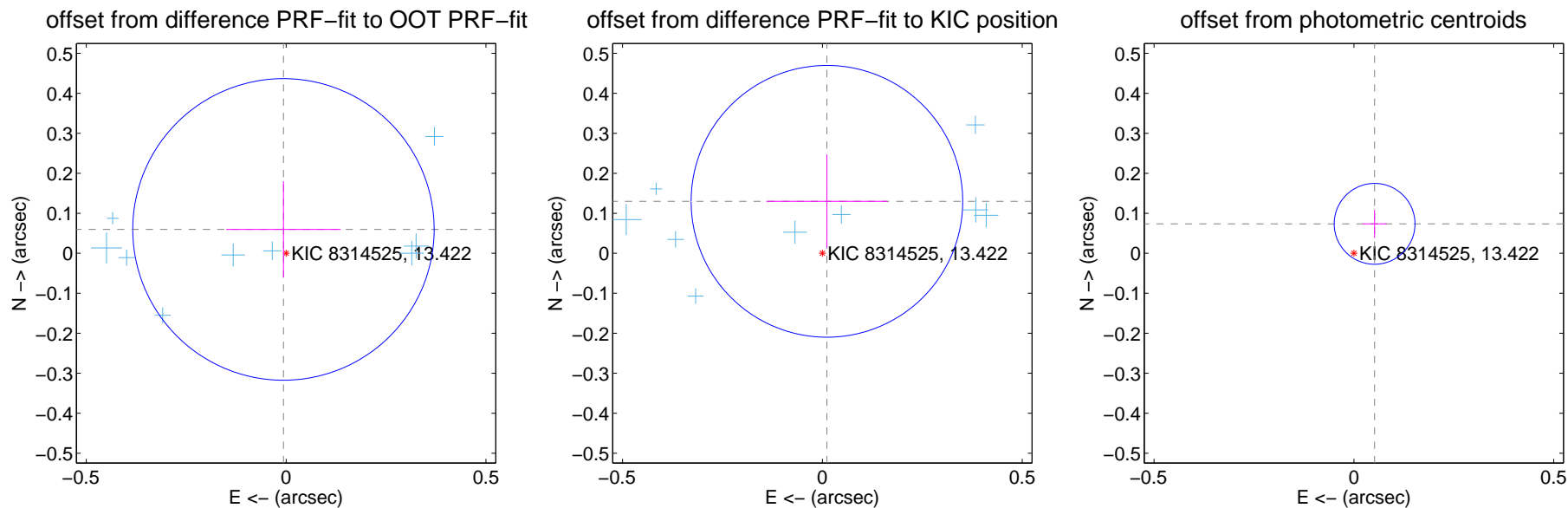
## DV Centroid Data

Supplemental centroid analysis for 008314525-03. Kepler magnitude: 13.42. Transit SNR 16.02

There are 17 quarters with good PRF difference image offsets

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

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.060 \pm 0.126$	0.48	$0.007 \pm 0.143$	$0.060 \pm 0.121$
PRF-fit source offset from KIC position	$0.130 \pm 0.113$	1.15	$-0.011 \pm 0.152$	$0.130 \pm 0.117$
photometric centroid source offset	$0.09 \pm 0.03$	2.67	$-0.05 \pm 0.03$	$0.07 \pm 0.04$

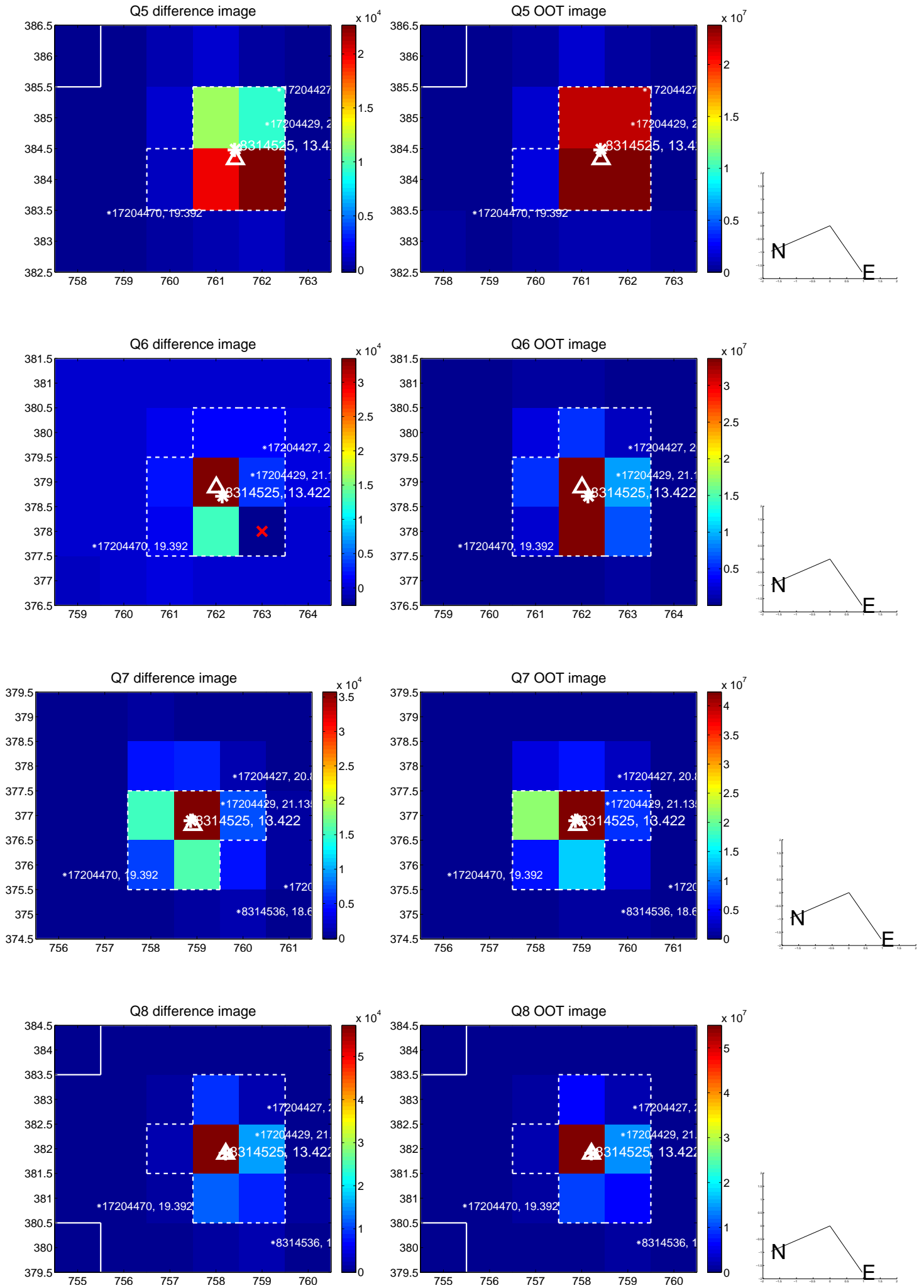


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

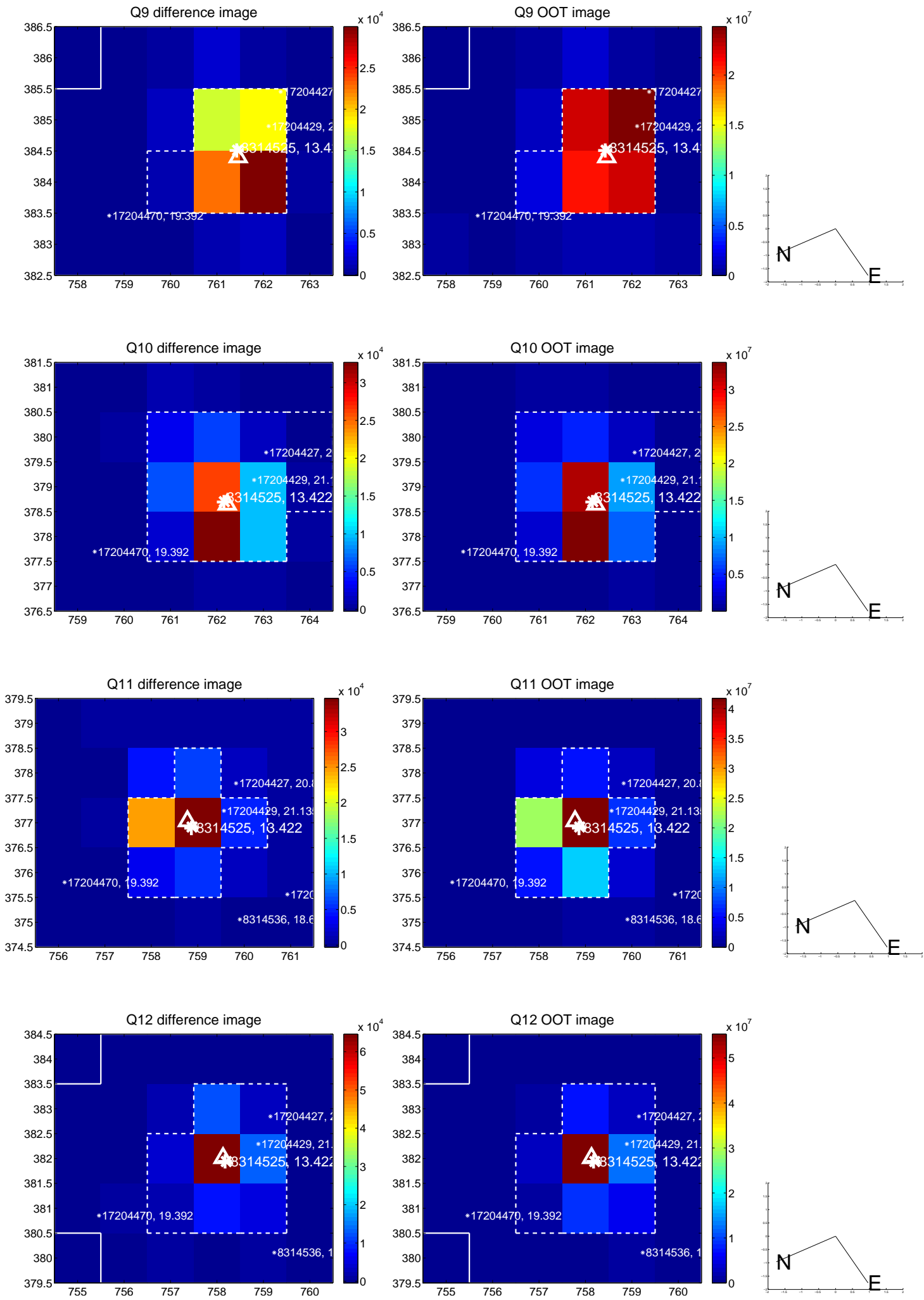




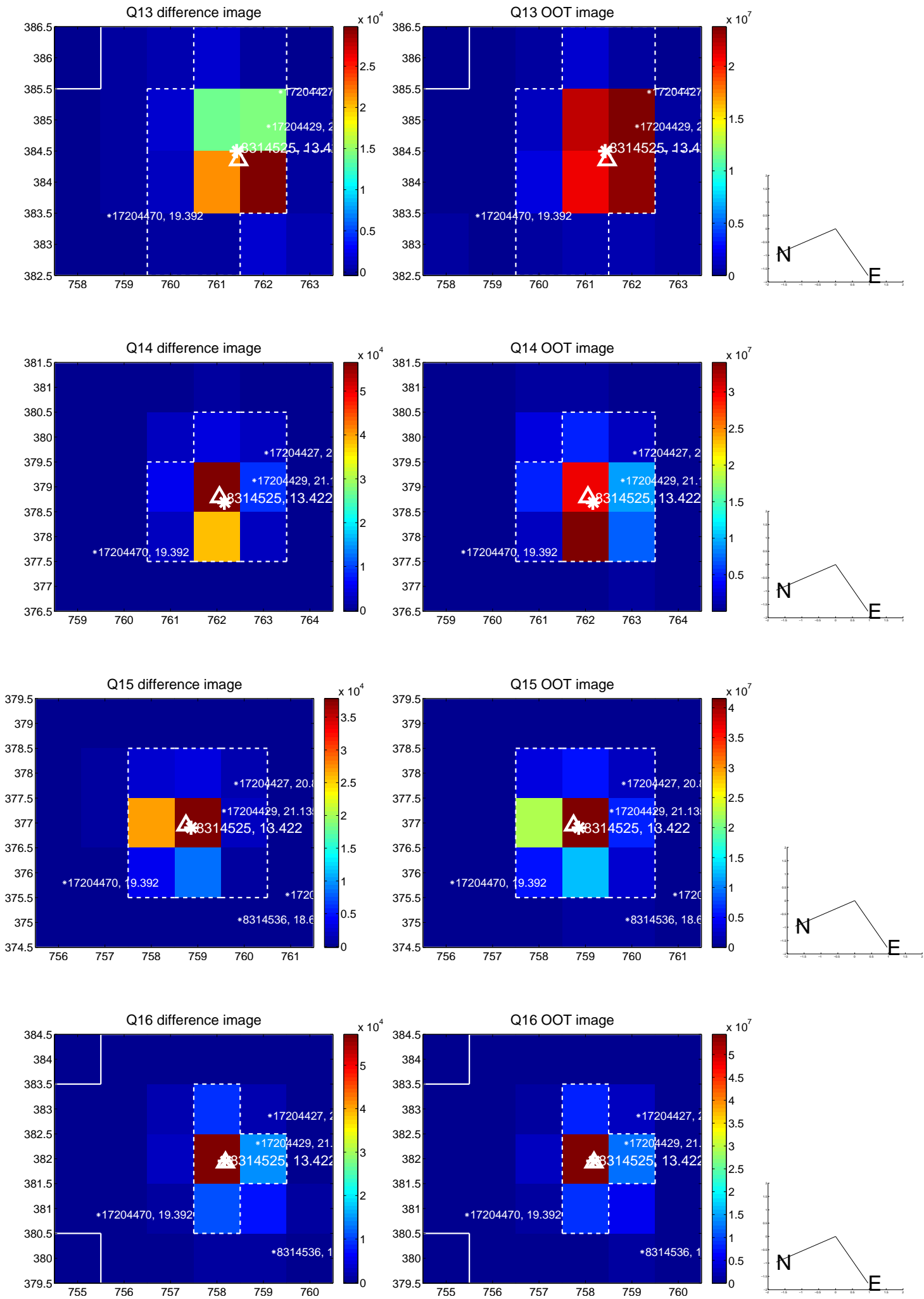
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



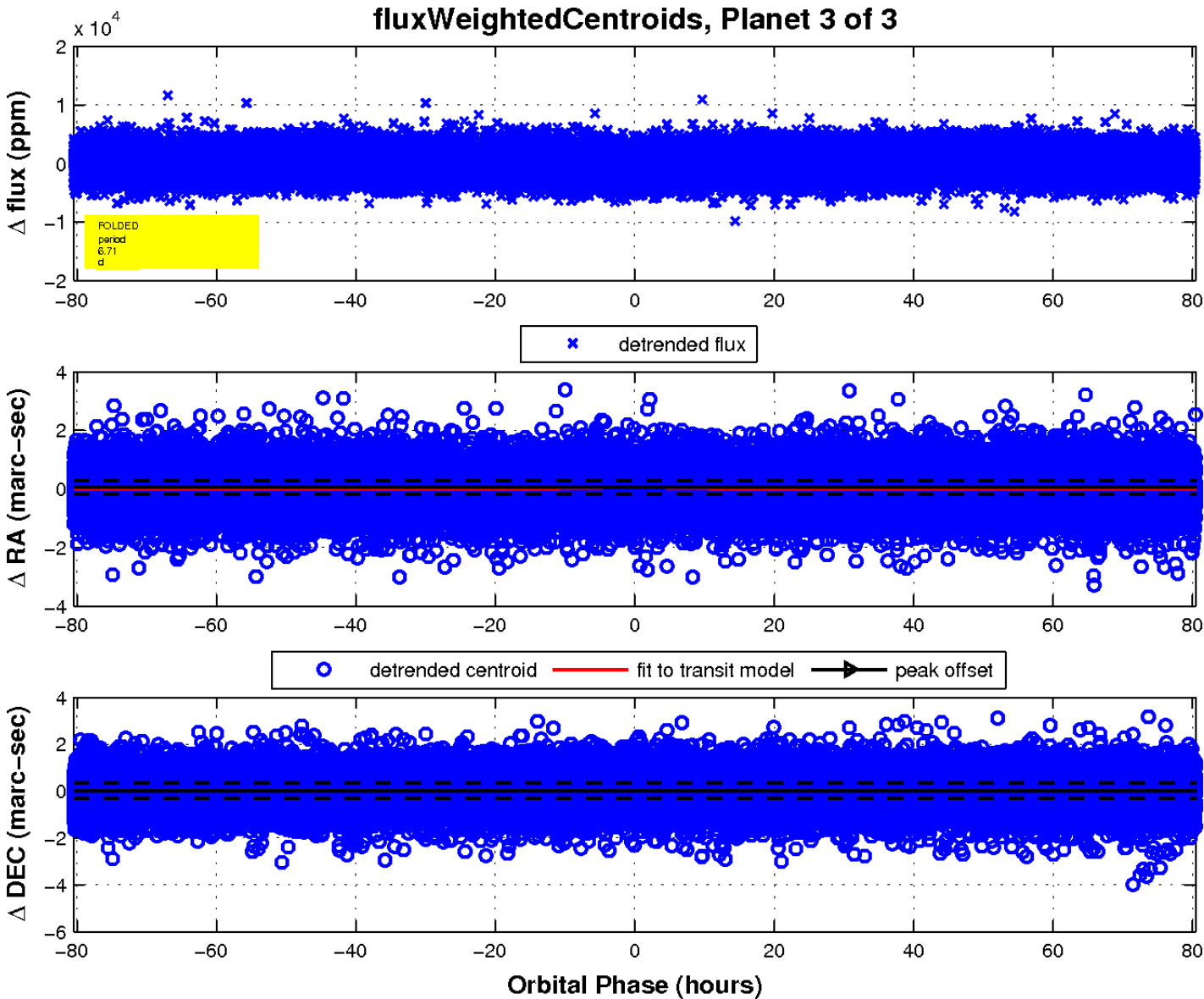
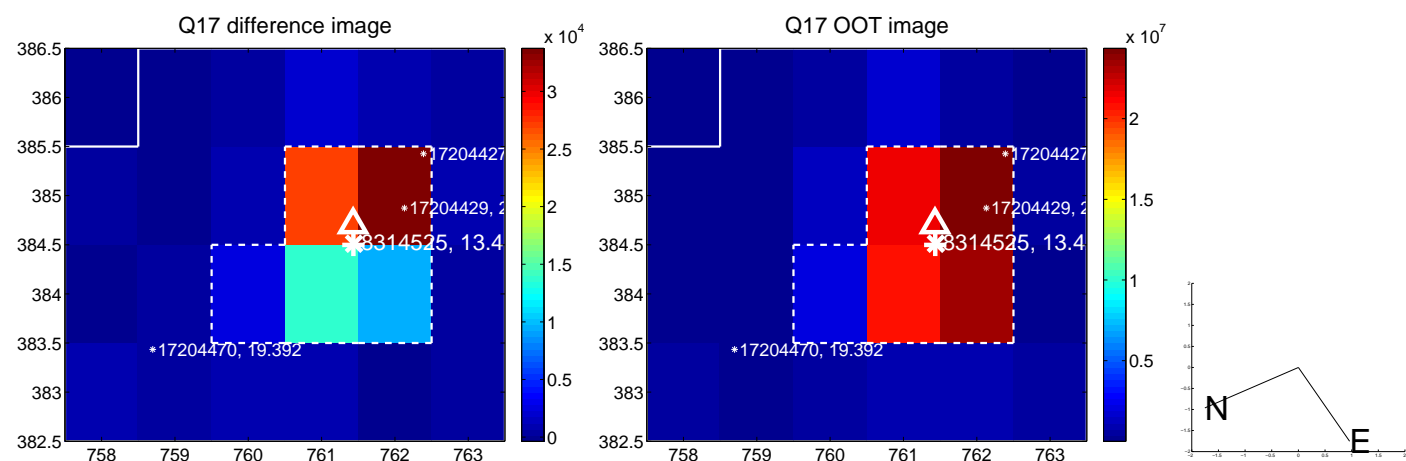
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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.



UKIRT Image

Declination

