

# KIC 007200092

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
007200092-01	OBS	No	2.876939	132.456951	5.0	19.520	9.8	4.8	1.93	7671	0.49	4984.82
007200092-02	OBS	No	77.266405	141.242888	87.8	7.110	12.8	10.6	1.93	7671	2.06	61.98
007200092-03	OBS	No	39.666500	136.651802	54.2	7.555	9.7	8.8	1.93	7671	1.59	150.77
007200092-04	OBS	No	49.079634	142.364509	166.9	0.943	8.9	9.8	1.93	7671	2.67	113.51
007200092-05	OBS	No	43.573542	168.835292	145.0	1.256	8.2	7.5	1.93	7671	2.66	133.02

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007200092-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—MOD_NONUNIQ_DV
007200092-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT
007200092-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
007200092-04	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_FEW_DIFFS
007200092-05	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_FEW_MEAS

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

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

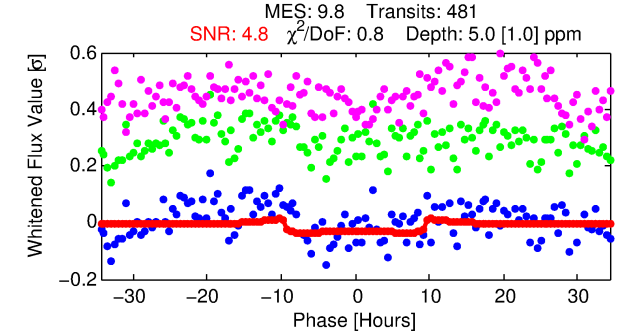
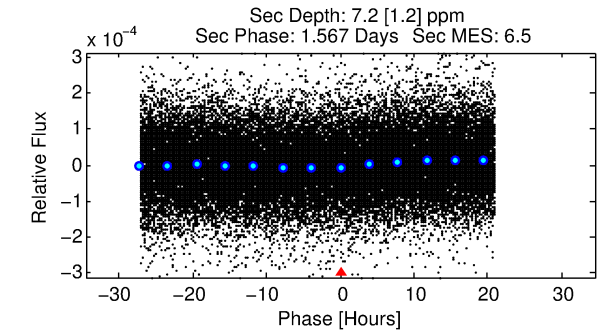
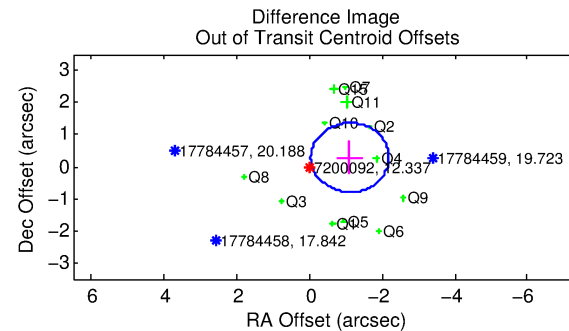
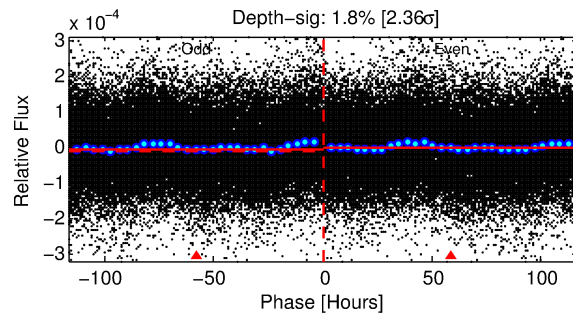
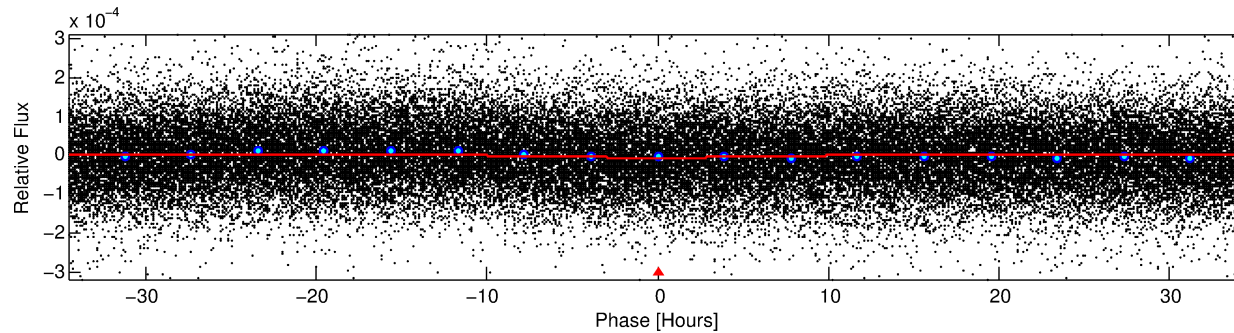
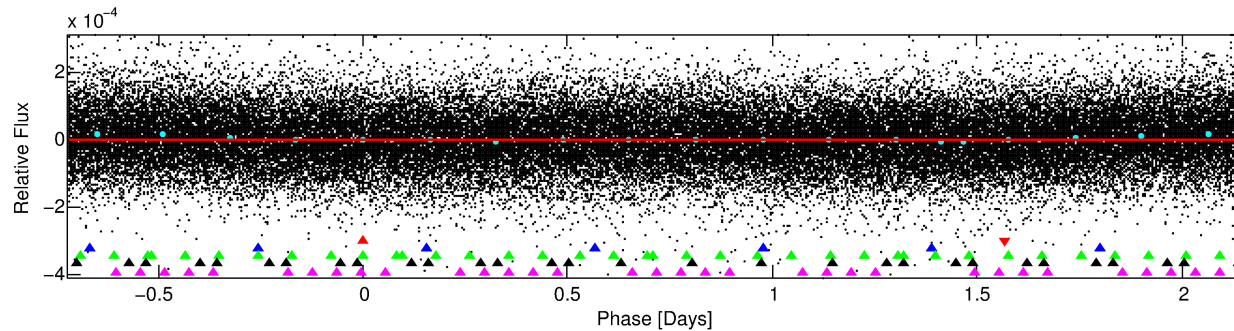
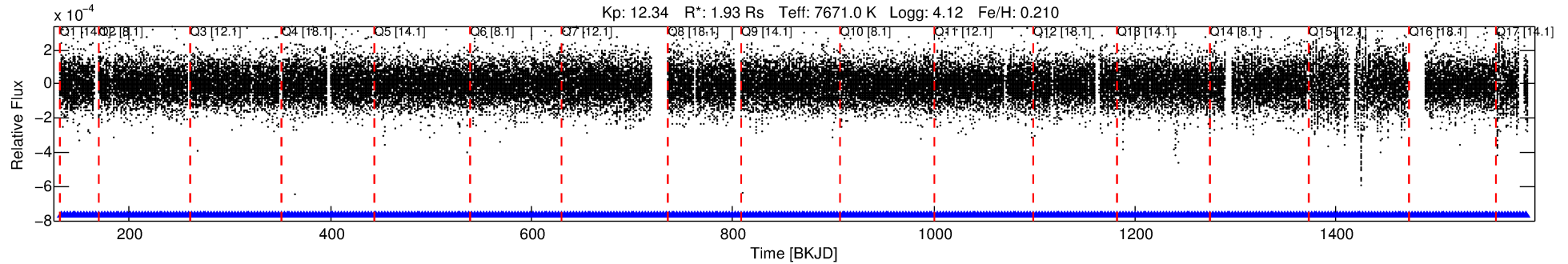
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

Ephemeris Match Information For 007200092-01

No Significant Match Found

# DV One-Page Summary

KIC: 7200092 Candidate: 1 of 5 Period: 2.877 d



## DV Fit Results:

Period = 2.87694 [0.00010] d  
Epoch = 132.4570 [0.0208] BKJD  
Rp/R\* = 0.0024 [0.0009]  
a/R\* = 1.07 [0.33]  
b = 0.89 [0.58]  
Seff = 4984.82 [1887.73]  
Teq = 2143 [203] K  
Rp = 0.49 [0.23] Re  
a = 0.0481 [0.0109] AU  
Ag = 37.59 [32.00] [1.14 $\sigma$ ]  
Teffp = 8203 [1650] K [3.65 $\sigma$ ]

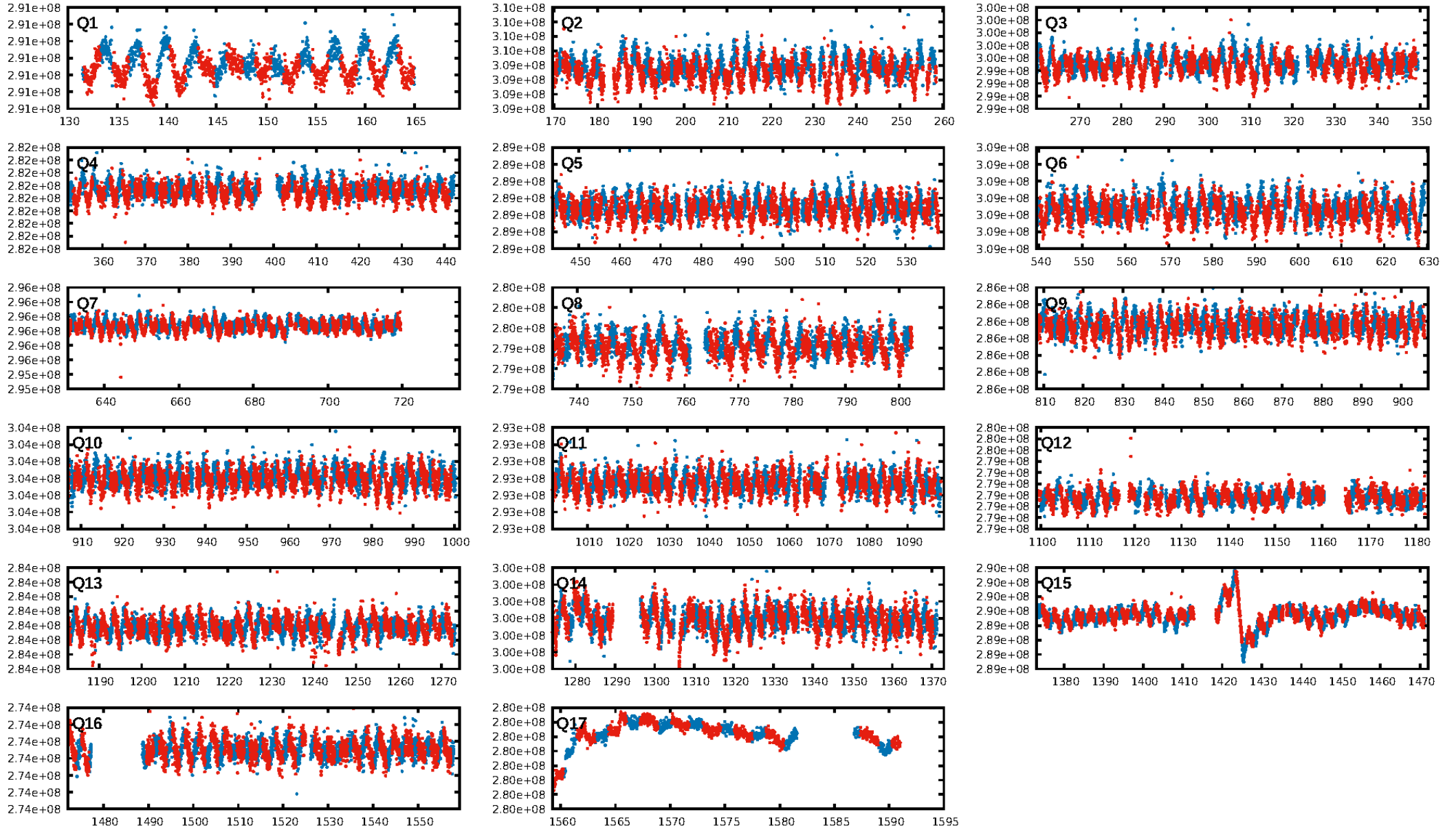
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: 100.0% [42.18 $\sigma$ ]  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: 2.94e-09  
RollingBand-fgt: 1.00 [459/459]  
GhostDiagnostic-chr: N/A  
Centroid-sig: N/A  
Centroid-so: N/A  
OotOffset-rm: 1.149 arcsec [3.20 $\sigma$ ]  
KicOffset-rm: 1.171 arcsec [3.27 $\sigma$ ]  
OotOffset-st: 3/4/2/3 [12]  
KicOffset-st: 3/4/2/3 [12]  
DiffImageQuality-fgm: 0.83 [10/12]  
DiffImageOverlap-fno: 1.00 [17/17]

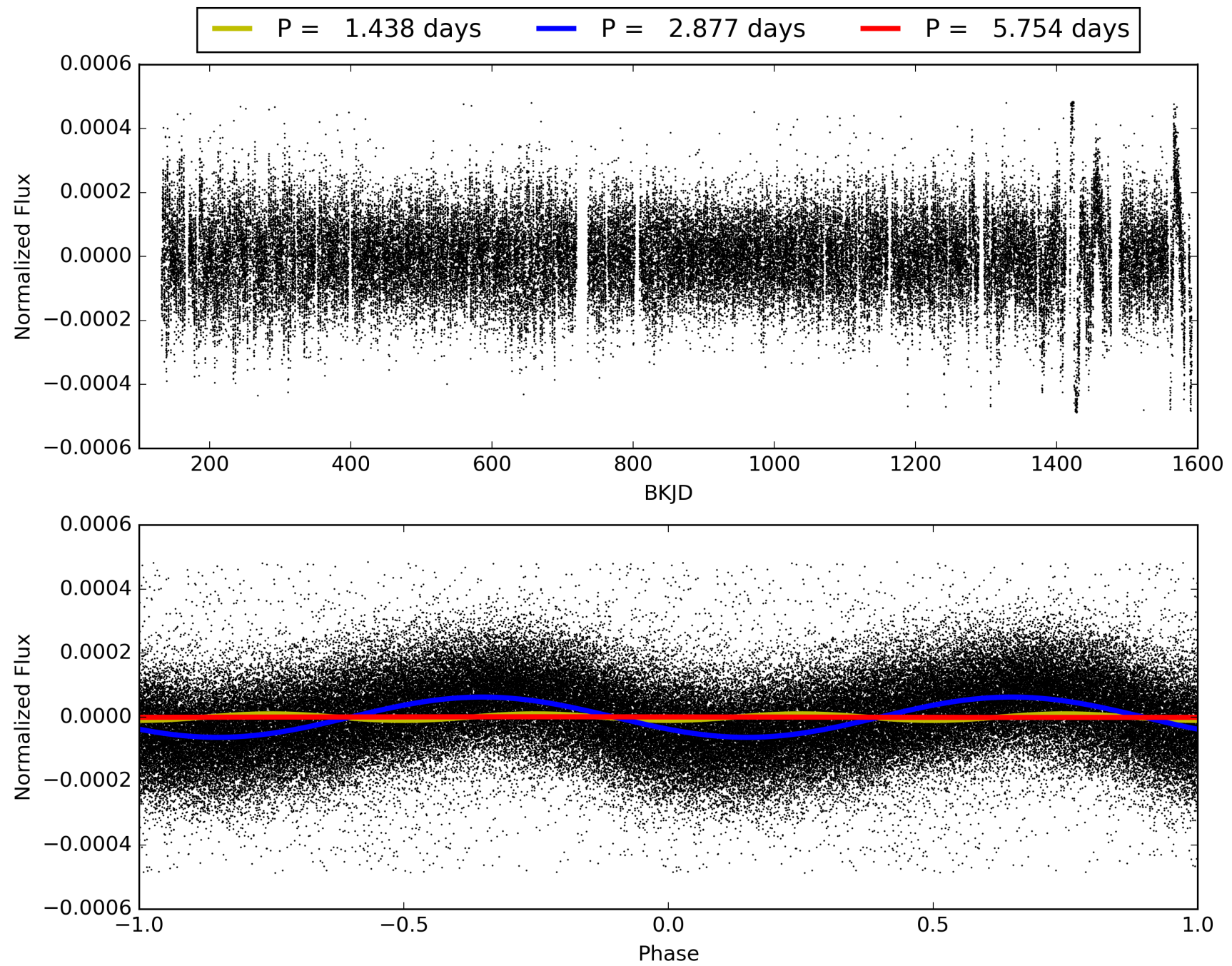
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 04:05:57 Z

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

# TCE 007200092-01, PDC Light Curves



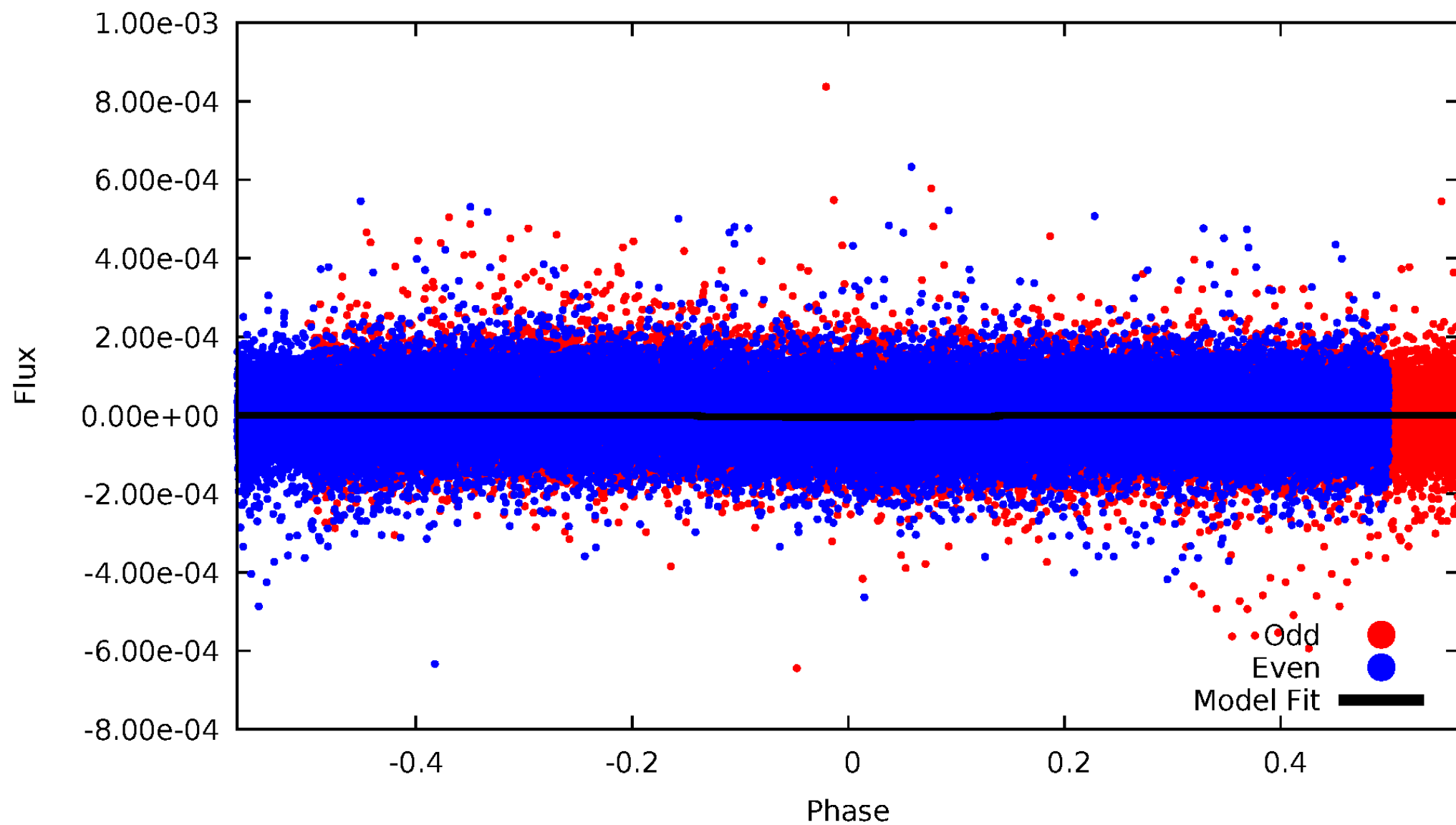
TCE 007200092-01





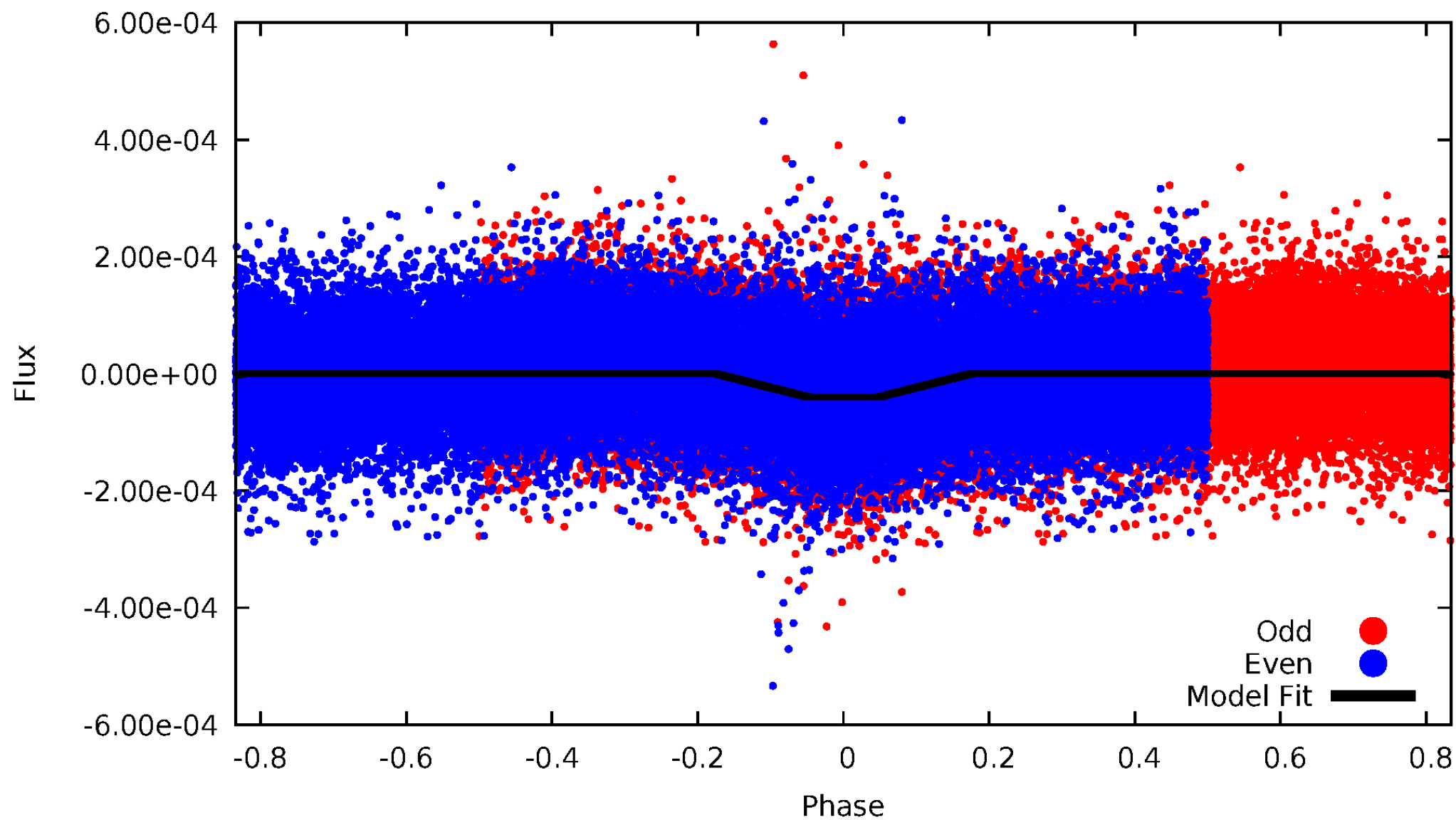
# DV Odd/Even

TCE 007200092-01



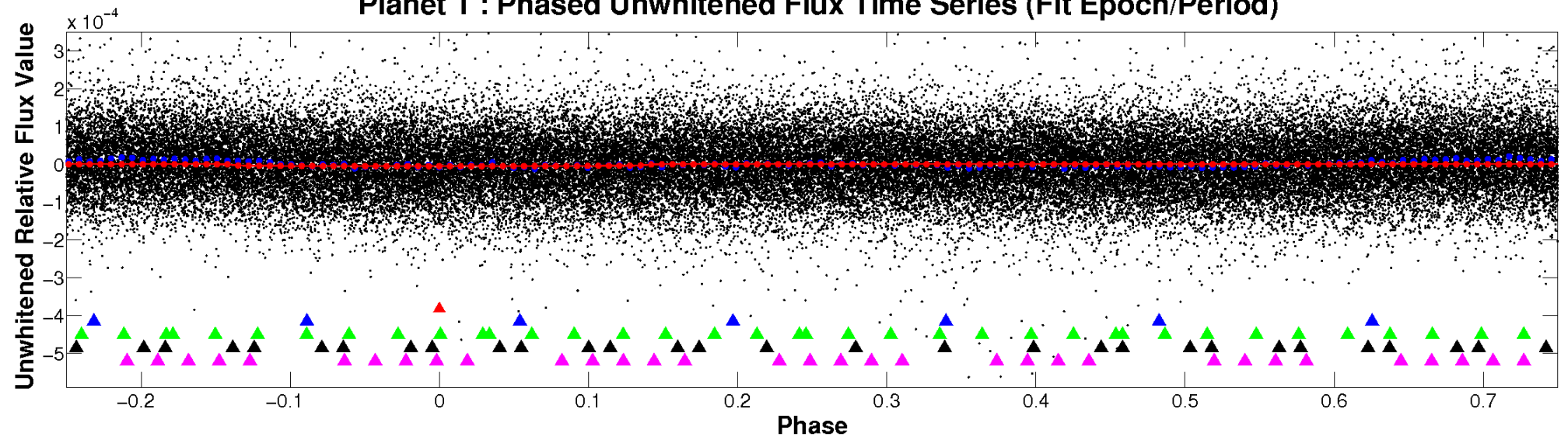
# ALT Odd/Even

TCE 007200092-01

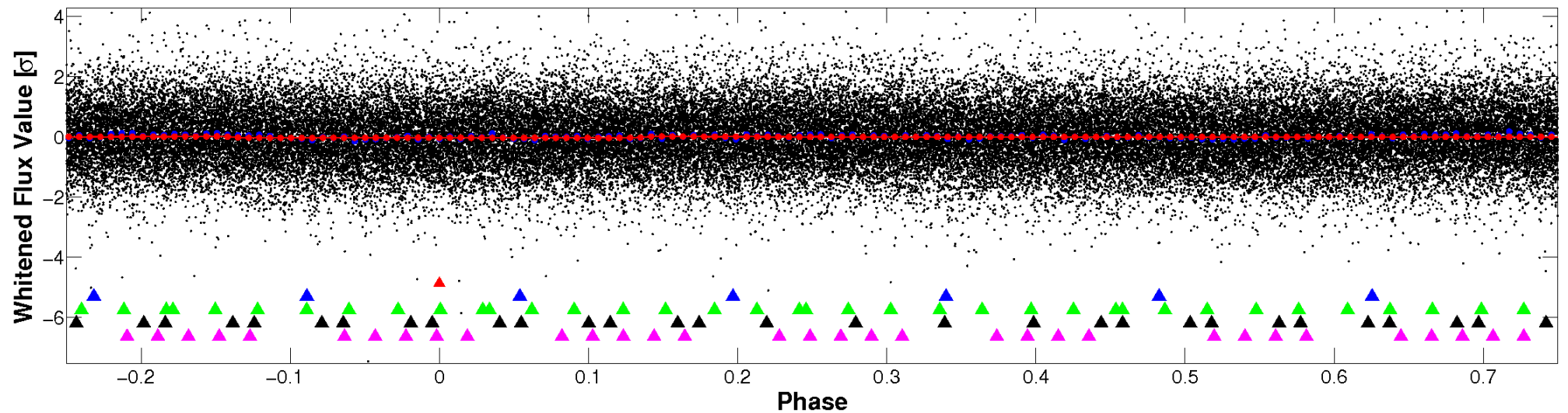


# Non-Whitened Vs. Whitened Light Curve

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

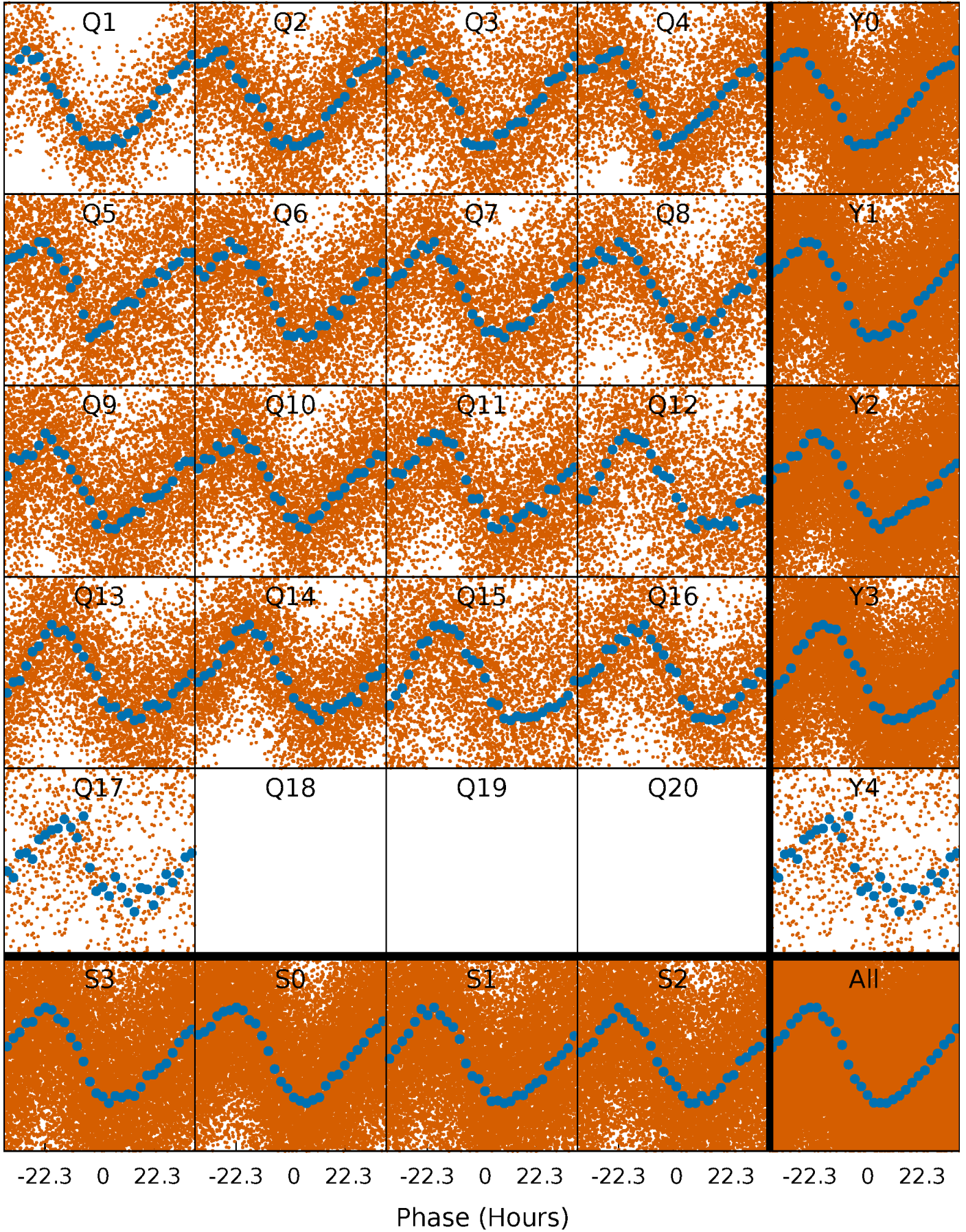


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



# PDC Quarter-Phased Transit Curves

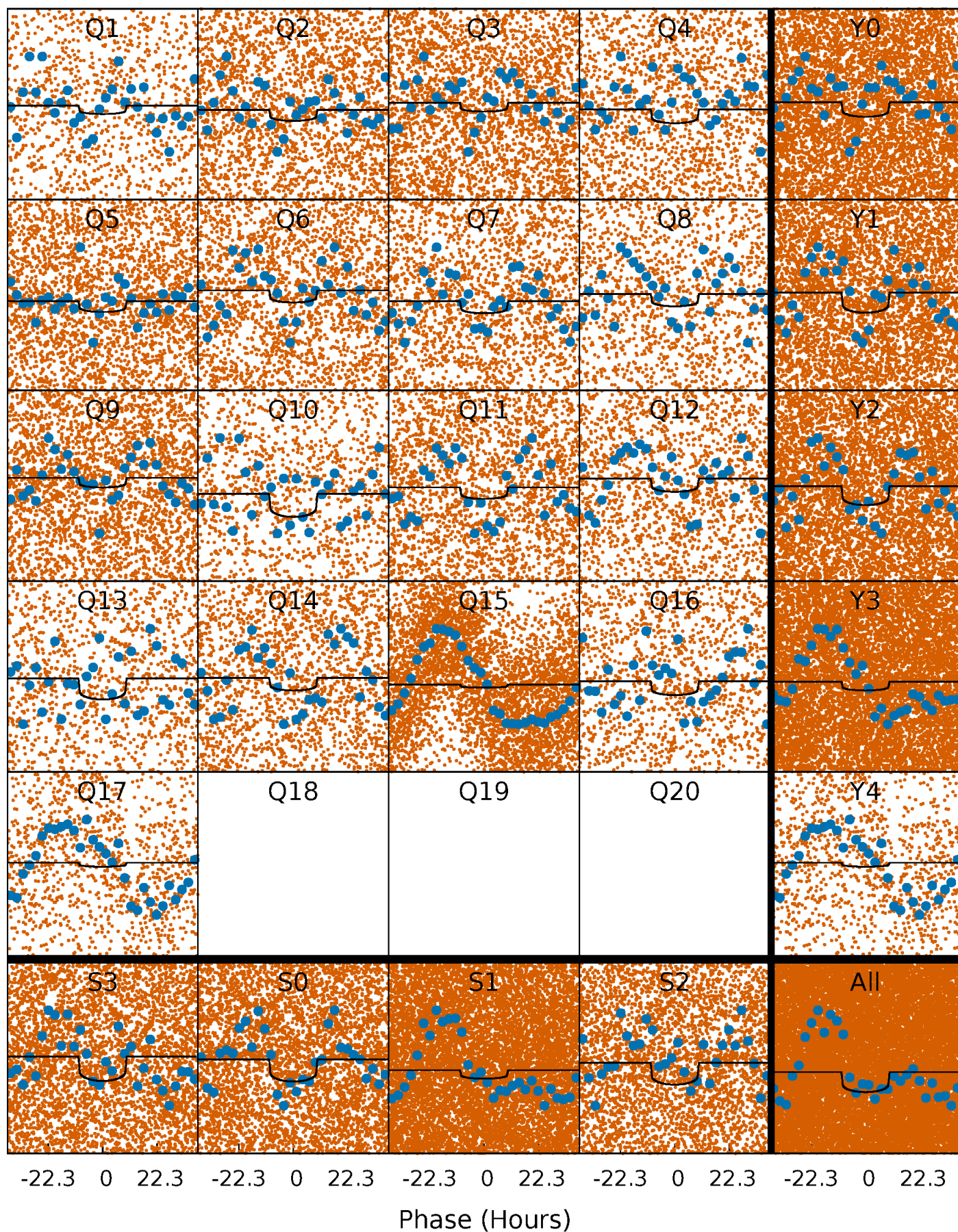
TCE 007200092-01 P= 2.876939 Days  $T_0=132.456951$  (BKJD)





# DV Quarter-Phased Transit Curves

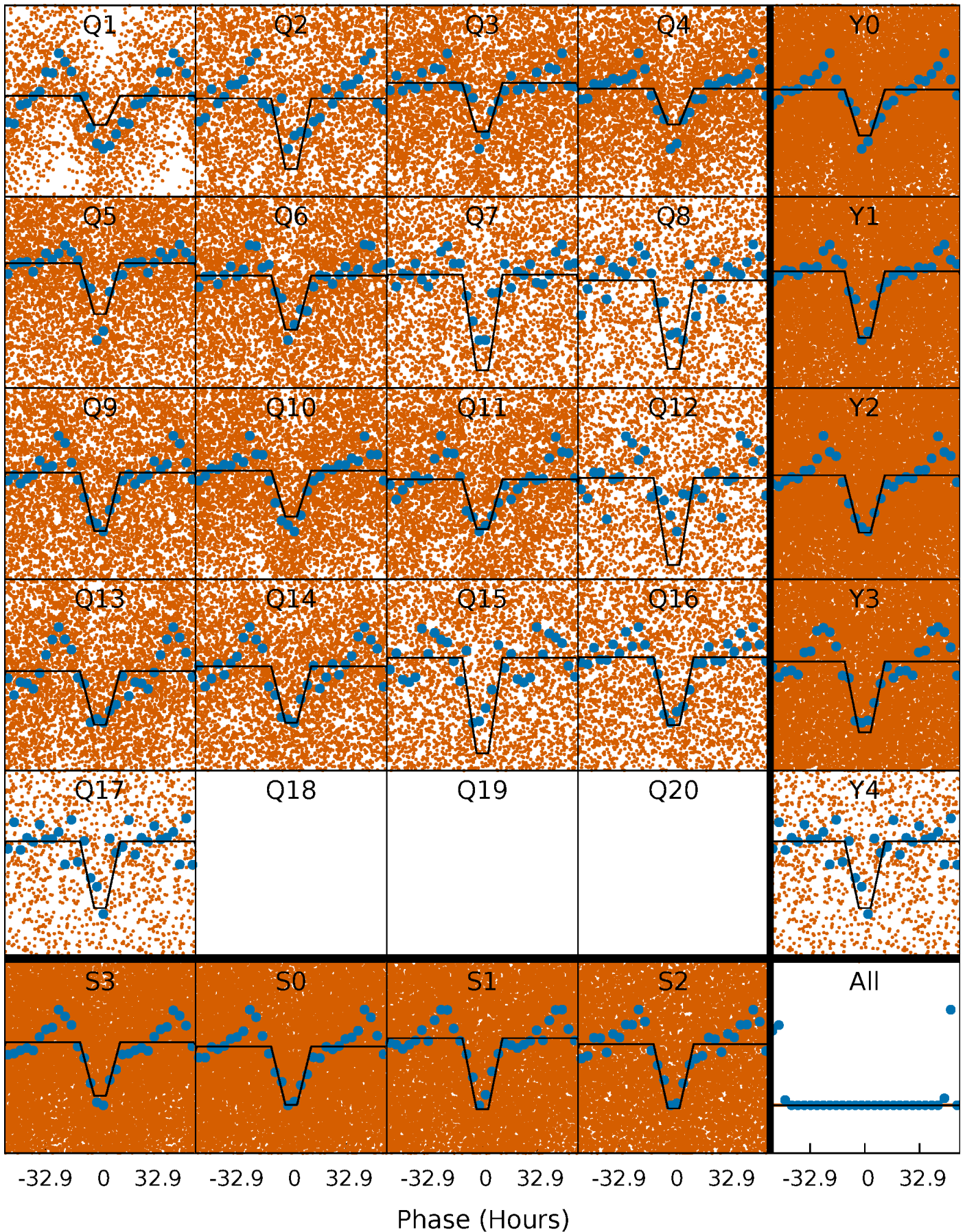
TCE 007200092-01 P= 2.876939 Days  $T_0=132.456951$  (BKJD)





# Alt. Detrend Quarter-Phased Transit Curves

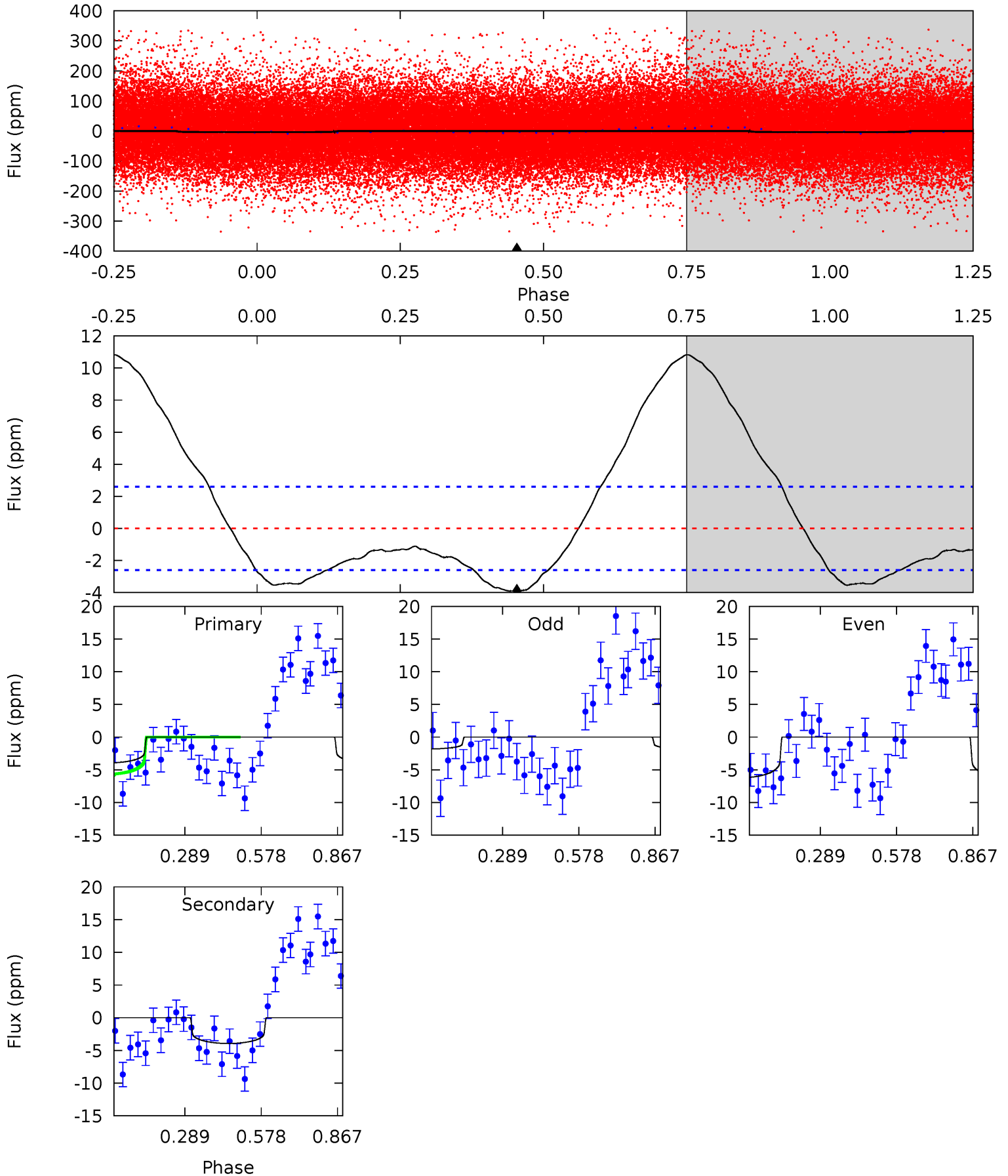
TCE 007200092-01 P= 2.878344 Days  $T_0=132.213255$  (BKJD)



# DV Model-Shift Uniqueness Test

007200092-01, P = 2.876939 Days, E = 129.580012 Days

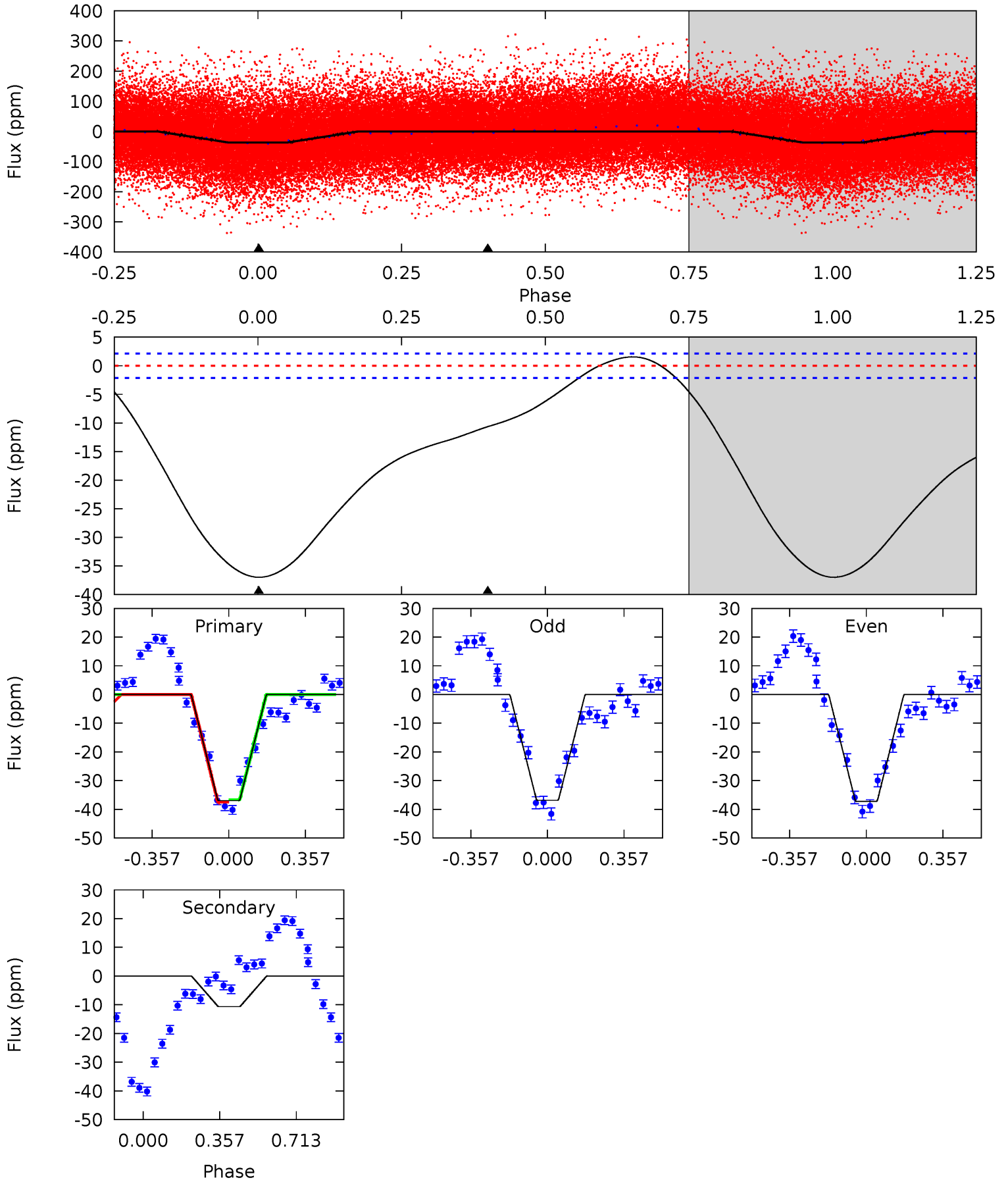
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.59	6.59	0	0	4.34	1.06	8.50	6.59	6.59	6.59	6.59	3.61	1.31	0.73	2.79



# Alt Model-Shift Uniqueness Test

007200092-01, P = 2.878344 Days, E = 129.334911 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
74.3	21.4	0	0	4.29	0.92	3.82	74.3	74.3	21.4	21.4	0.35	1.07	0.04	0.77





### Stellar Parameters For KIC 007200092

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M$ ( $M_{\odot}$ )	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$7671^{+214}_{-349}$	$4.121^{+0.098}_{-0.182}$	$0.210^{+0.150}_{-0.450}$	$1.927^{+0.519}_{-0.346}$	$1.790^{+0.181}_{-0.294}$	$0.353^{+0.195}_{-0.172}$
	+3%/-5%	+2%/-4%	+71%/-214%	+27%/-18%	+10%/-16%	+55%/-49%
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 007200092-01 / KOI

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{\text{max}}$ (K)	$T_{\text{obs}}$ (K)	$A_{\text{obs}}$
DV	$-4 \pm 1$	$0.52^{+0.19}_{-0.19}$	$3014^{+217}_{-188}$	$6793^{+2172}_{-1062}$	$18^{+28}_{-8}$
Alt.	$-11 \pm 0$	$1.36^{+0.26}_{-0.24}$	$3025^{+218}_{-187}$	$5398^{+428}_{-389}$	$7.256^{+3.330}_{-2.196}$

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

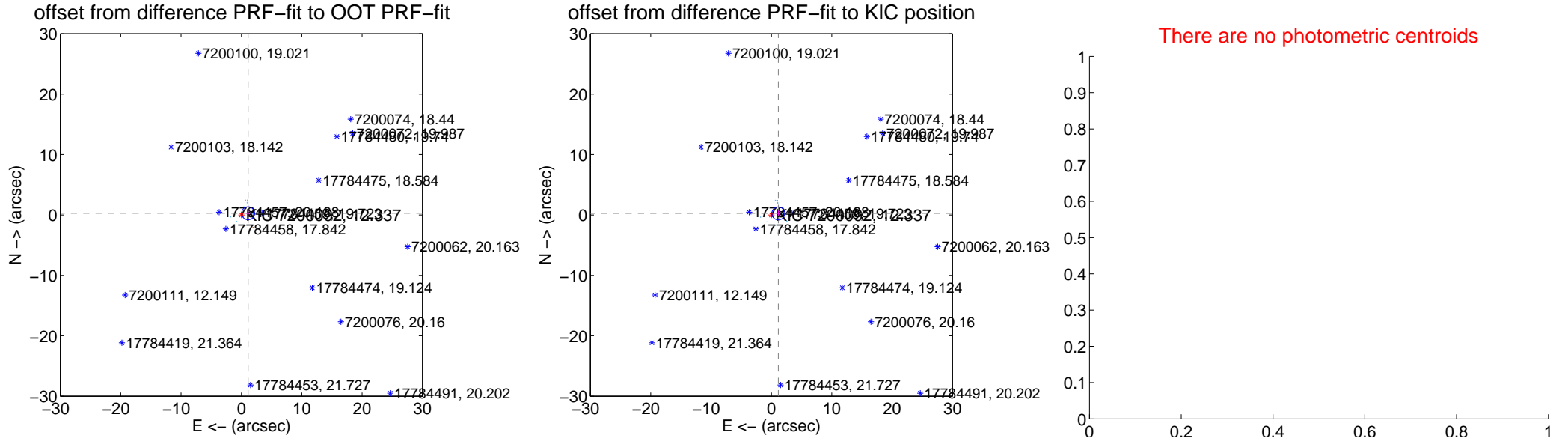
## DV Centroid Data

Supplemental centroid analysis for 007200092-01. Kepler magnitude: 12.34. Transit SNR 4.76

There are 10 quarters with good PRF difference image offsets

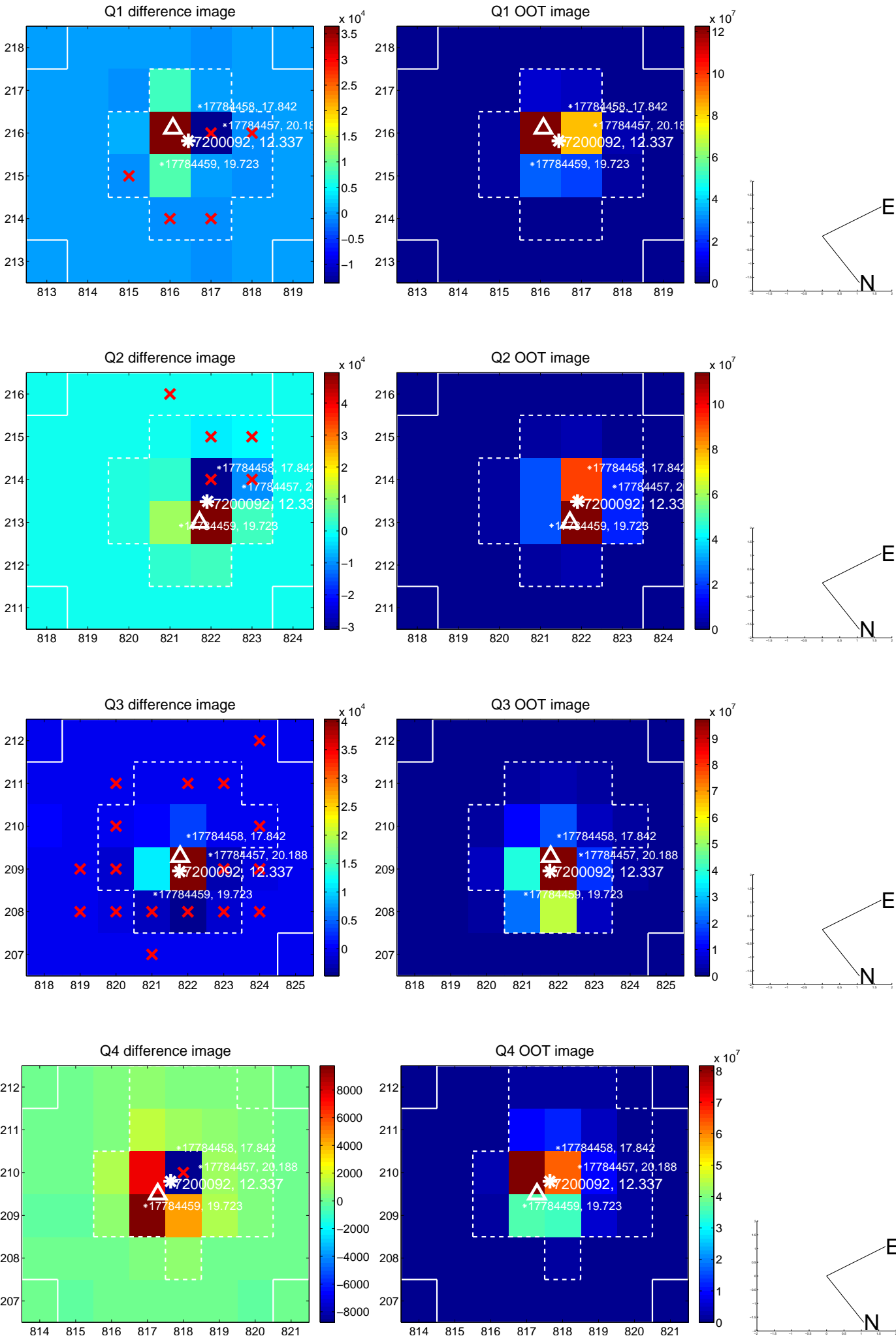
The direct PRF centroid is offset from the target star catalog position by about 0.04 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$1.149 \pm 0.359$	3.20	$-1.114 \pm 0.353$	$0.283 \pm 0.484$
PRF-fit source offset from KIC position	$1.171 \pm 0.357$	3.27	$-1.142 \pm 0.341$	$0.260 \pm 0.469$
photometric centroid source offset	—	—	—	—

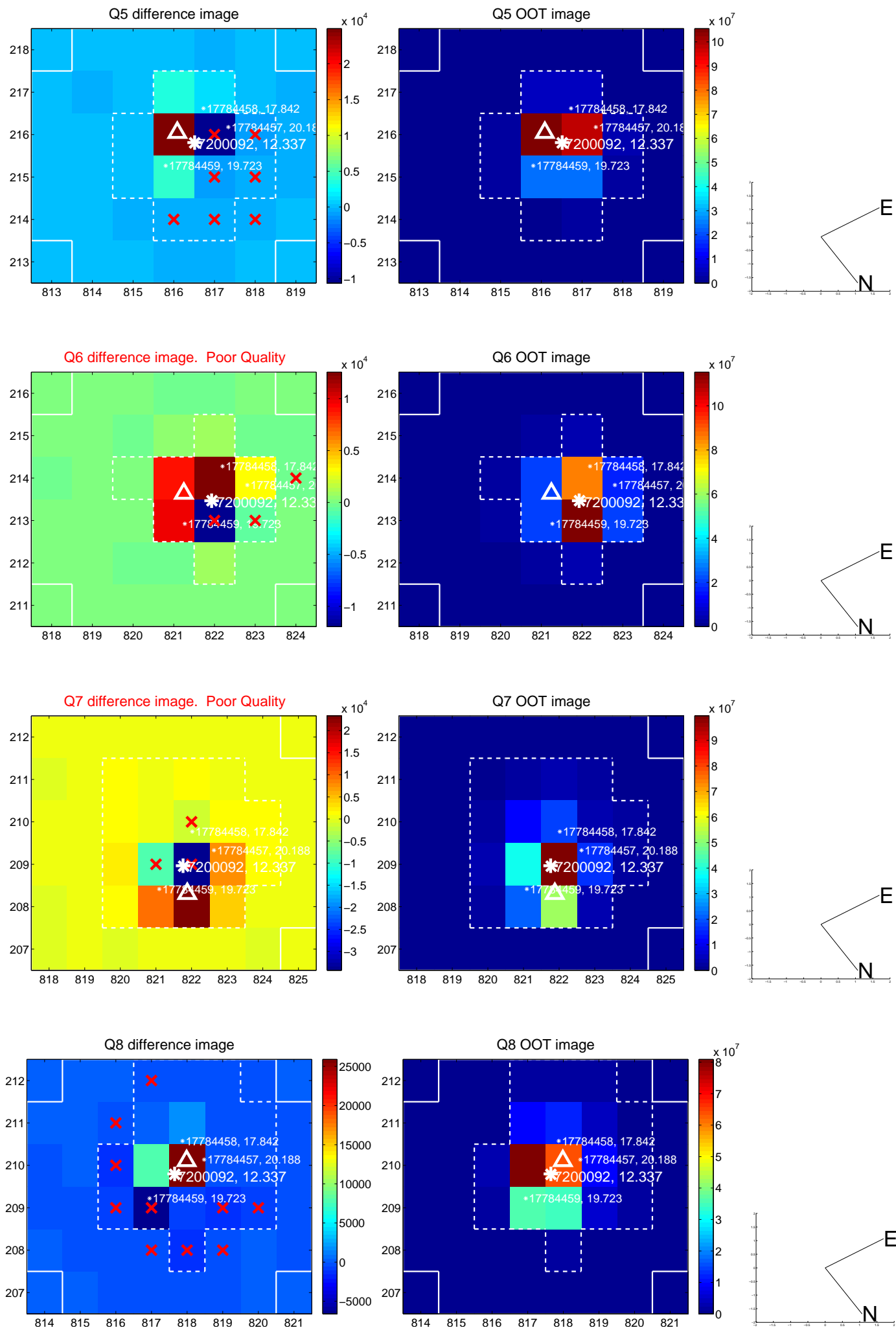


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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

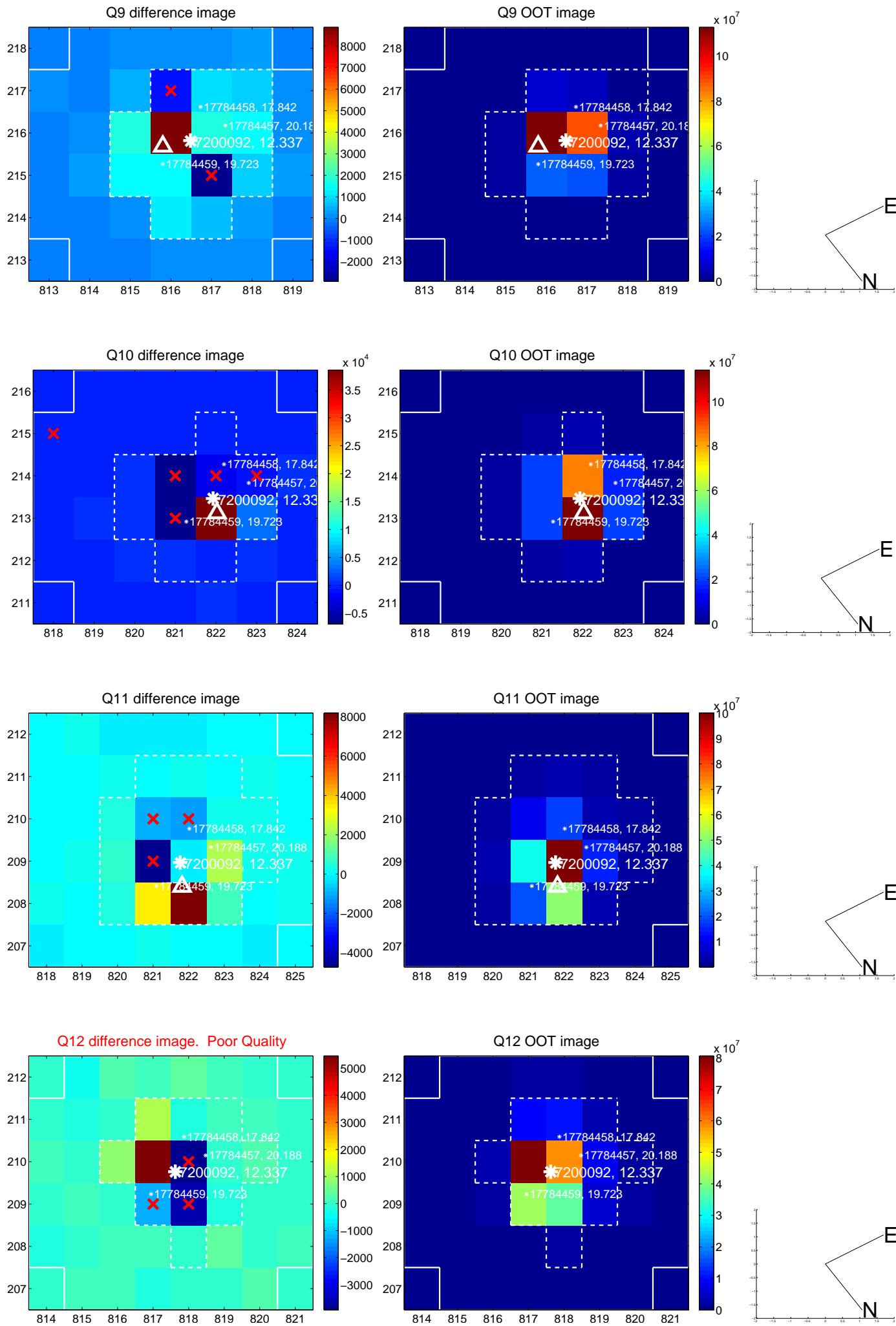


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

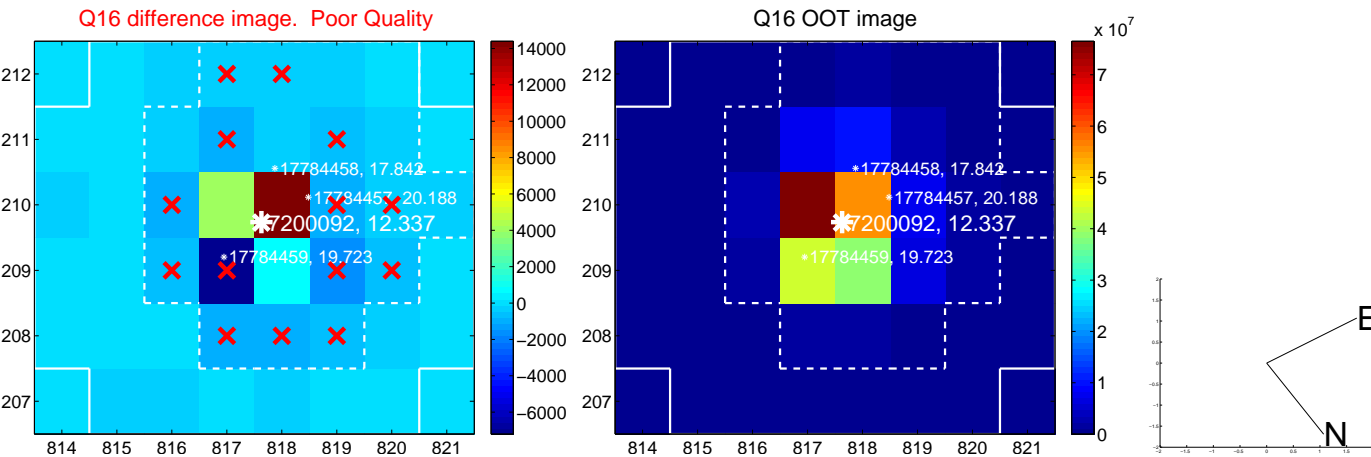
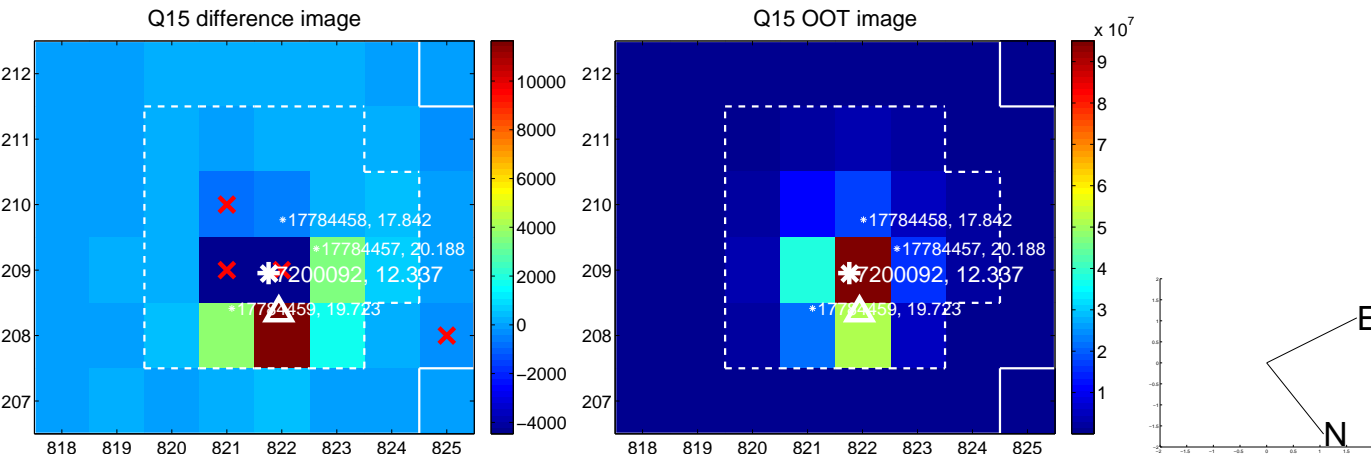
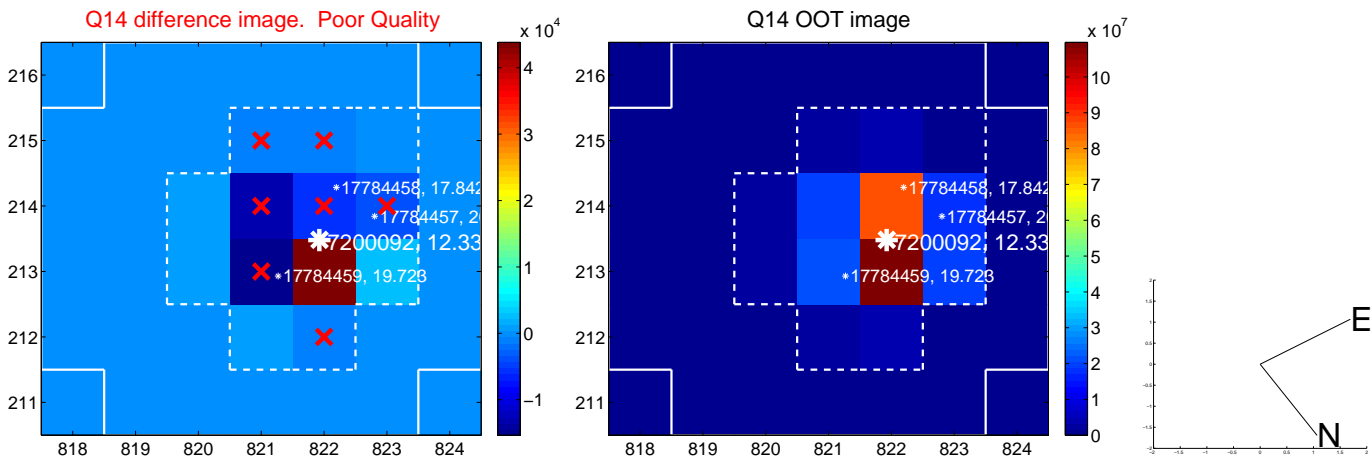
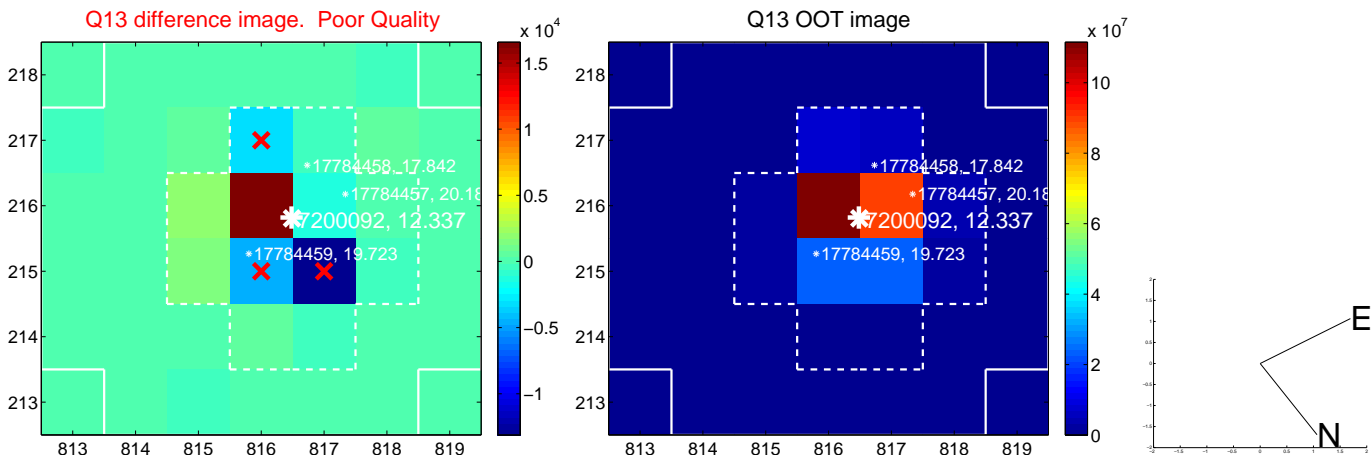




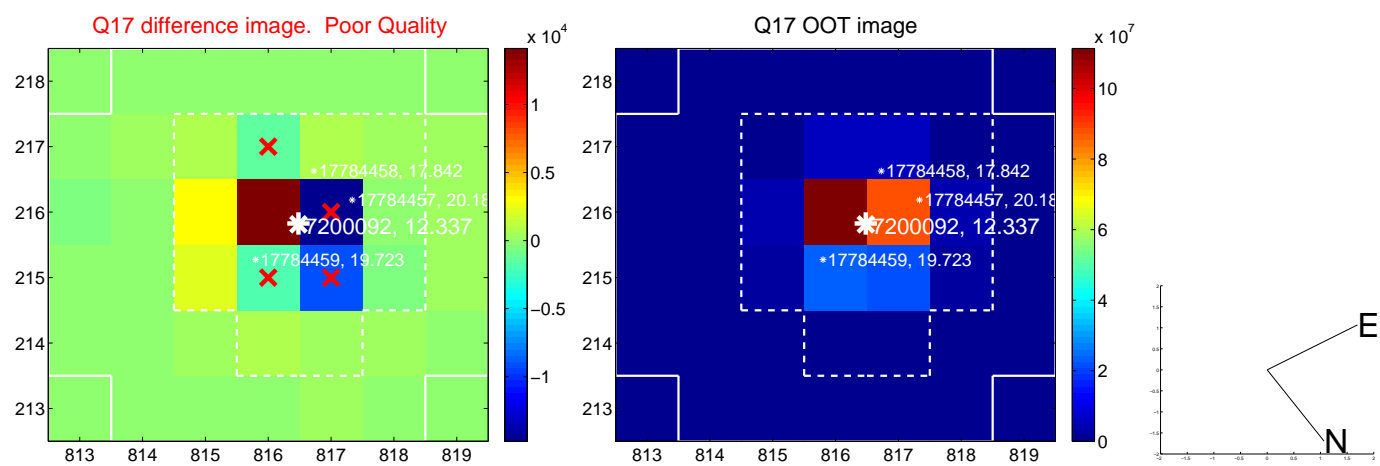
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



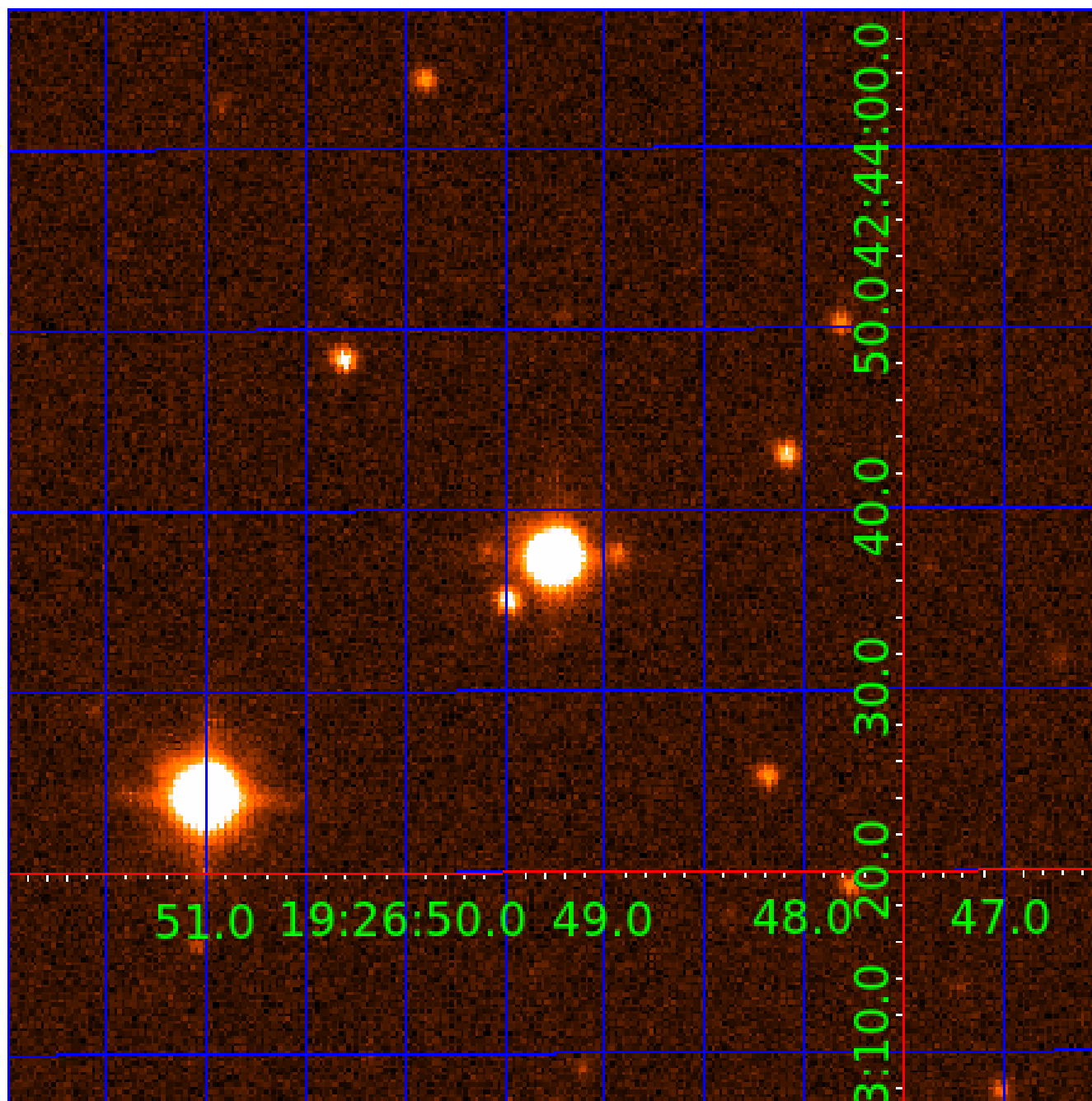
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



folded centroid time series figure for this object.

UKIRT Image

Declination





# KIC 007200092

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
007200092-01	OBS	No	2.876939	132.456951	5.0	19.520	9.8	4.8	1.93	7671	0.49	4984.82
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007200092-03	OBS	No	39.666500	136.651802	54.2	7.555	9.7	8.8	1.93	7671	1.59	150.77
007200092-04	OBS	No	49.079634	142.364509	166.9	0.943	8.9	9.8	1.93	7671	2.67	113.51
007200092-05	OBS	No	43.573542	168.835292	145.0	1.256	8.2	7.5	1.93	7671	2.66	133.02

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007200092-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—MOD_NONUNIQ_DV
007200092-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT
007200092-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
007200092-04	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_FEW_DIFFS
007200092-05	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_FEW_MEAS

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

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

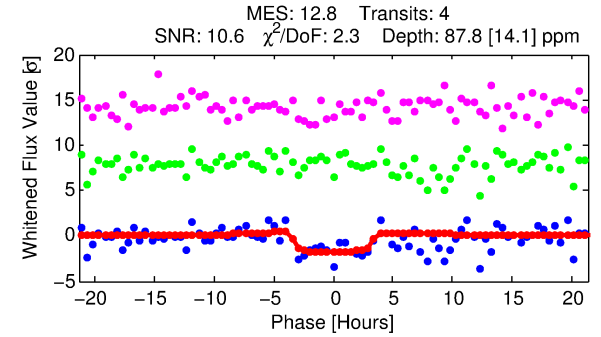
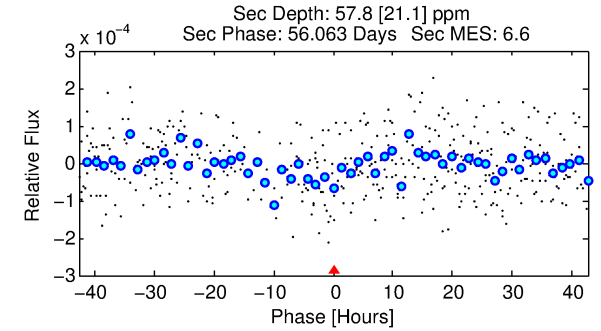
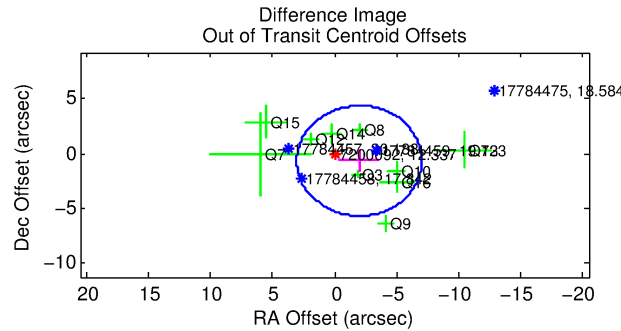
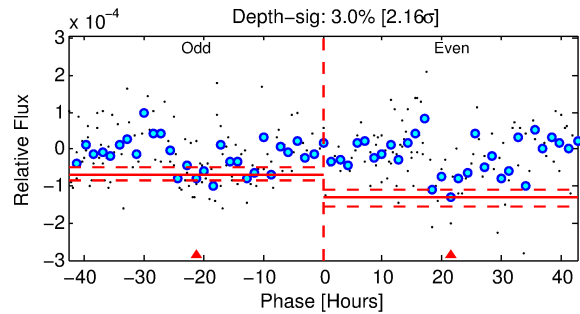
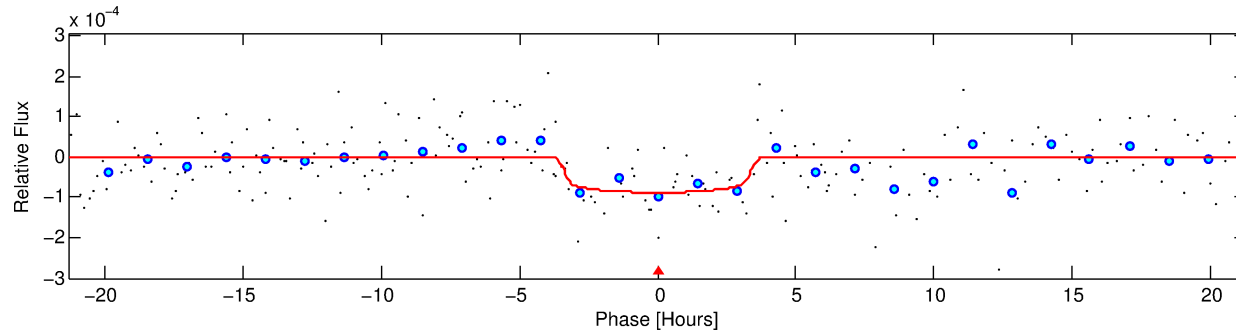
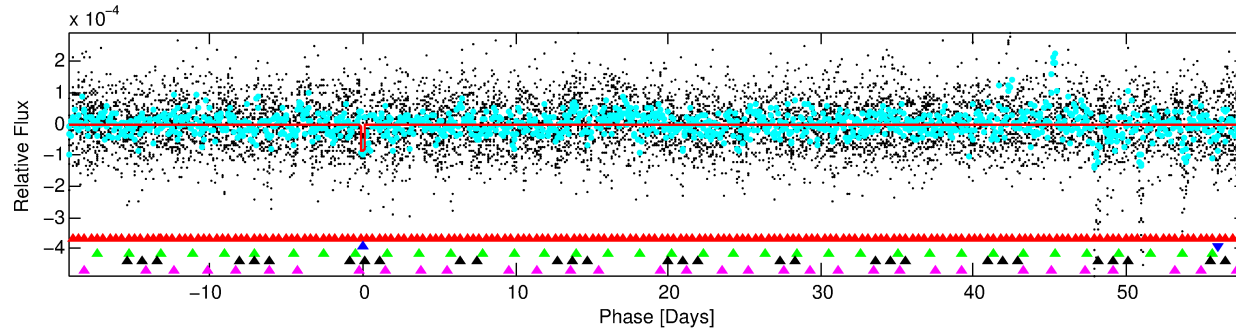
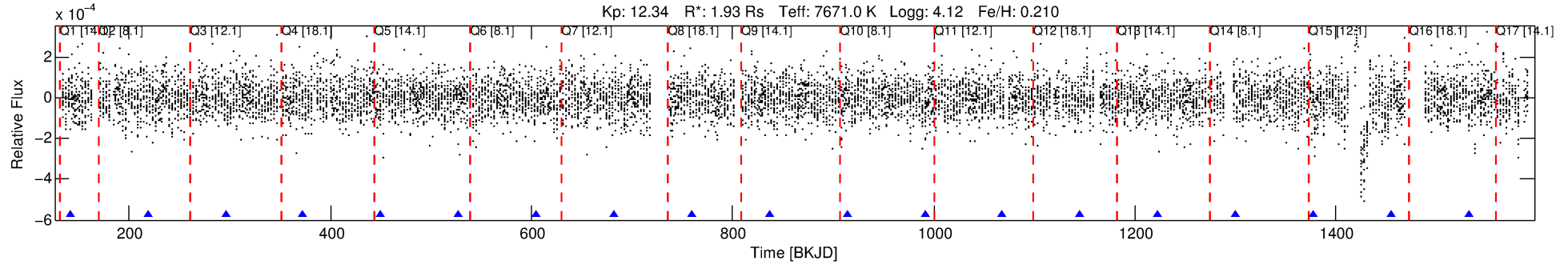
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 007200092-02

No Significant Match Found

# DV One-Page Summary

KIC: 7200092 Candidate: 2 of 5 Period: 77.266 d



## DV Fit Results:

Period = 77.26640 [0.00180] d  
Epoch = 141.2429 [0.0216] BKJD  
Rp/R\* = 0.0098 [0.0035]  
a/R\* = 41.58 [91.95]  
b = 0.88 [0.59]  
Seff = 61.98 [23.47]  
Teq = 715 [68] K  
Rp = 2.06 [0.93] Re  
a = 0.4311 [0.0981] AU  
Ag = 1393.81 [1218.00] [1.14 $\sigma$ ]  
Teffp = 6759 [1400] K [4.31 $\sigma$ ]

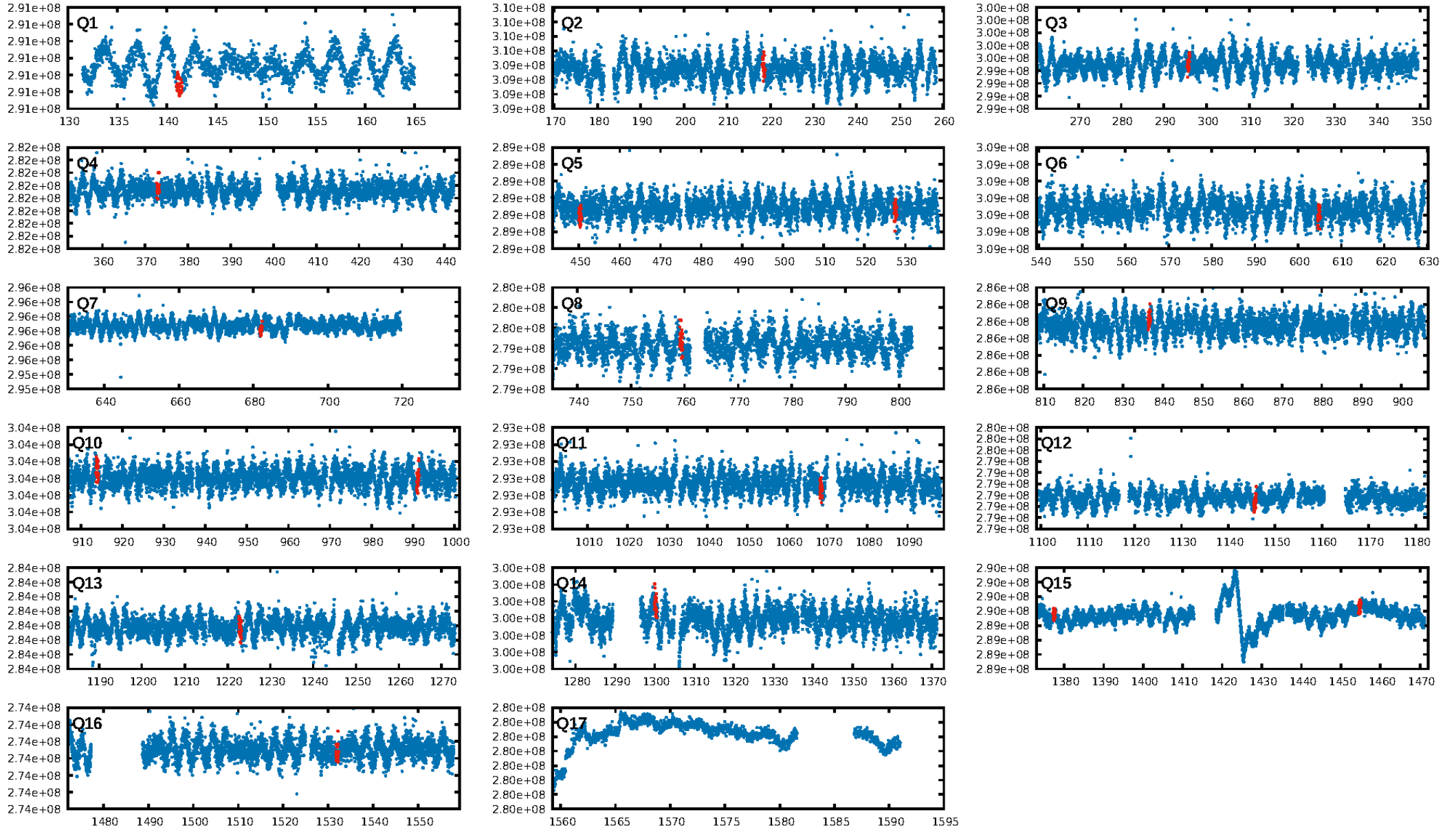
## DV Diagnostic Results:

ShortPeriod-sig: 100.0% [94.32 $\sigma$ ]  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 0.7%  
ModelChiSquareGof-sig: 45.6%  
**Bootstrap-pfa: 3.71e-12**  
RollingBand-fgt: 1.00 [4/4]  
GhostDiagnostic-chr: -3.779  
Centroid-sig: 0.5%  
Centroid-so: 1.538 arcsec [1.88 $\sigma$ ]  
OotOffset-rm: 2.092 arcsec [1.25 $\sigma$ ]  
KicOffset-rm: 2.113 arcsec [1.33 $\sigma$ ]  
OotOffset-st: 2/3/3/2 [10]  
KicOffset-st: 2/3/3/2 [10]  
DiffImageQuality-fgm: 0.20 [2/10]  
DiffImageOverlap-fno: 0.33 [5/15]

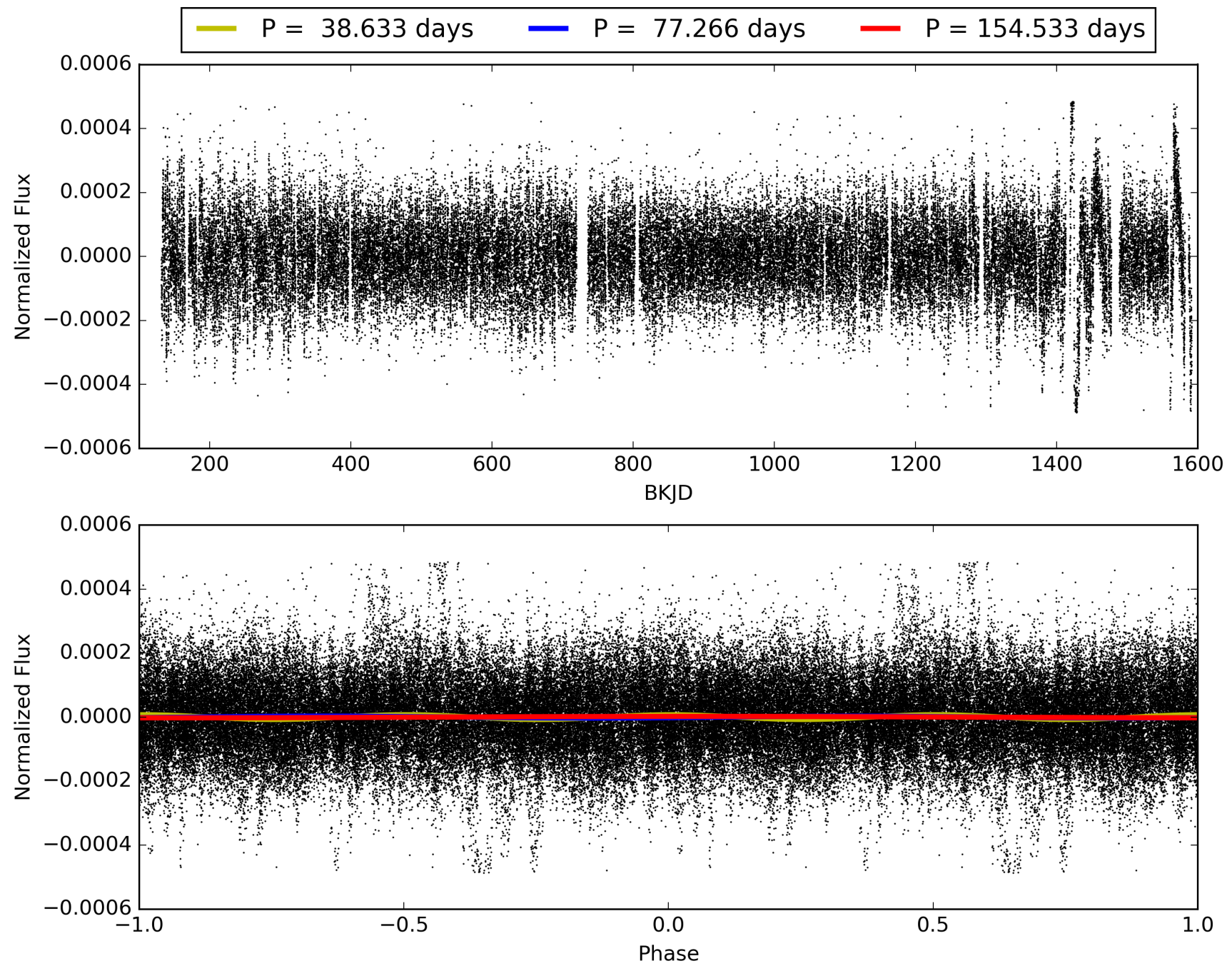
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 04:06:08 Z

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

# TCE 007200092-02, PDC Light Curves

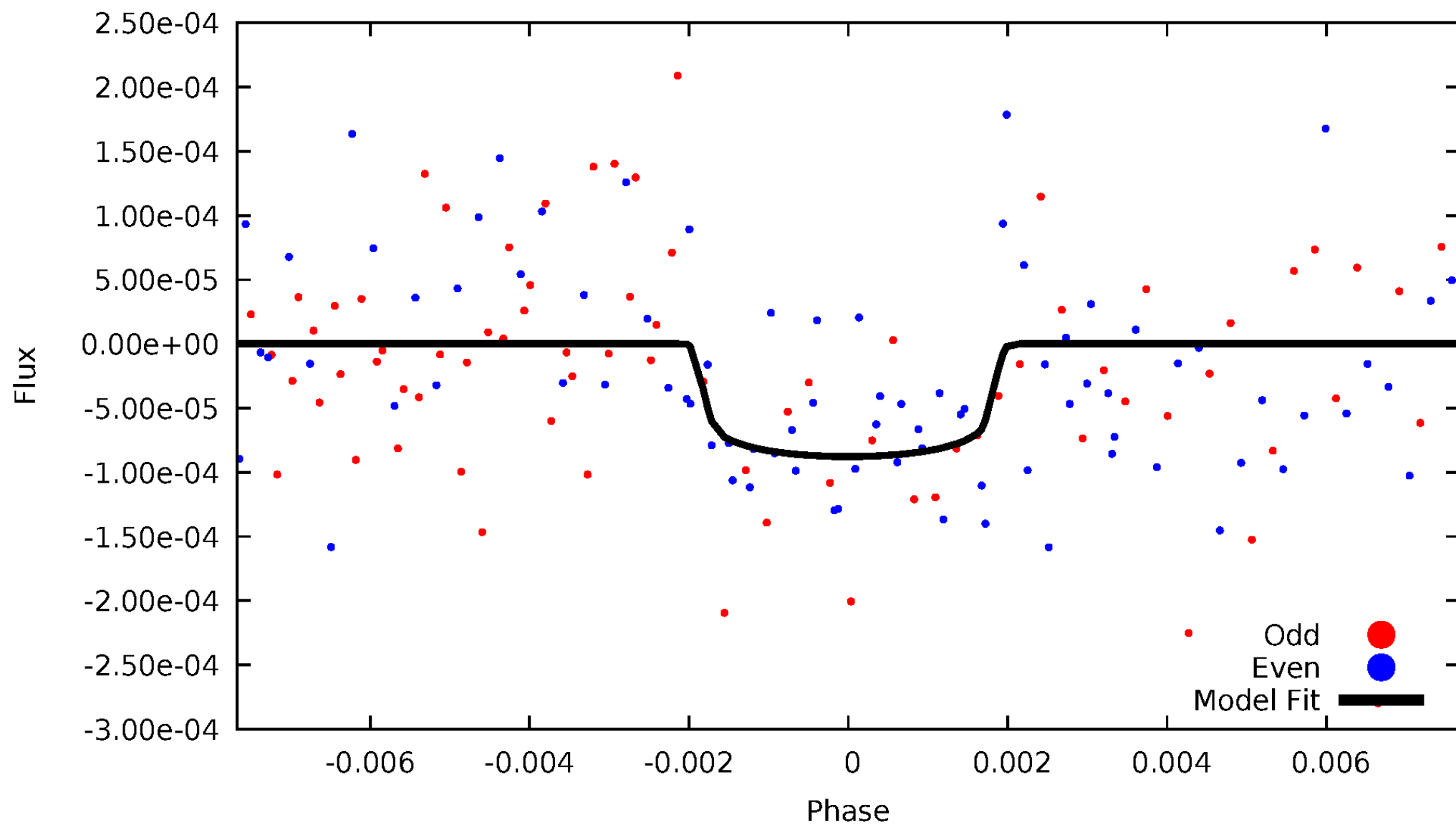


TCE 007200092-02



# DV Odd/Even

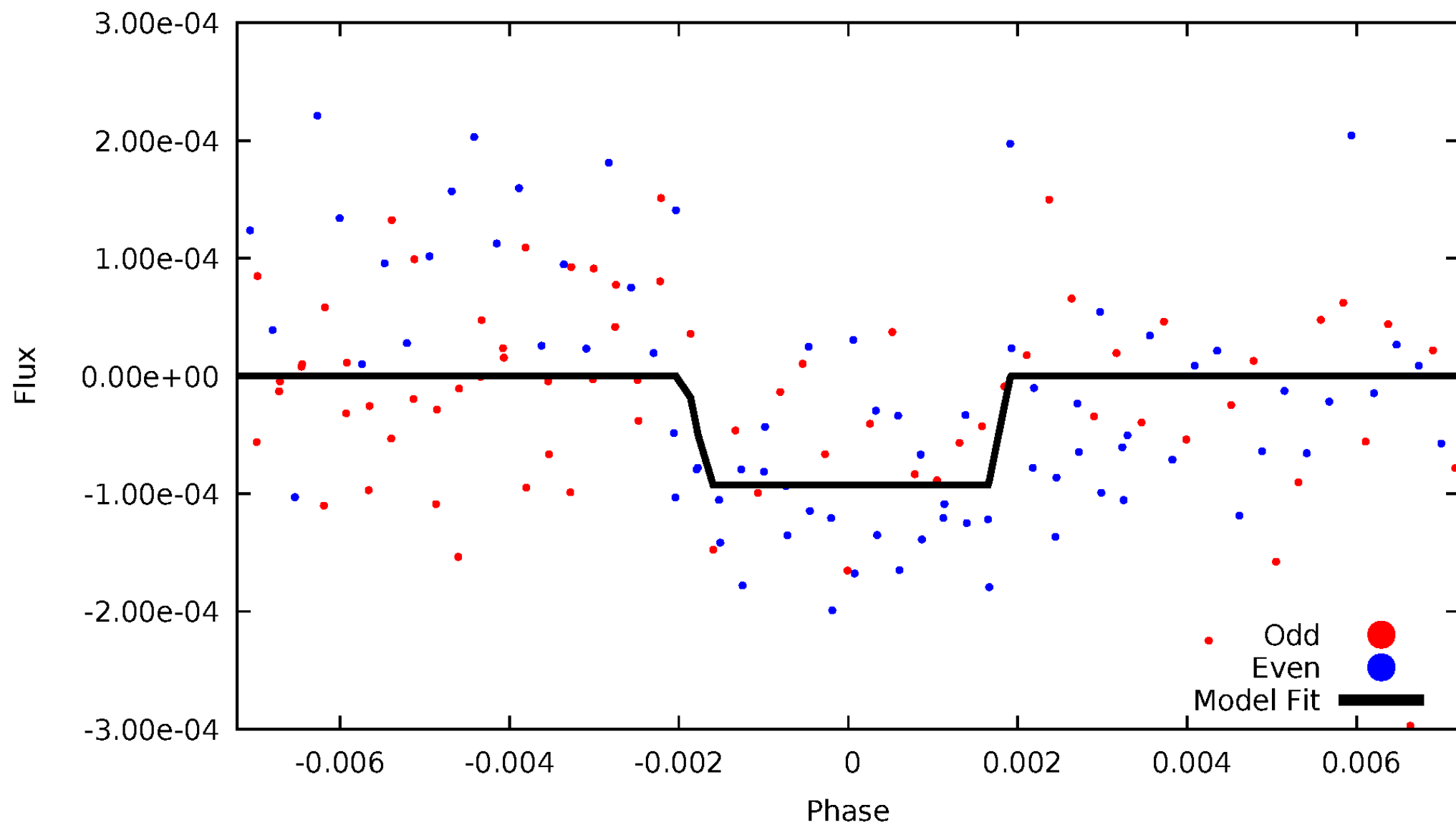
TCE 007200092-02





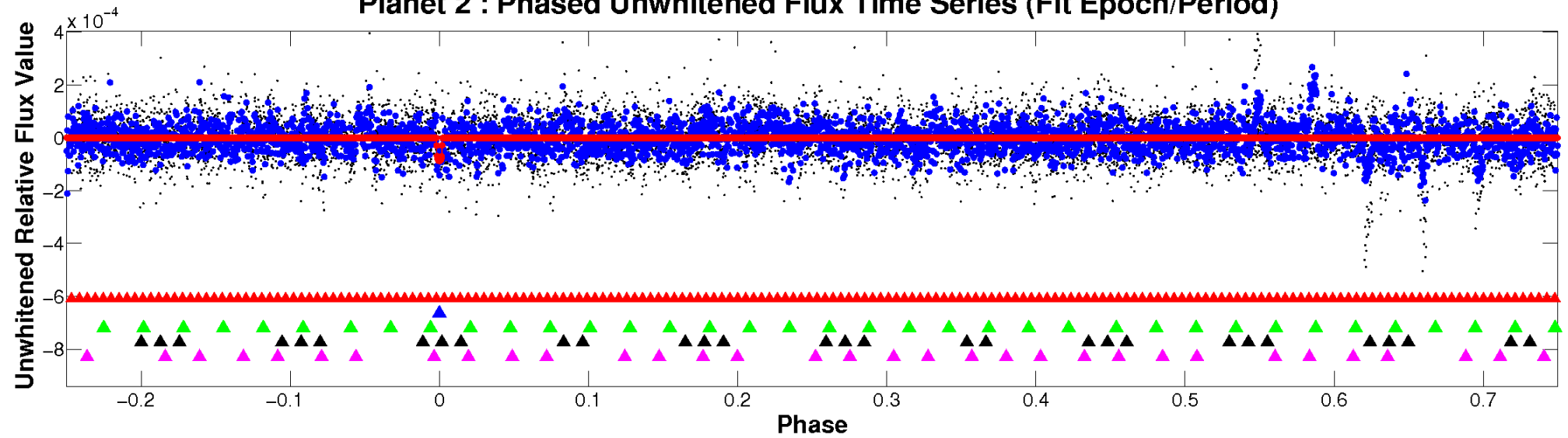
# ALT Odd/Even

TCE 007200092-02

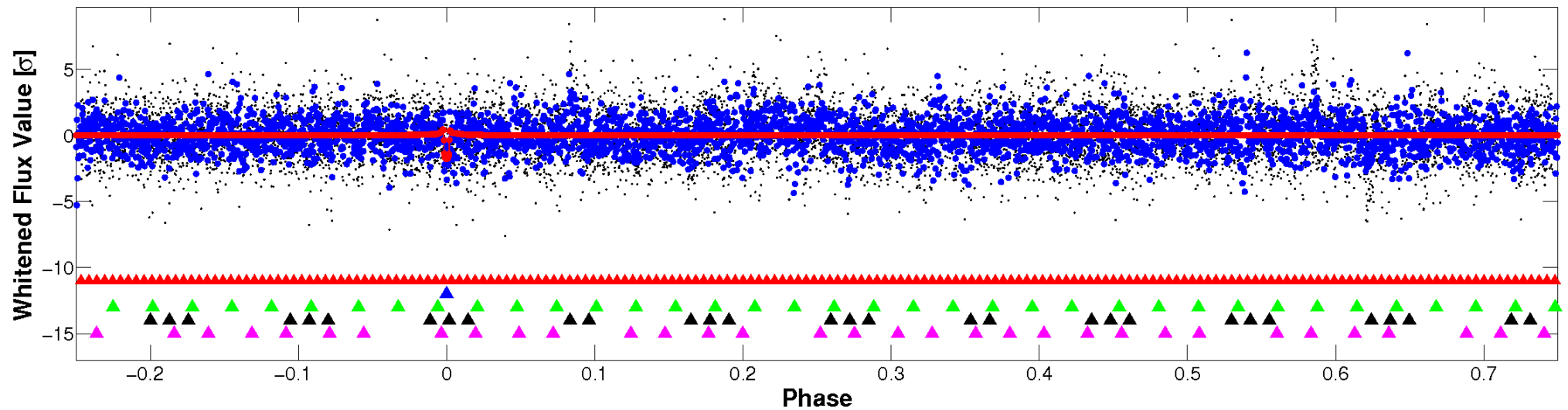


# Non-Whitened Vs. Whitened Light Curve

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

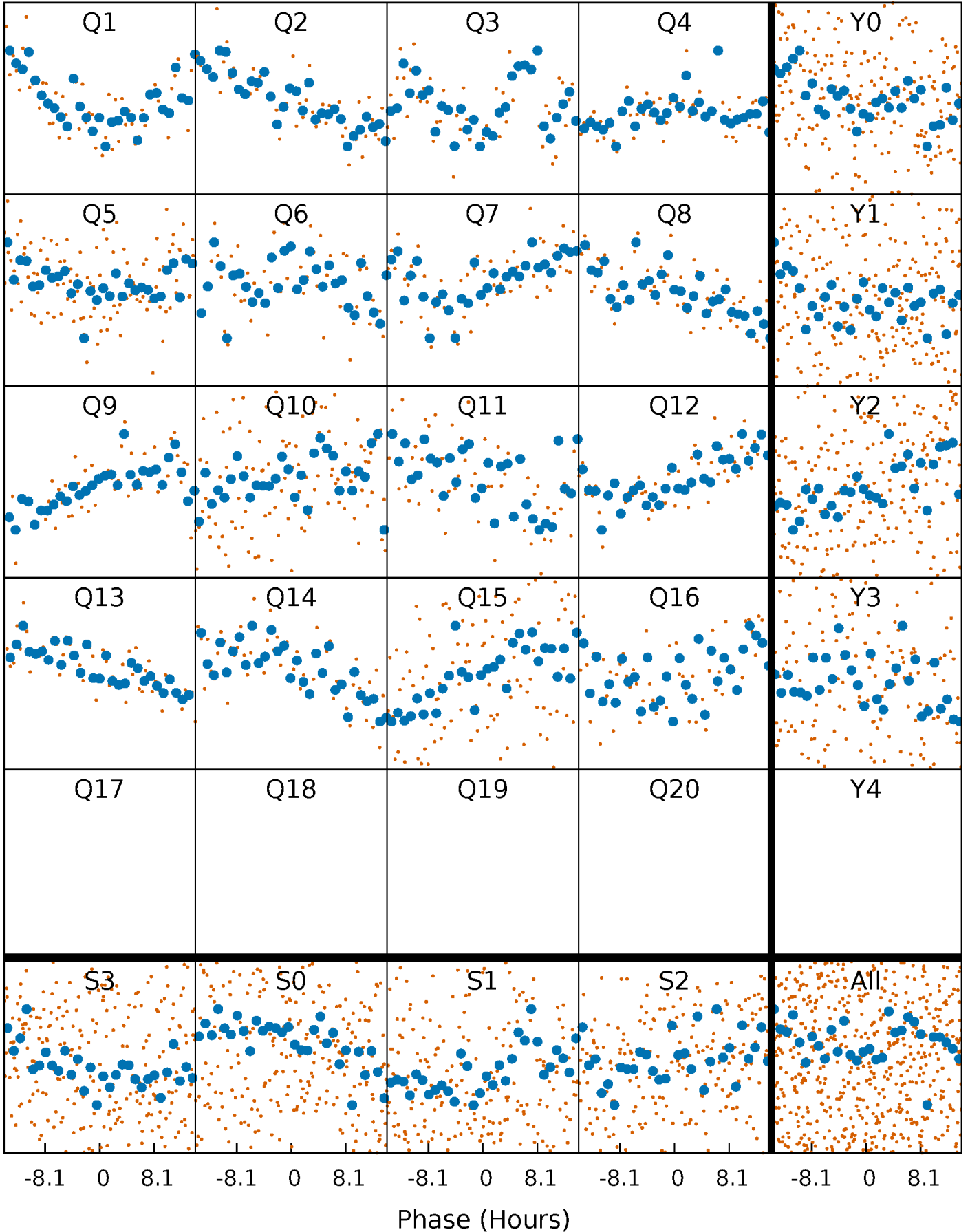


## Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



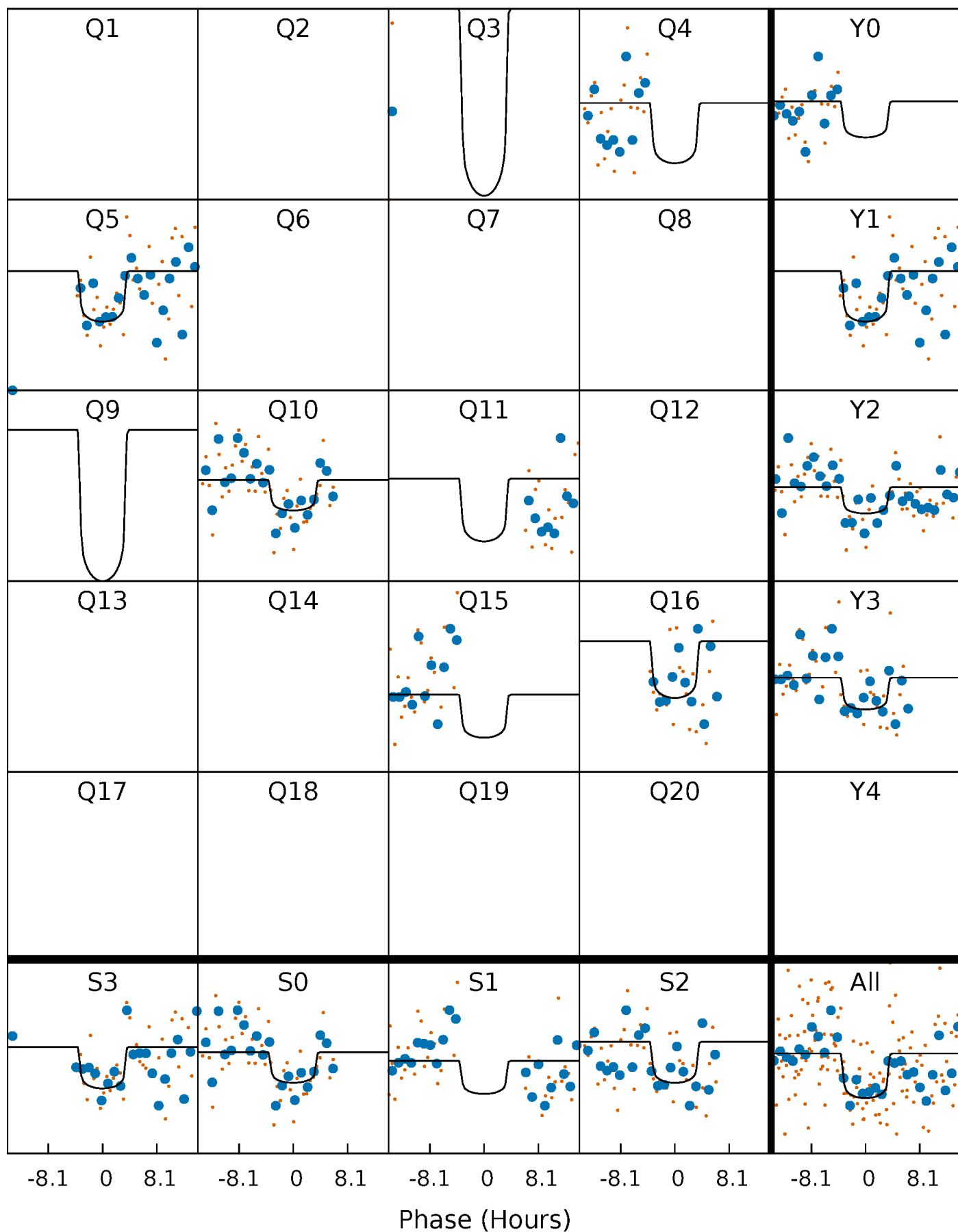
# PDC Quarter-Phased Transit Curves

TCE 007200092-02   P= 77.266405 Days    $T_0=141.242888$  (BKJD)



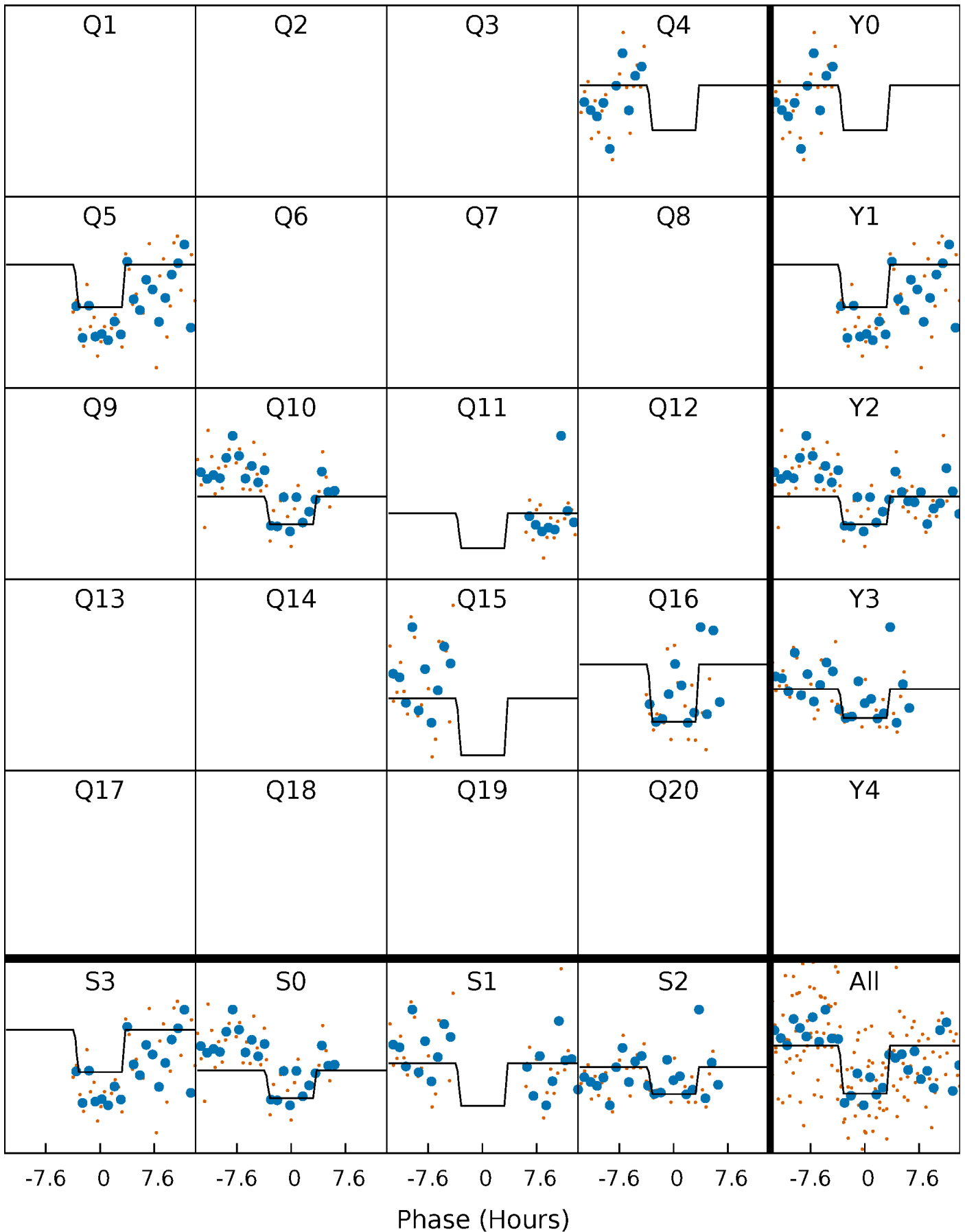
# DV Quarter-Phased Transit Curves

TCE 007200092-02   P= 77.266405 Days    $T_0=141.242888$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

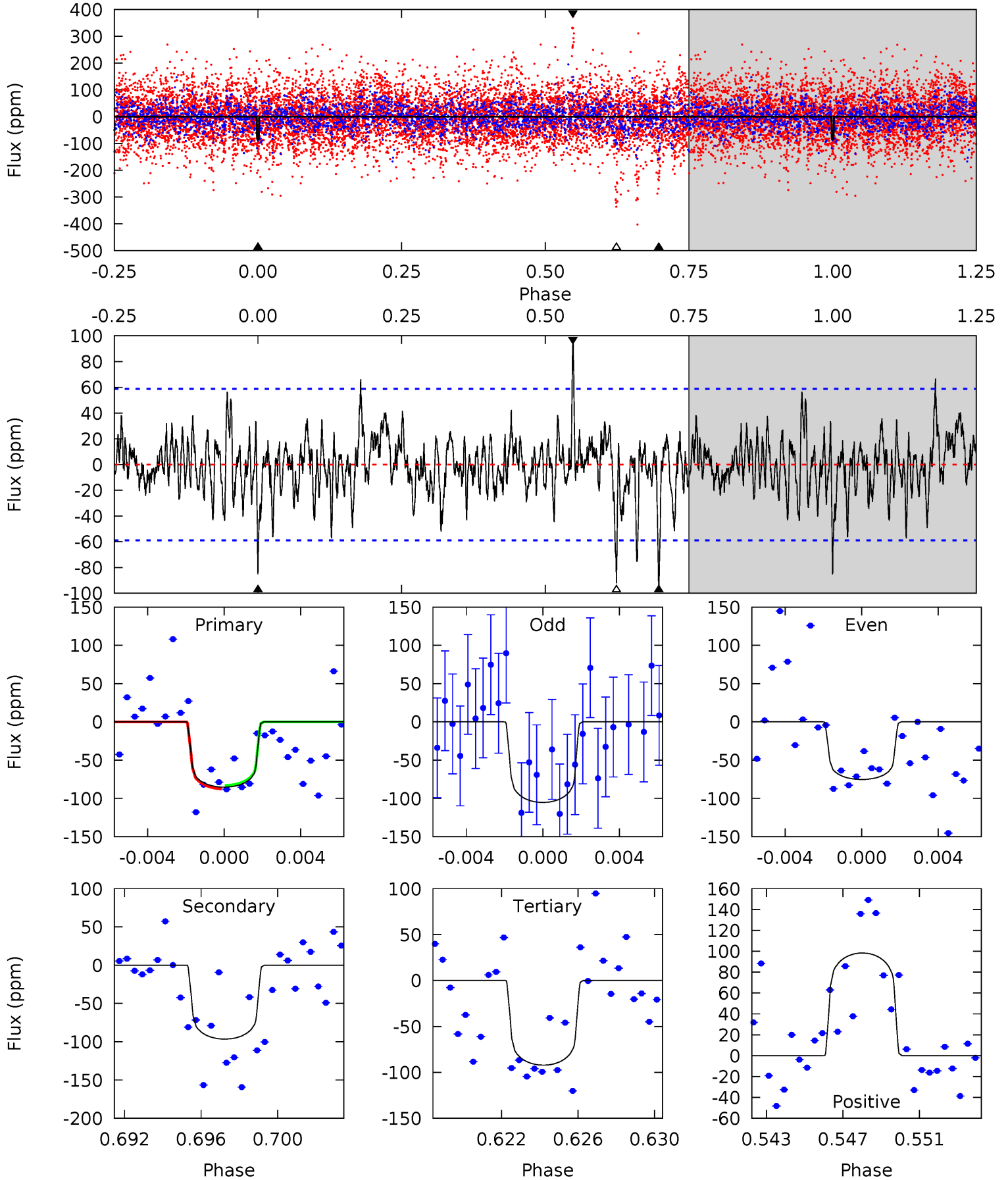
TCE 007200092-02     $P = 77.266751$  Days     $T_0 = 141.242430$  (BKJD)



# DV Model-Shift Uniqueness Test

007200092-02, P = 77.266405 Days, E = 63.976483 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
7.52	8.52	8.13	8.68	5.19	2.87	1.73	-0.61	-1.15	0.39	-0.16	1.12	1.10	0.50	0.20

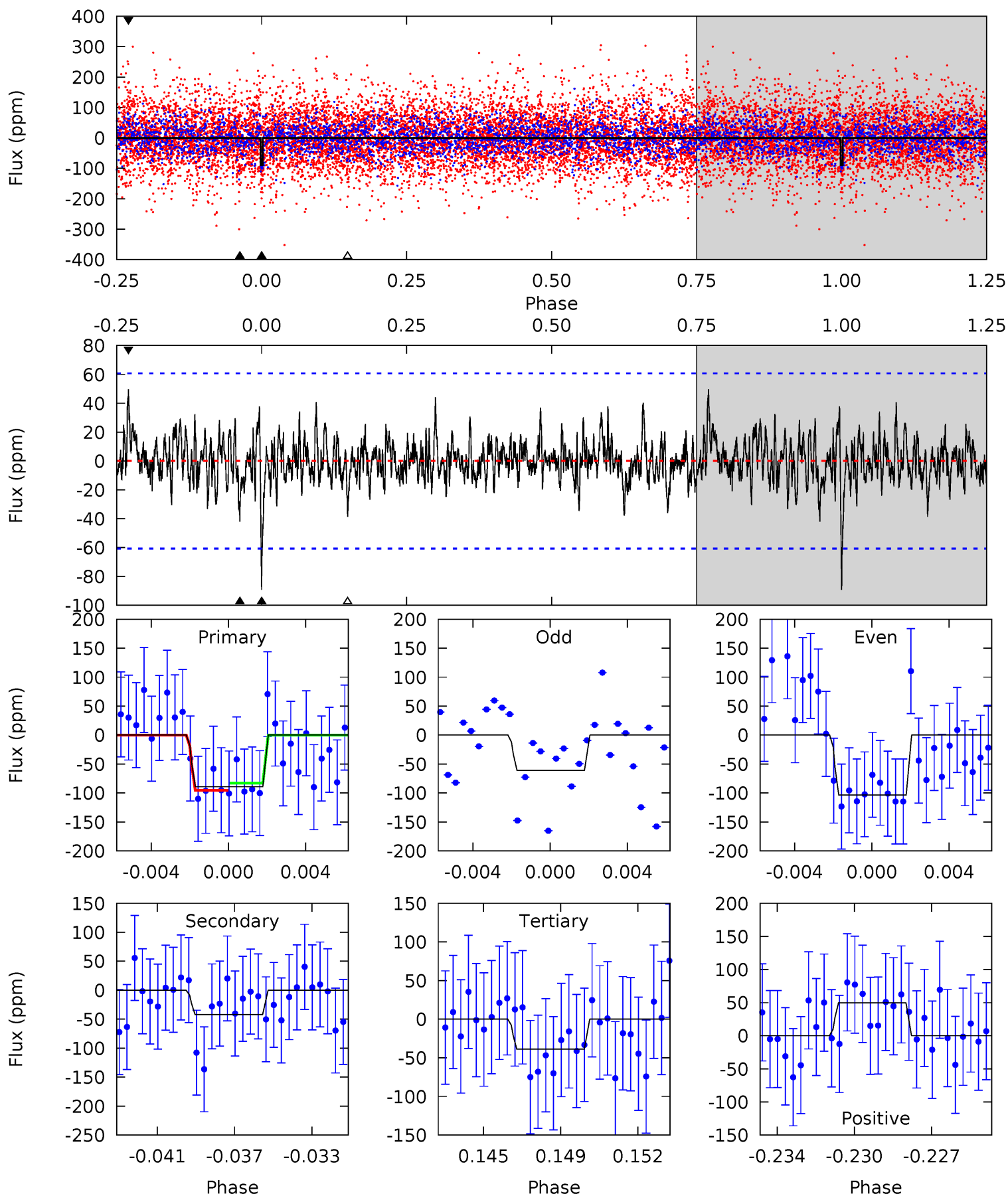




# Alt Model-Shift Uniqueness Test

007200092-02, P = 77.266751 Days, E = 63.975679 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
7.67	3.61	3.32	4.25	5.21	2.90	1.09	4.35	3.41	0.29	-0.65	1.64	1.36	0.36	0.53



### Stellar Parameters For KIC 007200092

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M$ ( $M_{\odot}$ )	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$7671^{+214}_{-349}$	$4.121^{+0.098}_{-0.182}$	$0.210^{+0.150}_{-0.450}$	$1.927^{+0.519}_{-0.346}$	$1.790^{+0.181}_{-0.294}$	$0.353^{+0.195}_{-0.172}$
	+3%/-5%	+2%/-4%	+71%/-214%	+27%/-18%	+10%/-16%	+55%/-49%
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 007200092-02 / KOI

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{max}$ (K)	$T_{obs}$ (K)	$A_{obs}$
DV	$-97 \pm 11$	$2.10^{+0.87}_{-0.80}$	$1013^{+71}_{-68}$	$7676^{+2815}_{-1292}$	$2147^{+3452}_{-1073}$
Alt.	$-42 \pm 12$	$2.08^{+0.79}_{-0.82}$	$1010^{+70}_{-62}$	$6139^{+1805}_{-950}$	$965^{+1584}_{-496}$

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

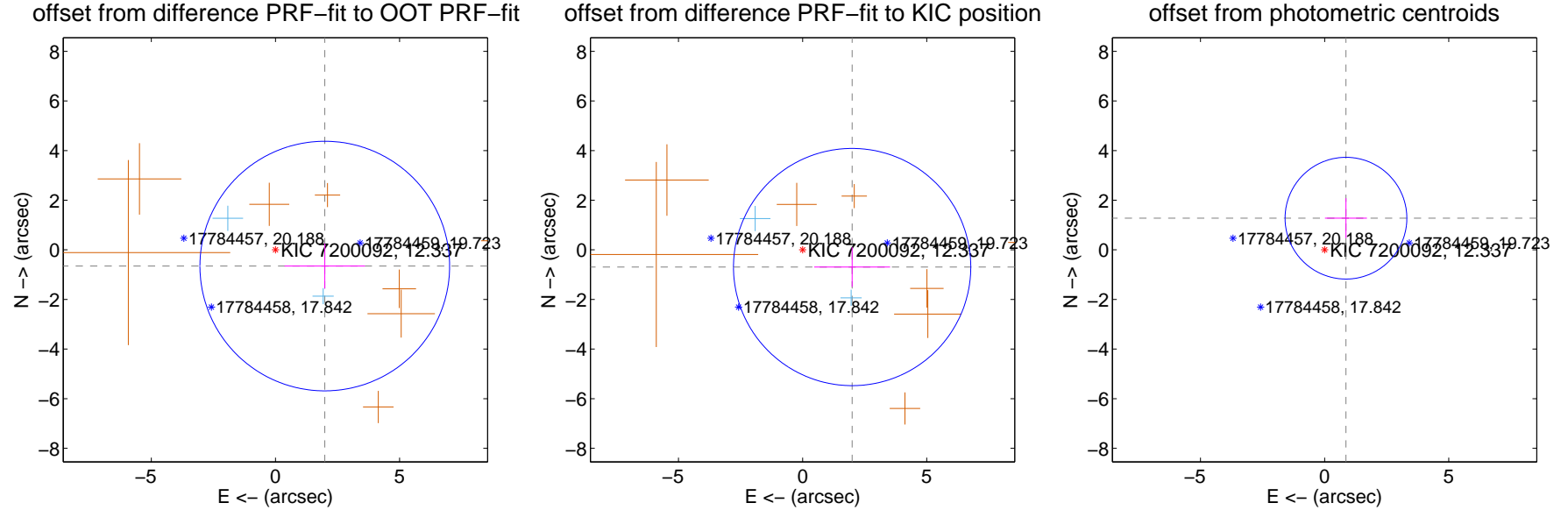
## DV Centroid Data

Supplemental centroid analysis for 007200092-02. Kepler magnitude: 12.34. Transit SNR 10.57

There are 2 quarters with good PRF difference image offsets

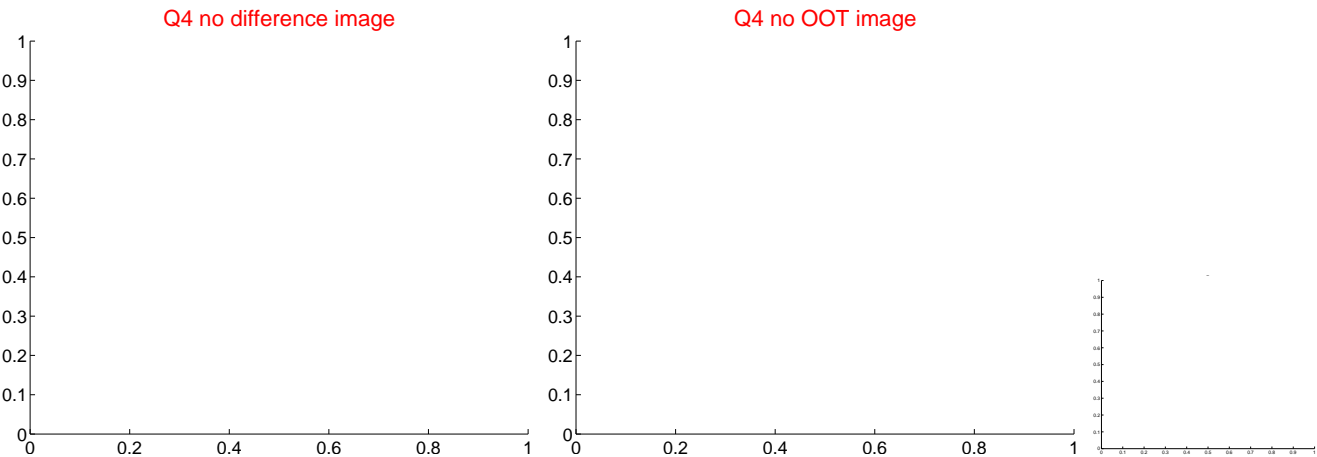
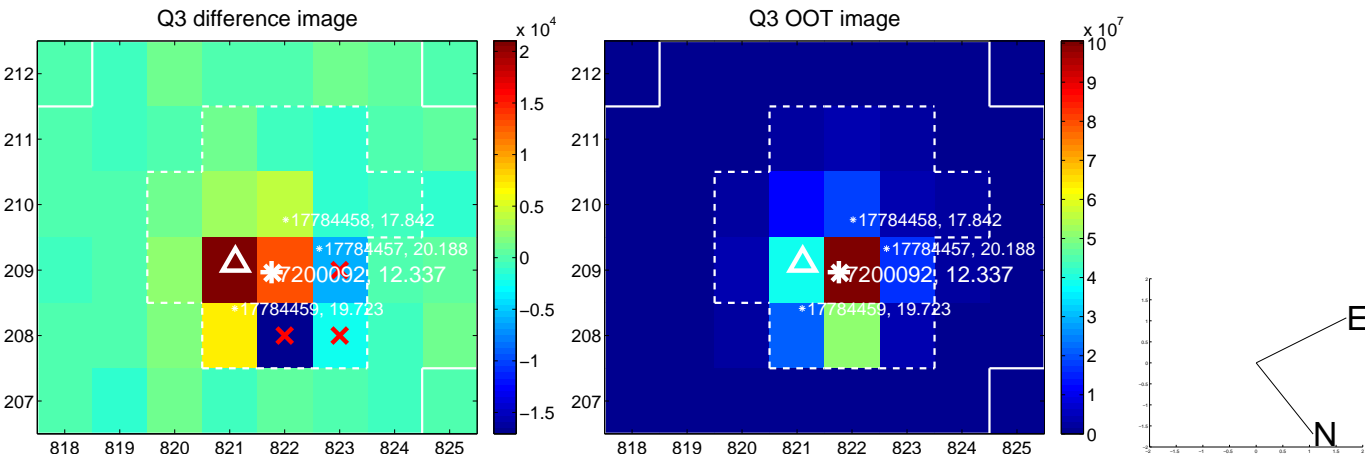
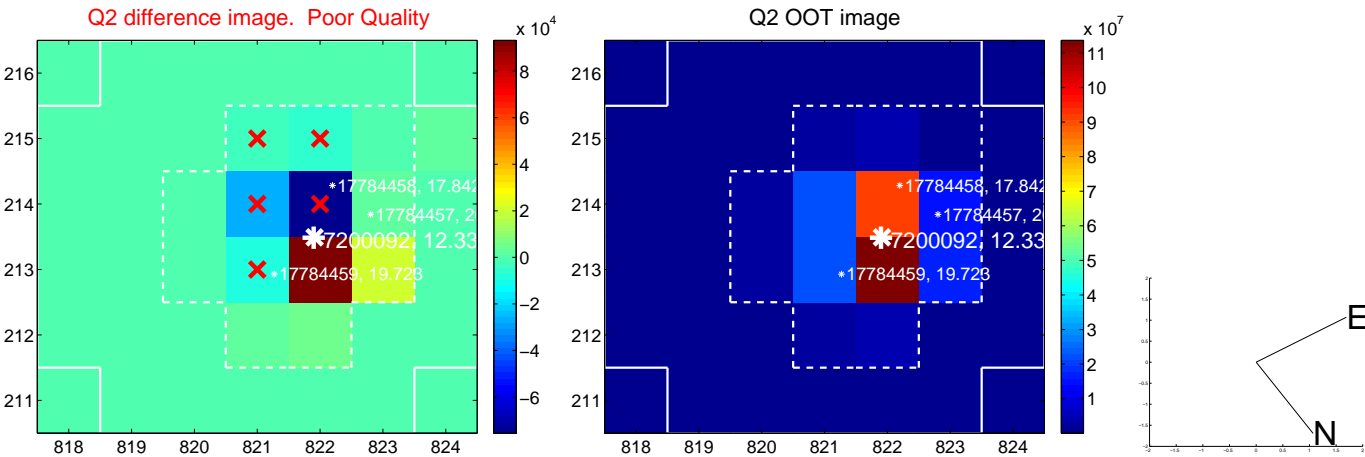
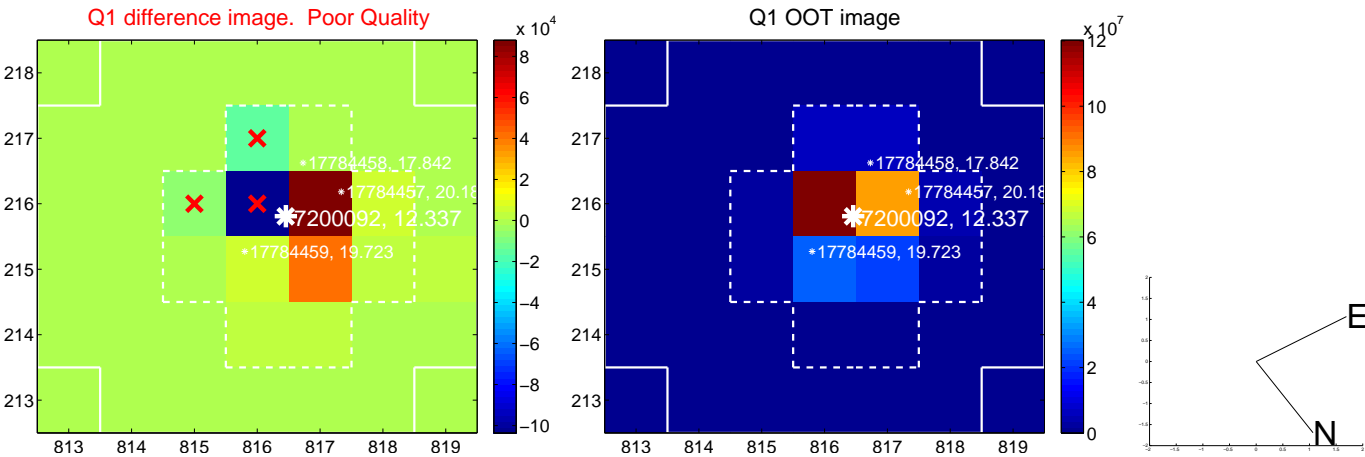
The direct PRF centroid is offset from the target star catalog position by about 0.03 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$2.092 \pm 1.677$	1.25	$-1.988 \pm 1.620$	$-0.654 \pm 0.911$
PRF-fit source offset from KIC position	$2.113 \pm 1.594$	1.33	$-1.996 \pm 1.528$	$-0.693 \pm 0.798$
photometric centroid source offset	$1.54 \pm 0.82$	1.88	$-0.86 \pm 0.85$	$1.28 \pm 0.80$

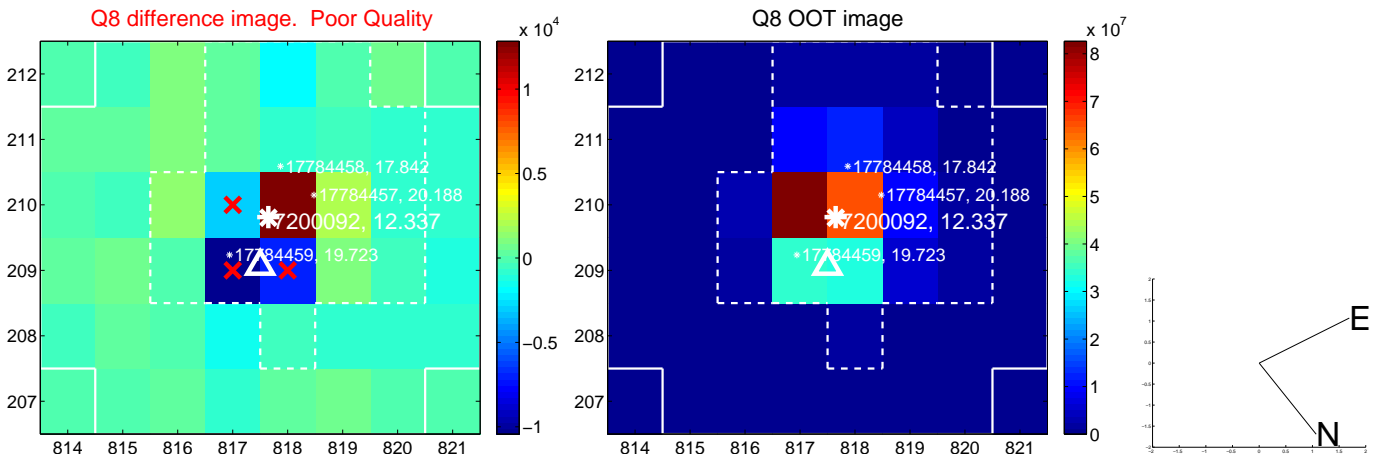
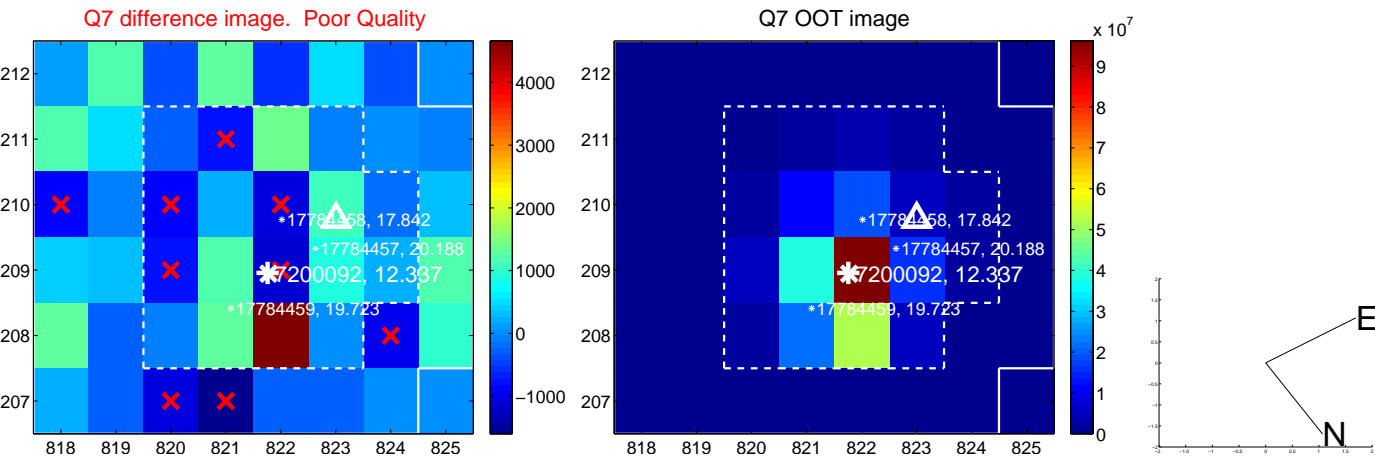
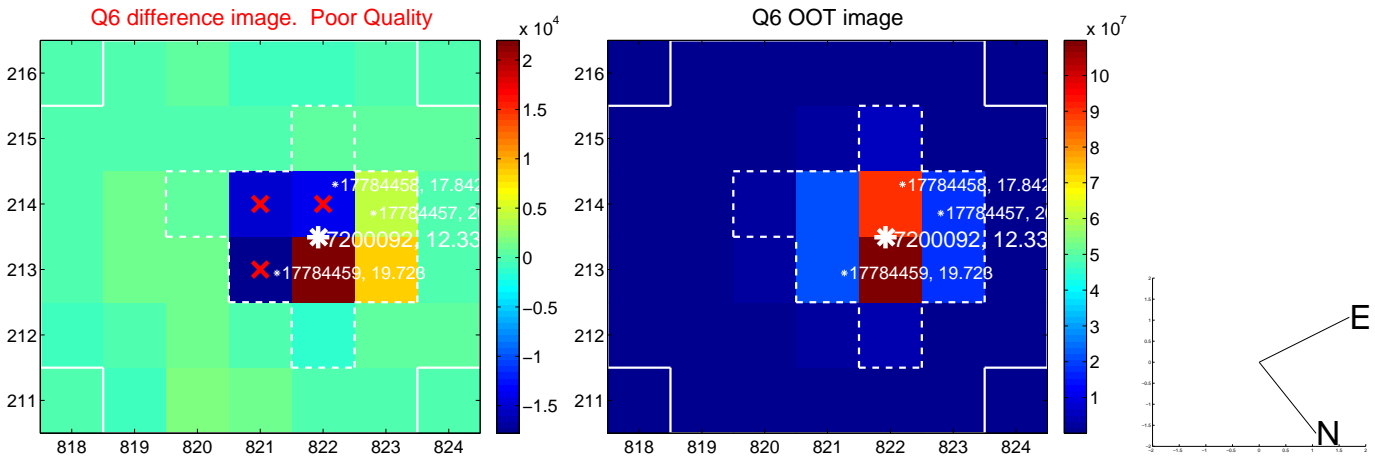
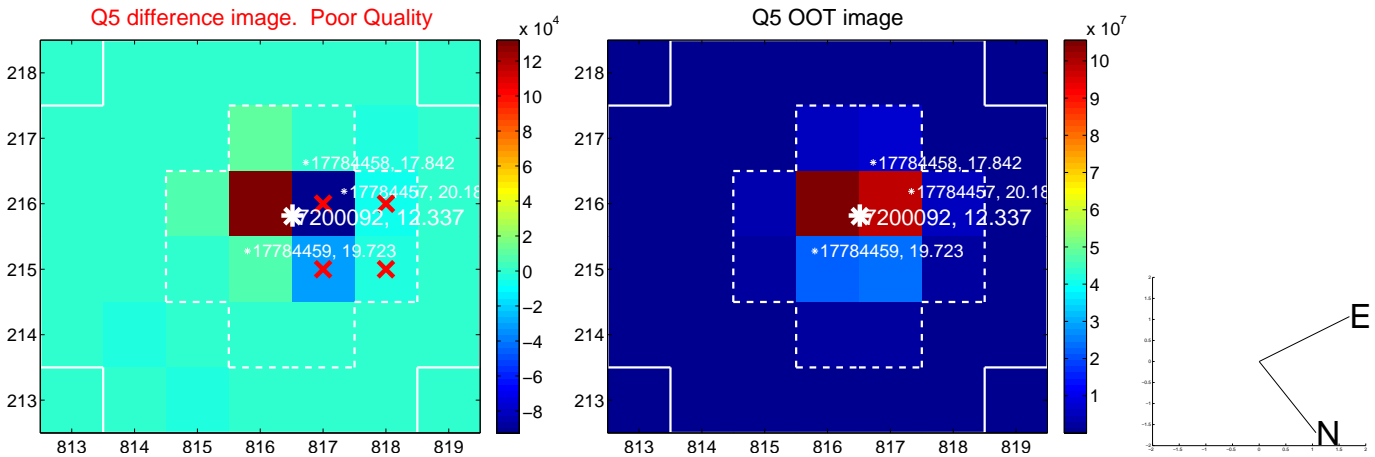


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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

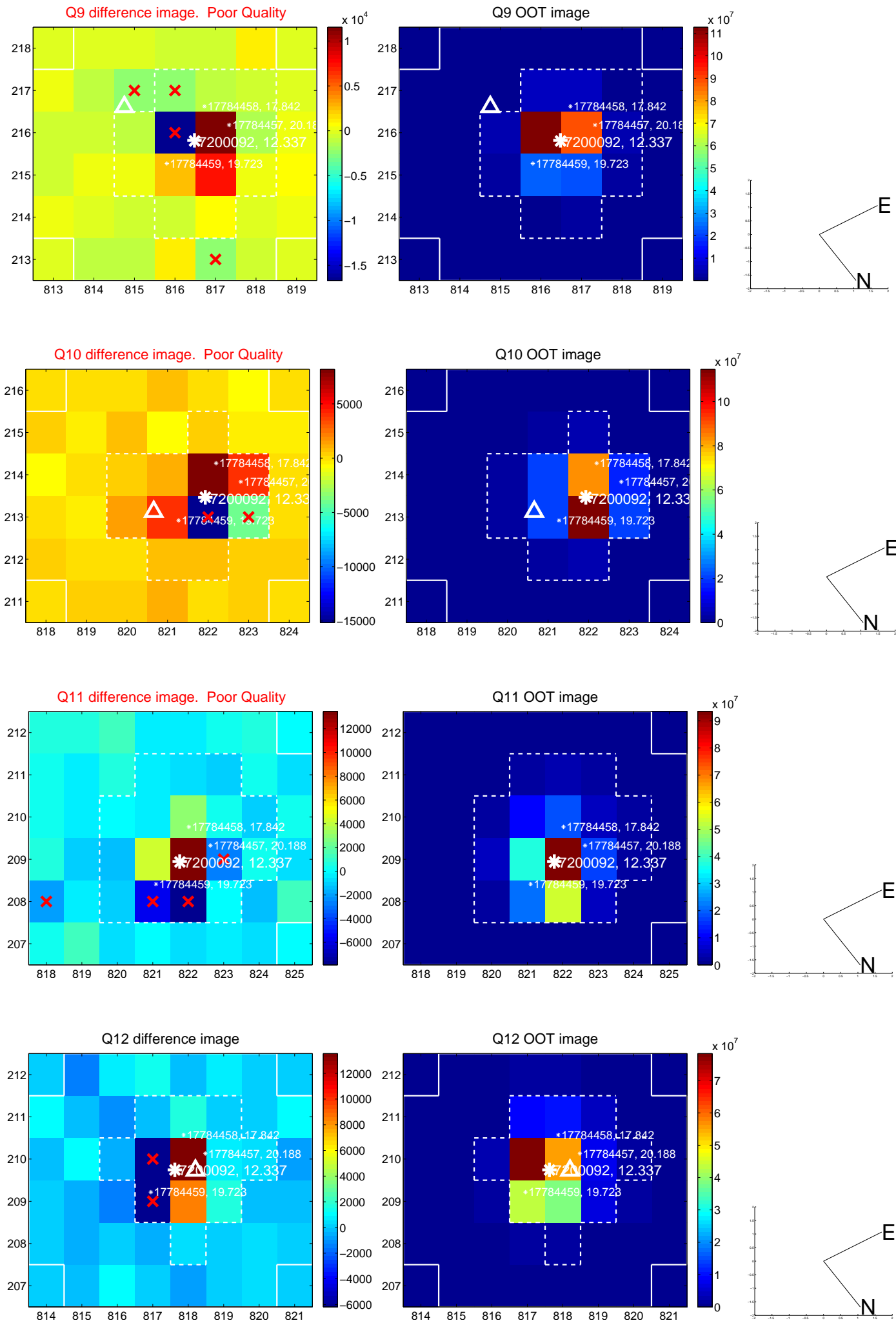
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



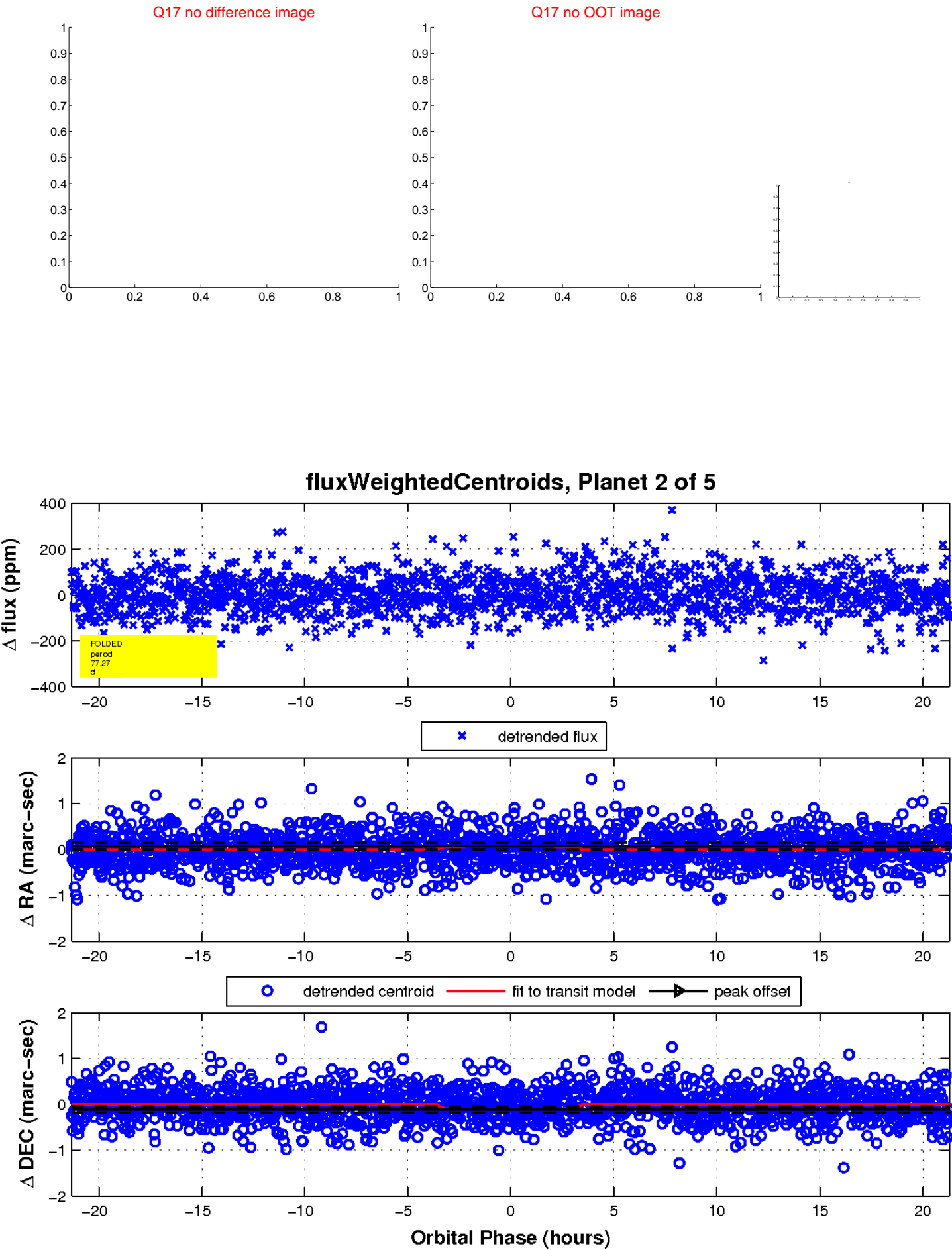
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.





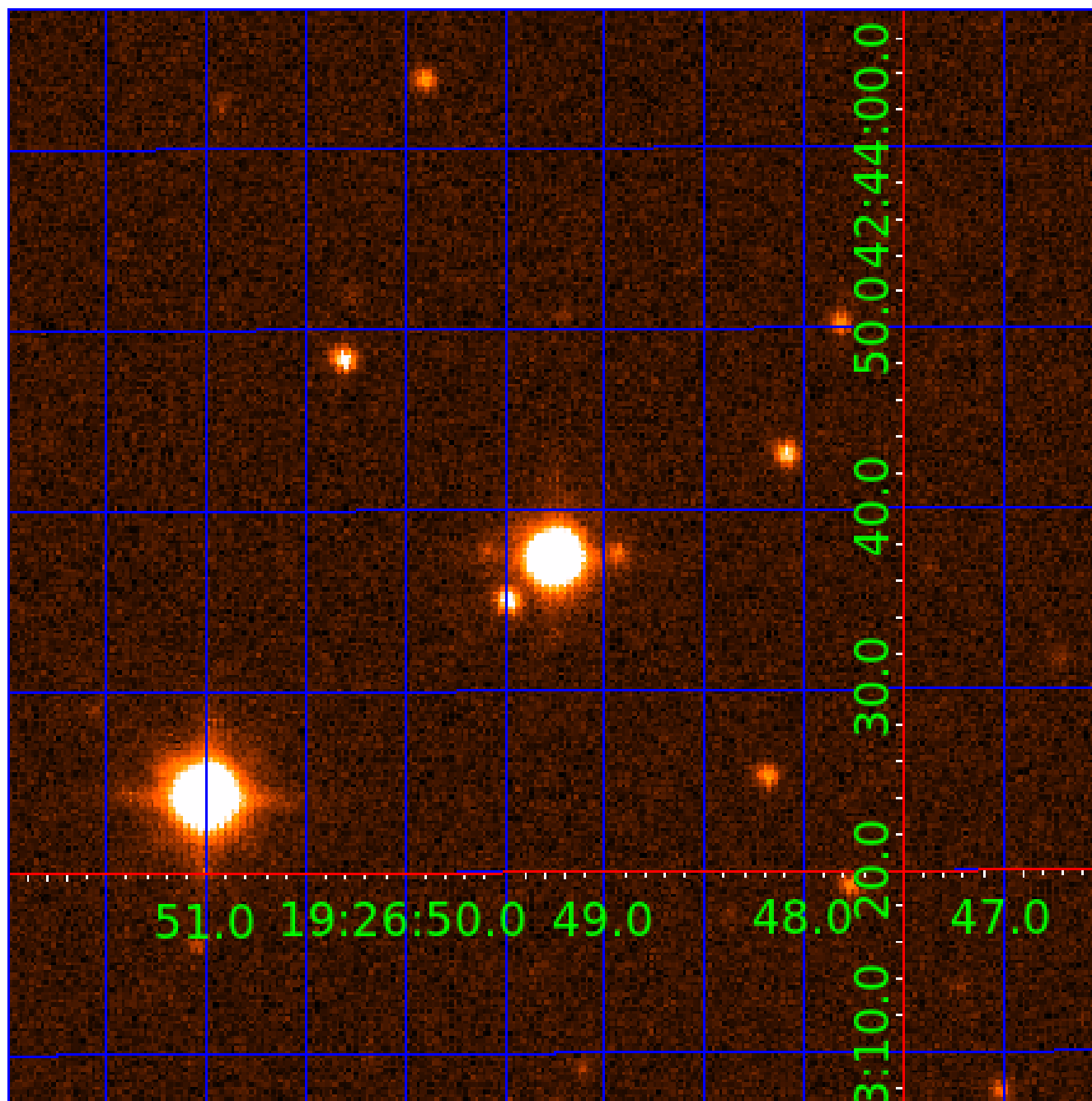


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



UKIRT Image

Declination



# KIC 007200092

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
007200092-01	OBS	No	2.876939	132.456951	5.0	19.520	9.8	4.8	1.93	7671	0.49	4984.82
007200092-02	OBS	No	77.266405	141.242888	87.8	7.110	12.8	10.6	1.93	7671	2.06	61.98
007200092-03	OBS	No	39.666500	136.651802	54.2	7.555	9.7	8.8	1.93	7671	1.59	150.77
007200092-04	OBS	No	49.079634	142.364509	166.9	0.943	8.9	9.8	1.93	7671	2.67	113.51
007200092-05	OBS	No	43.573542	168.835292	145.0	1.256	8.2	7.5	1.93	7671	2.66	133.02

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007200092-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—MOD_NONUNIQ_DV
007200092-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT
007200092-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
007200092-04	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_FEW_DIFFS
007200092-05	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_FEW_MEAS

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

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

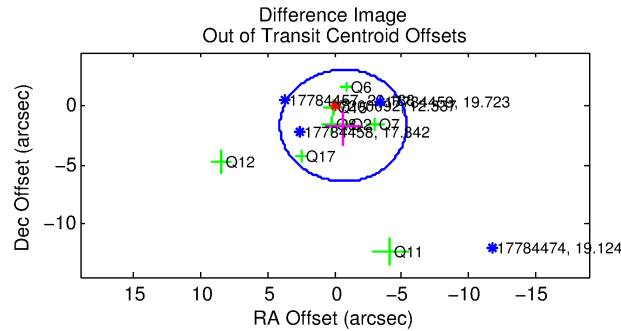
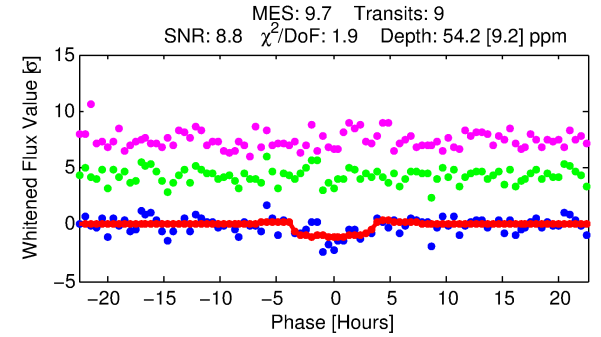
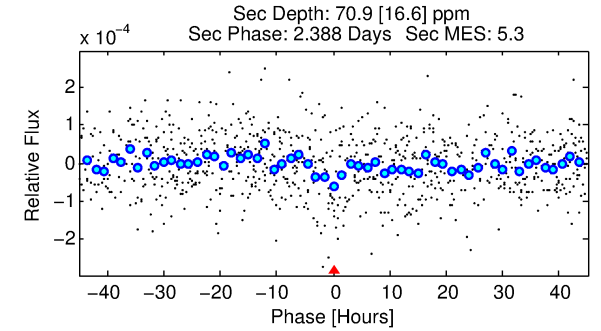
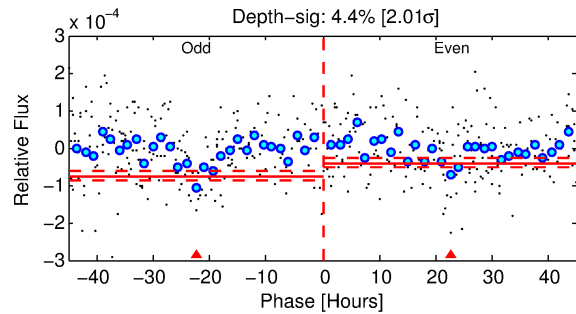
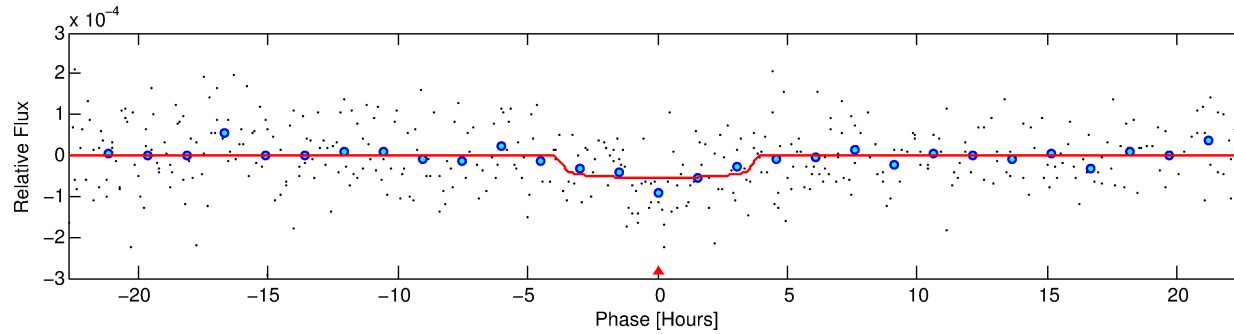
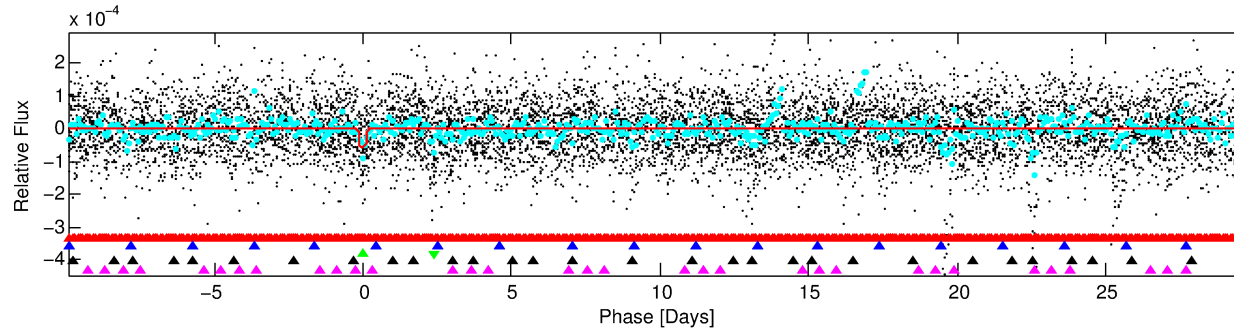
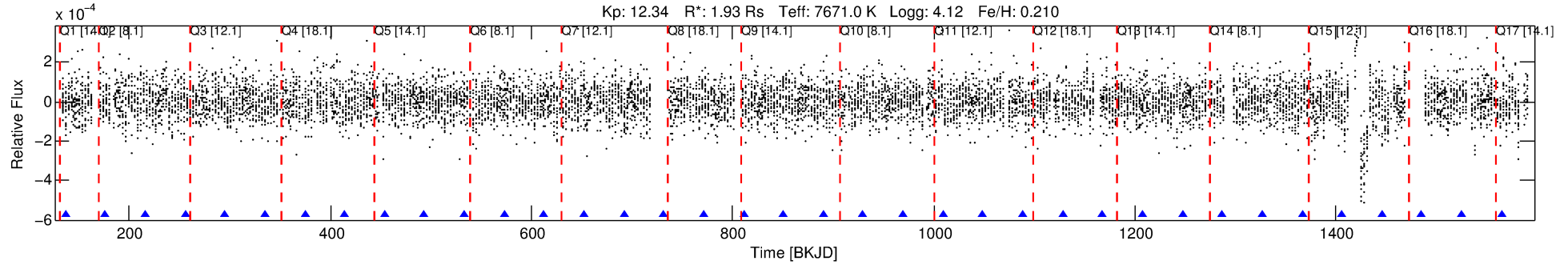
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 007200092-03

No Significant Match Found

# DV One-Page Summary

KIC: 7200092 Candidate: 3 of 5 Period: 39.666 d



## DV Fit Results:

Period = 39.66650 [0.00100] d  
Epoch = 136.6518 [0.0185] BKJD  
Rp/R\* = 0.0076 [0.0044]  
a/R\* = 22.16 [80.07]  
b = 0.84 [1.25]  
Seff = 150.77 [57.10]  
Teq = 894 [85] K  
Rp = 1.59 [1.02] Re  
a = 0.2764 [0.0629] AU  
Ag = 1178.32 [1446.53] [0.81 $\sigma$ ]  
Teffp = 8094 [2420] K [2.97 $\sigma$ ]

## DV Diagnostic Results:

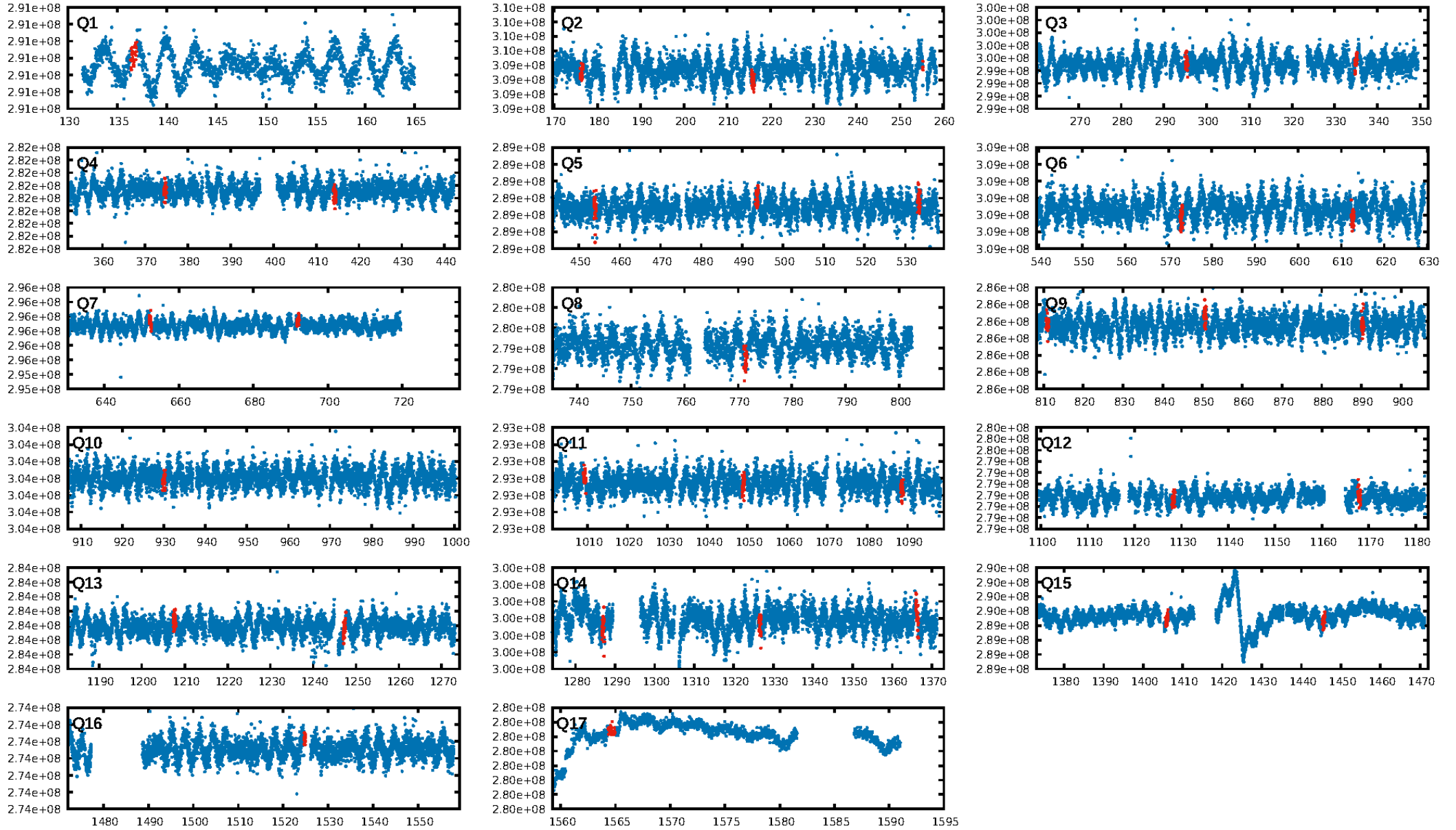
ShortPeriod-sig: 100.0% [42.18 $\sigma$ ]  
LongPeriod-sig: 100.0% [12.24 $\sigma$ ]  
ModelChiSquare2-sig: 1.3%  
ModelChiSquareGof-sig: 90.6%  
**Bootstrap-pfa: 5.64e-09**  
RollingBand-fgt: 1.00 [8/8]  
GhostDiagnostic-chr: 0.3299  
Centroid-sig: 46.0%  
Centroid-so: 0.953 arcsec [0.94 $\sigma$ ]  
OotOffset-rm: 1.812 arcsec [1.15 $\sigma$ ]  
OotOffset-st: 2/3/2/1 [8]  
KicOffset-rm: 1.863 arcsec [1.13 $\sigma$ ]  
KicOffset-st: 2/3/2/1 [8]  
DiffImageQuality-fgm: 0.50 [4/8]  
DiffImageOverlap-fno: 0.40 [6/15]

Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 04:06:12 Z

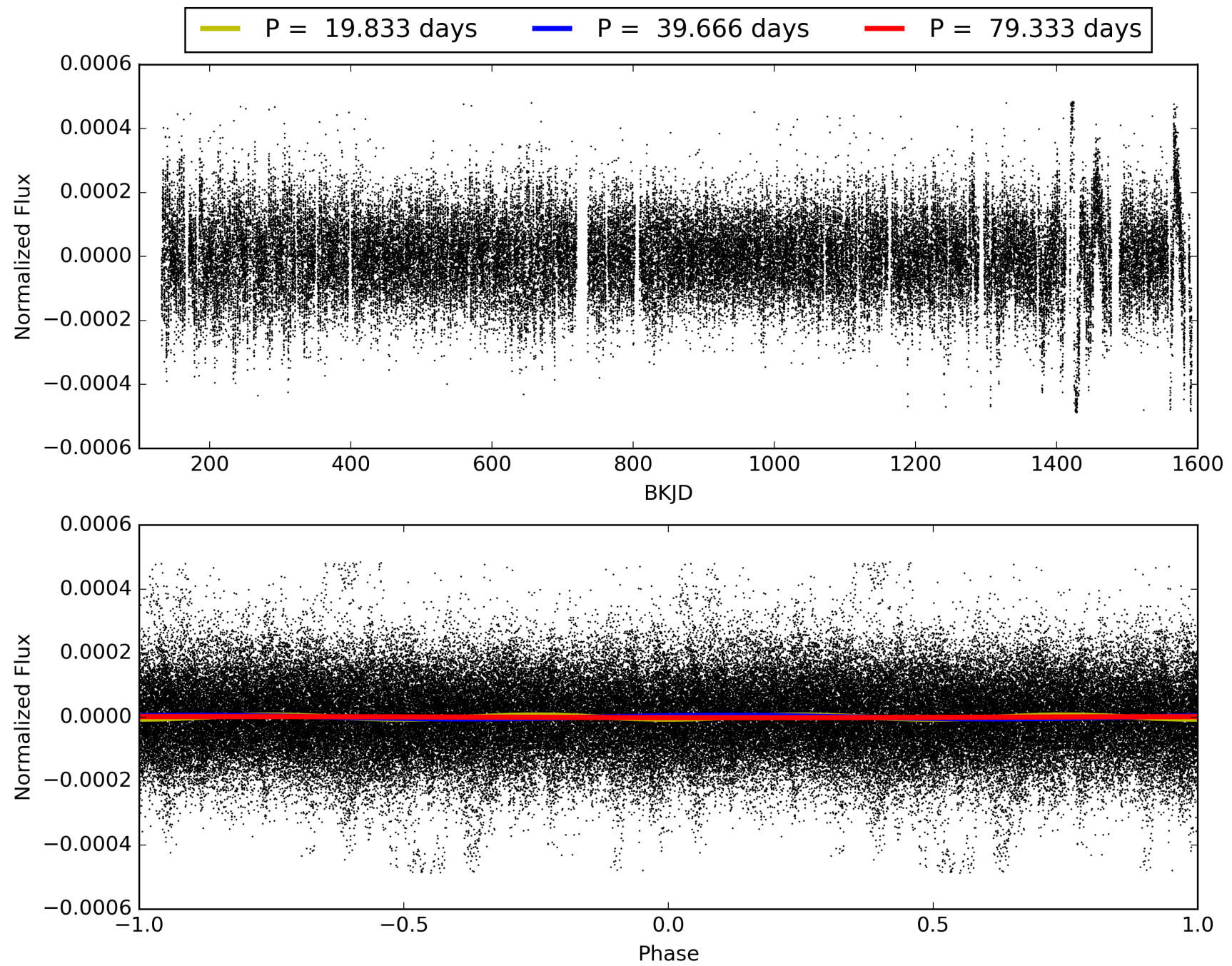
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center



# TCE 007200092-03, PDC Light Curves

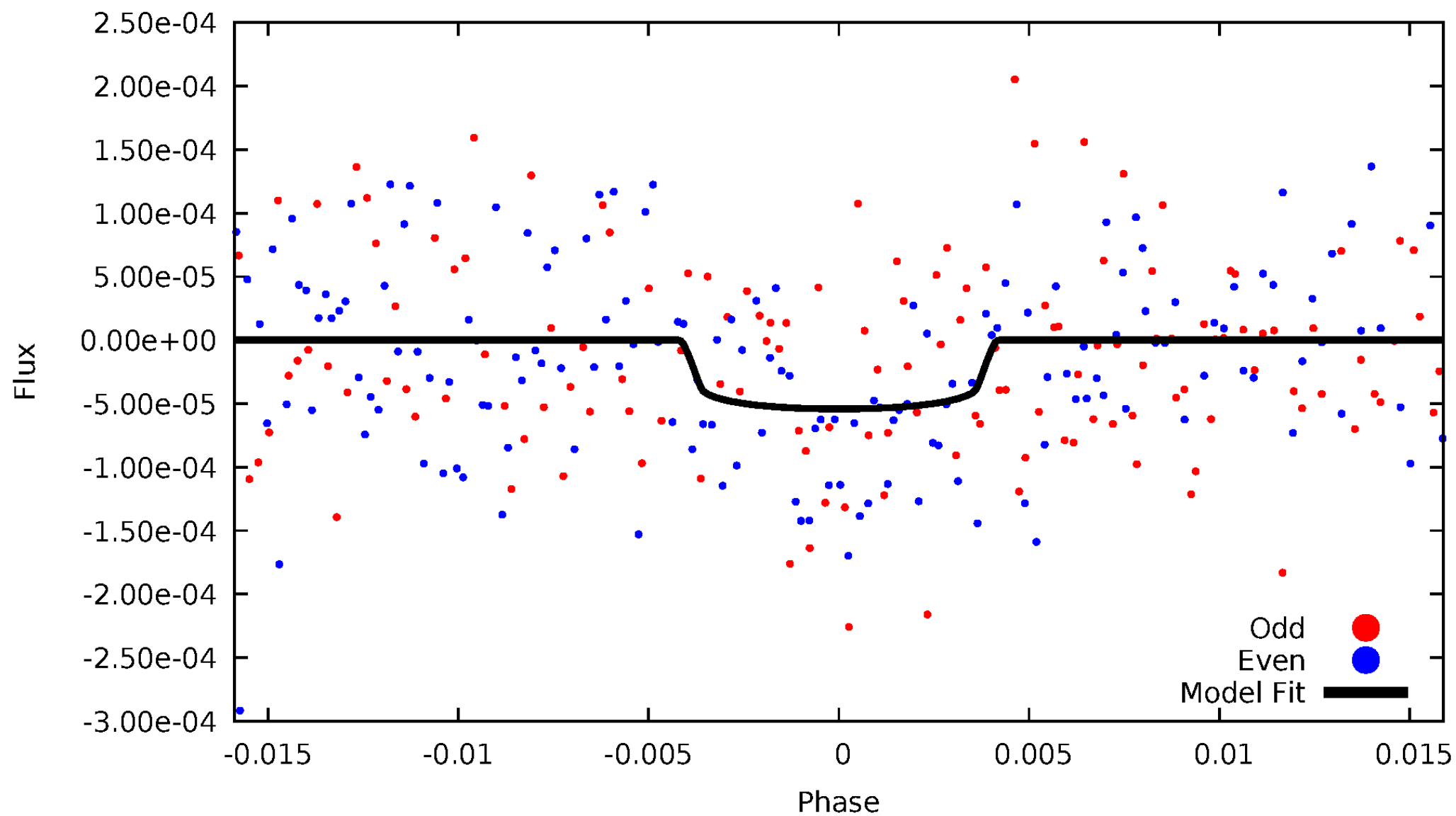


TCE 007200092-03



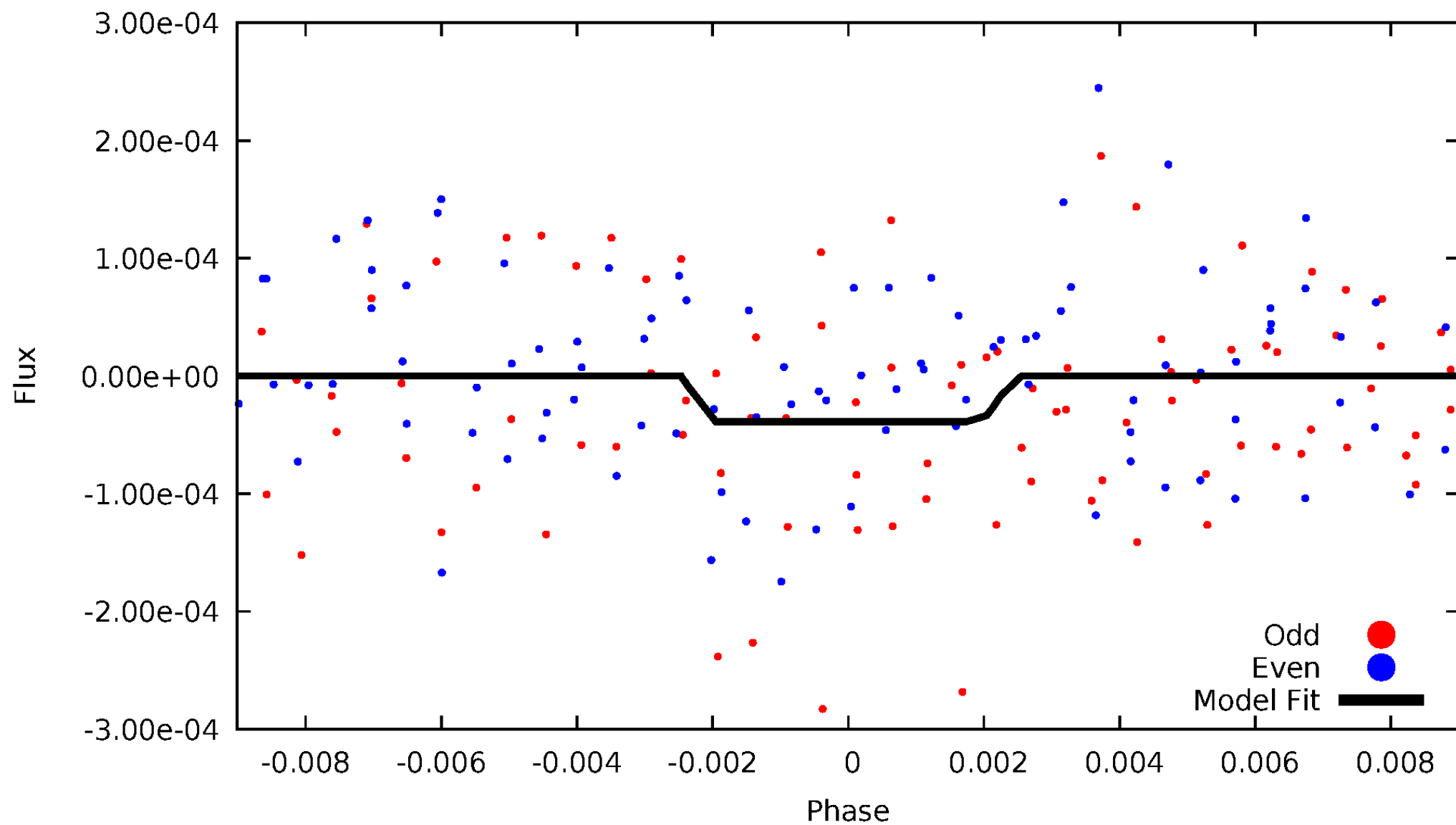
# DV Odd/Even

TCE 007200092-03



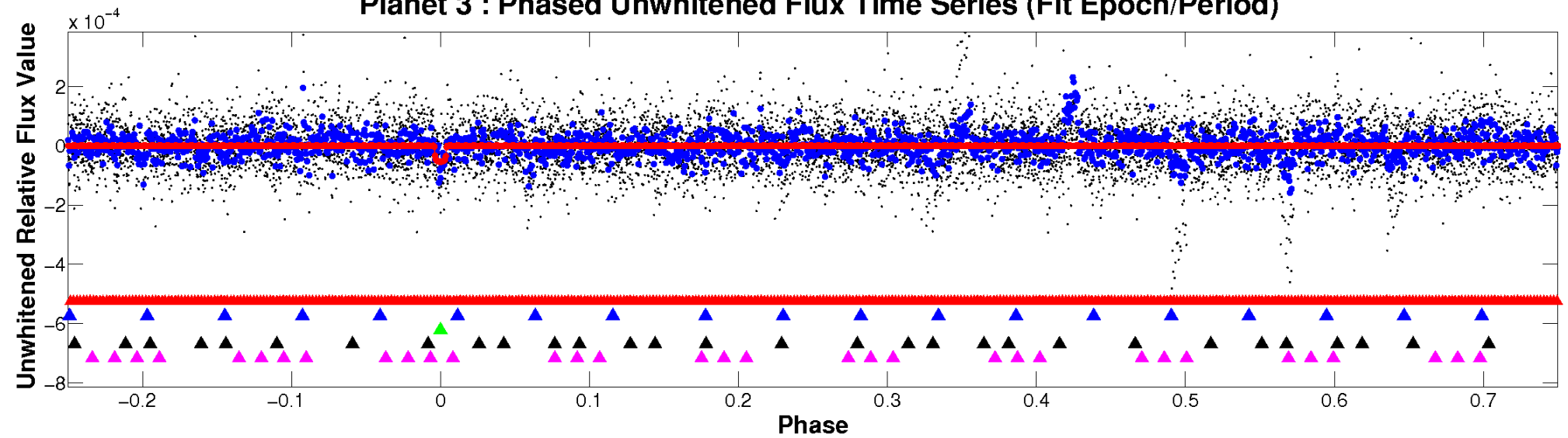
# ALT Odd/Even

TCE 007200092-03

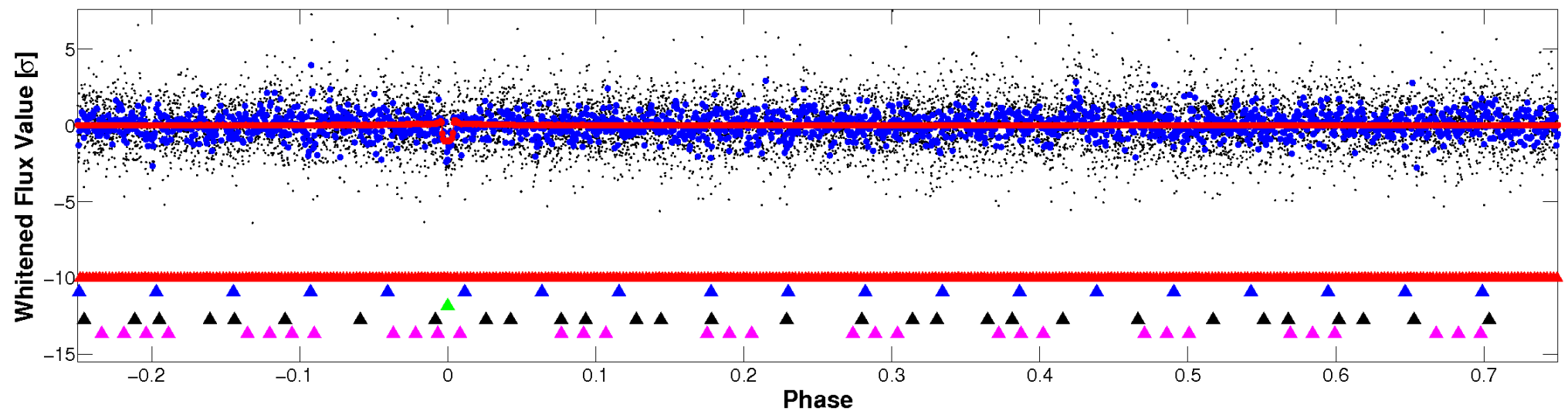


# Non-Whitened Vs. Whitened Light Curve

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

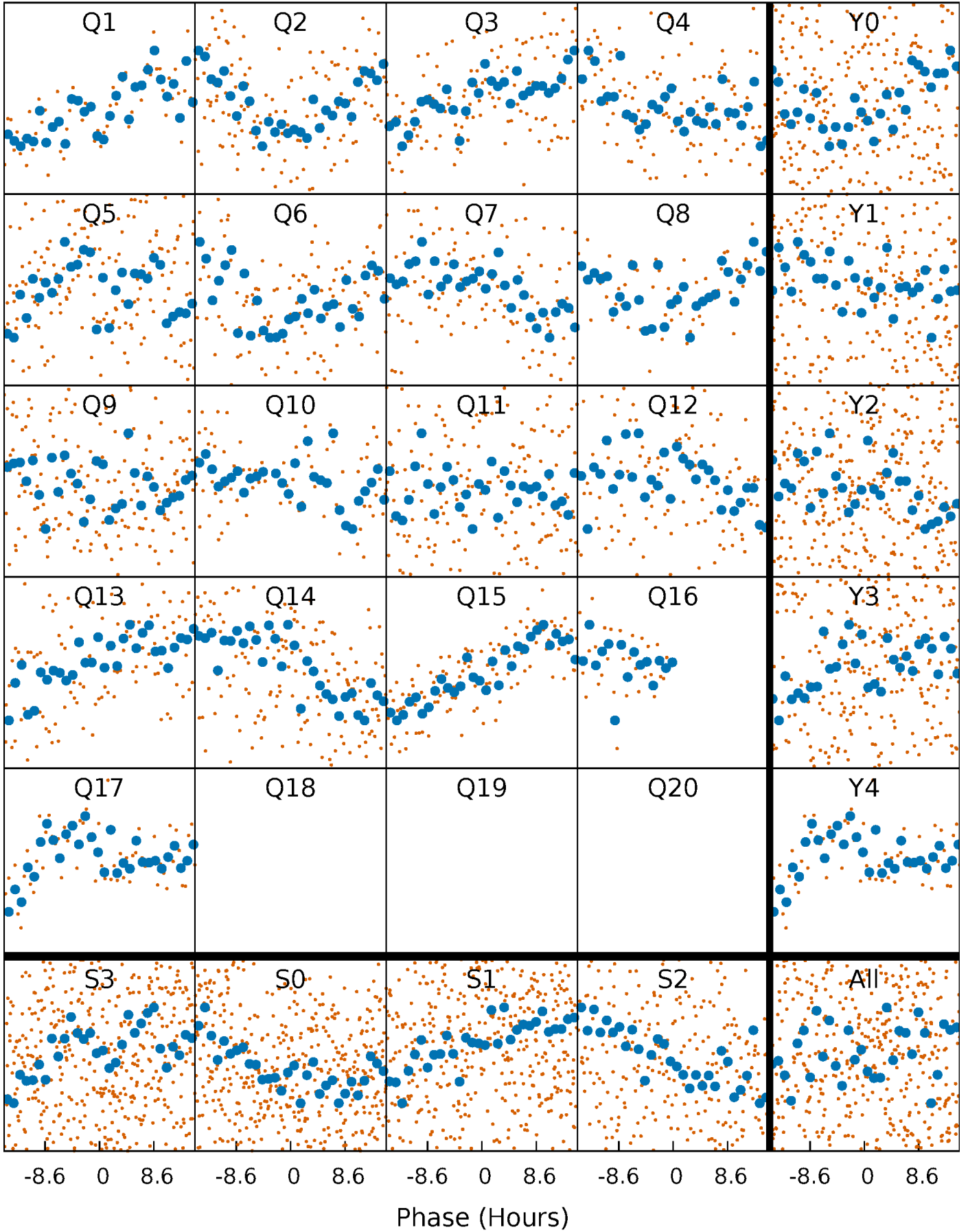


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



# PDC Quarter-Phased Transit Curves

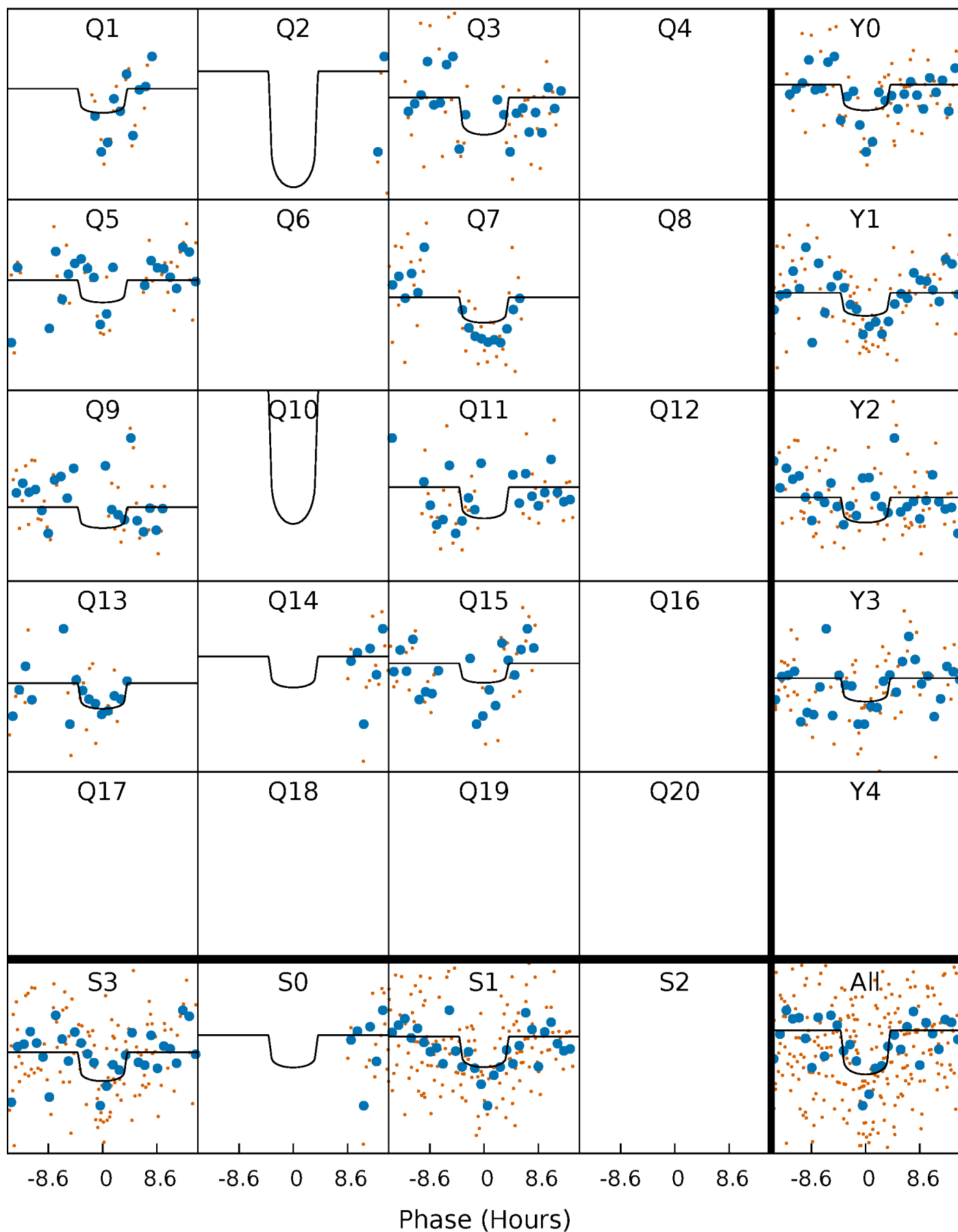
TCE 007200092-03 P= 39.666500 Days  $T_0=136.651802$  (BKJD)





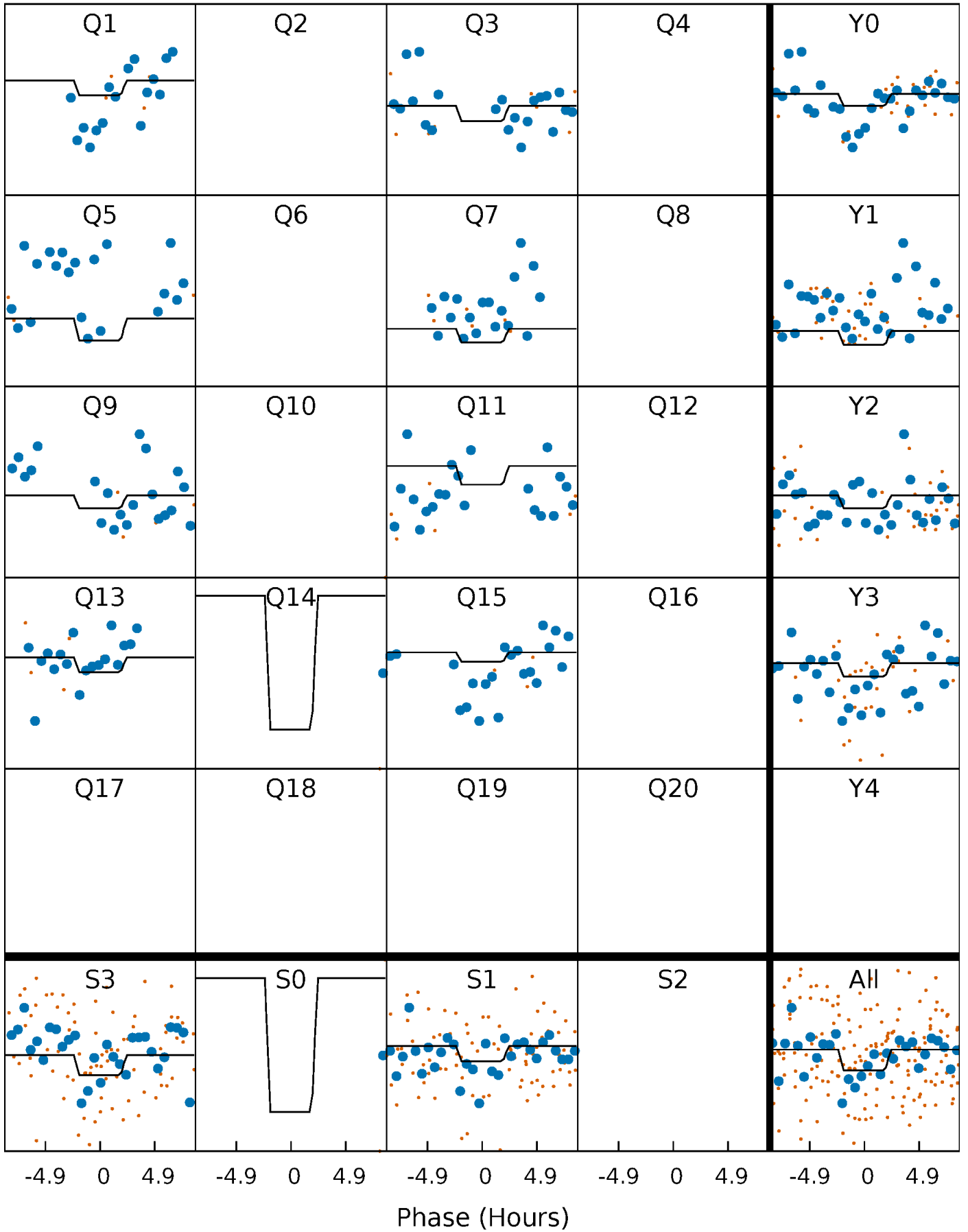
# DV Quarter-Phased Transit Curves

TCE 007200092-03   P= 39.666500 Days    $T_0=136.651802$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

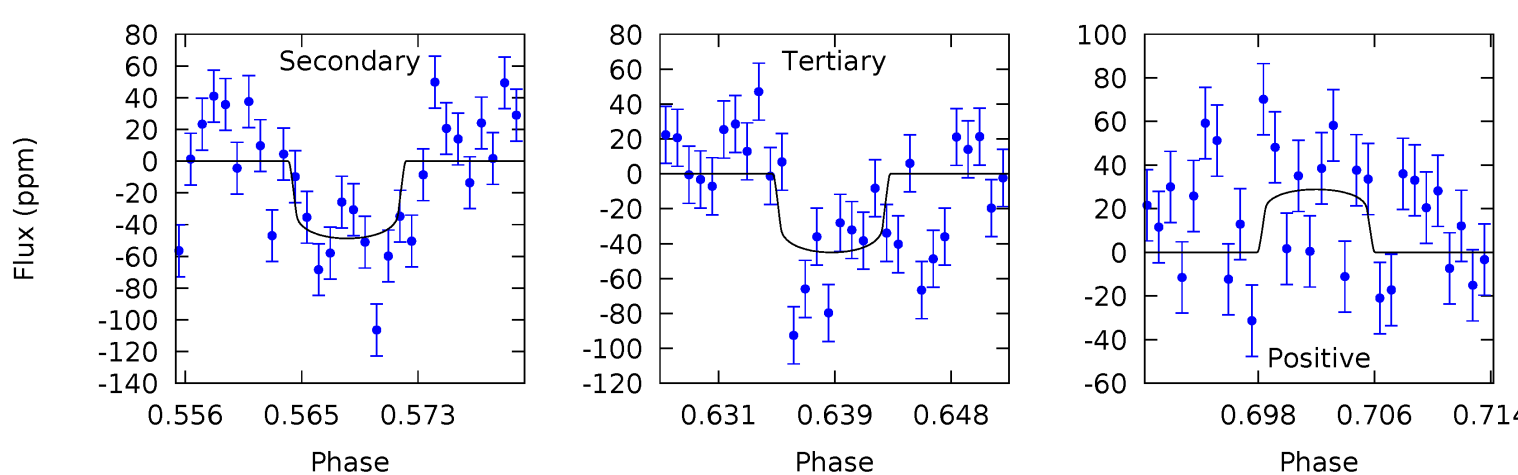
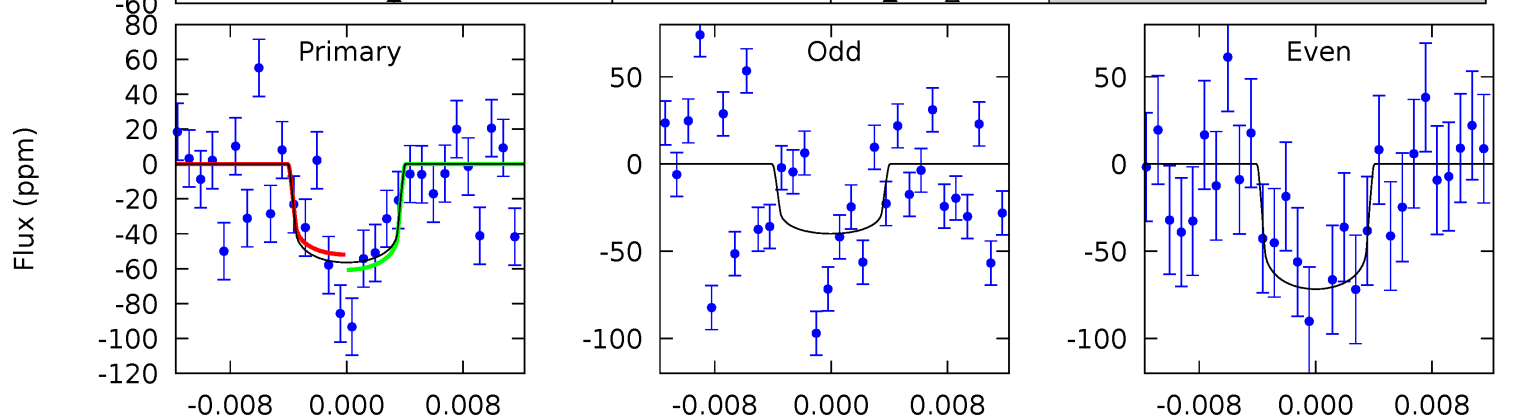
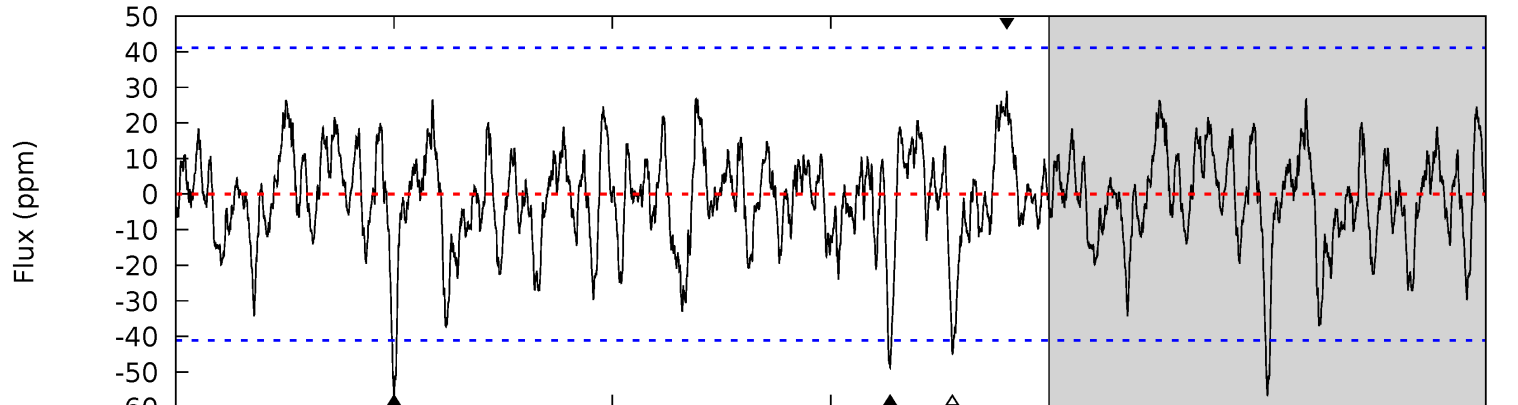
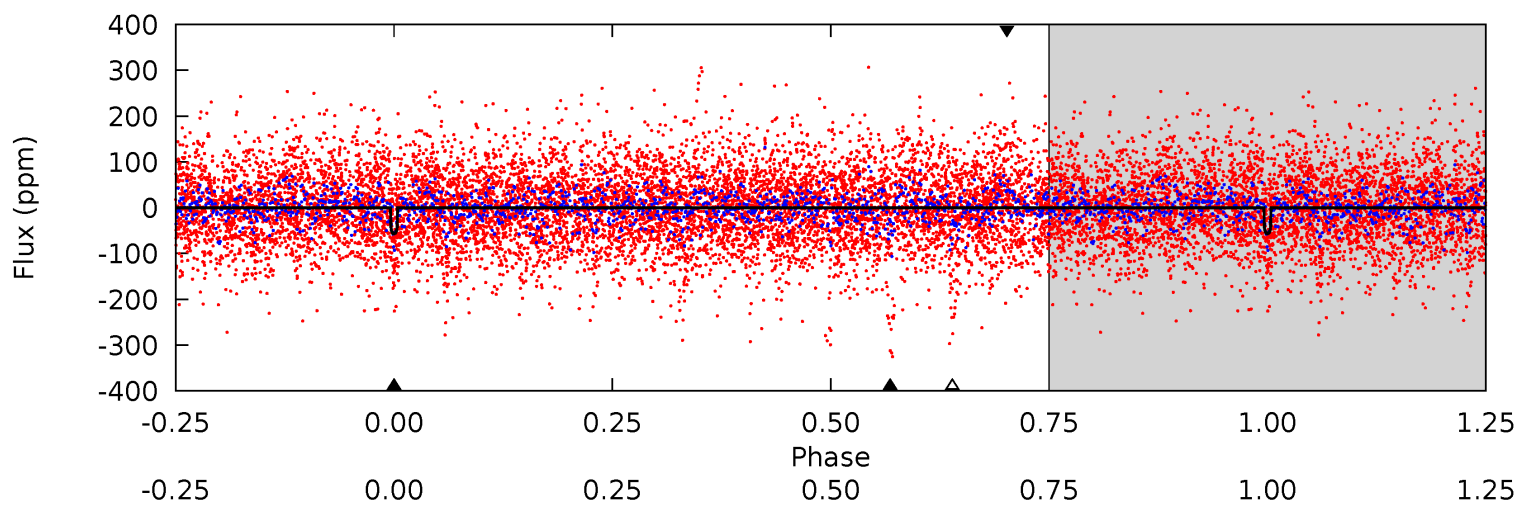
TCE 007200092-03   P= 39.665776 Days    $T_0=136.701112$  (BKJD)



# DV Model-Shift Uniqueness Test

007200092-03, P = 39.666500 Days, E = 96.985302 Days

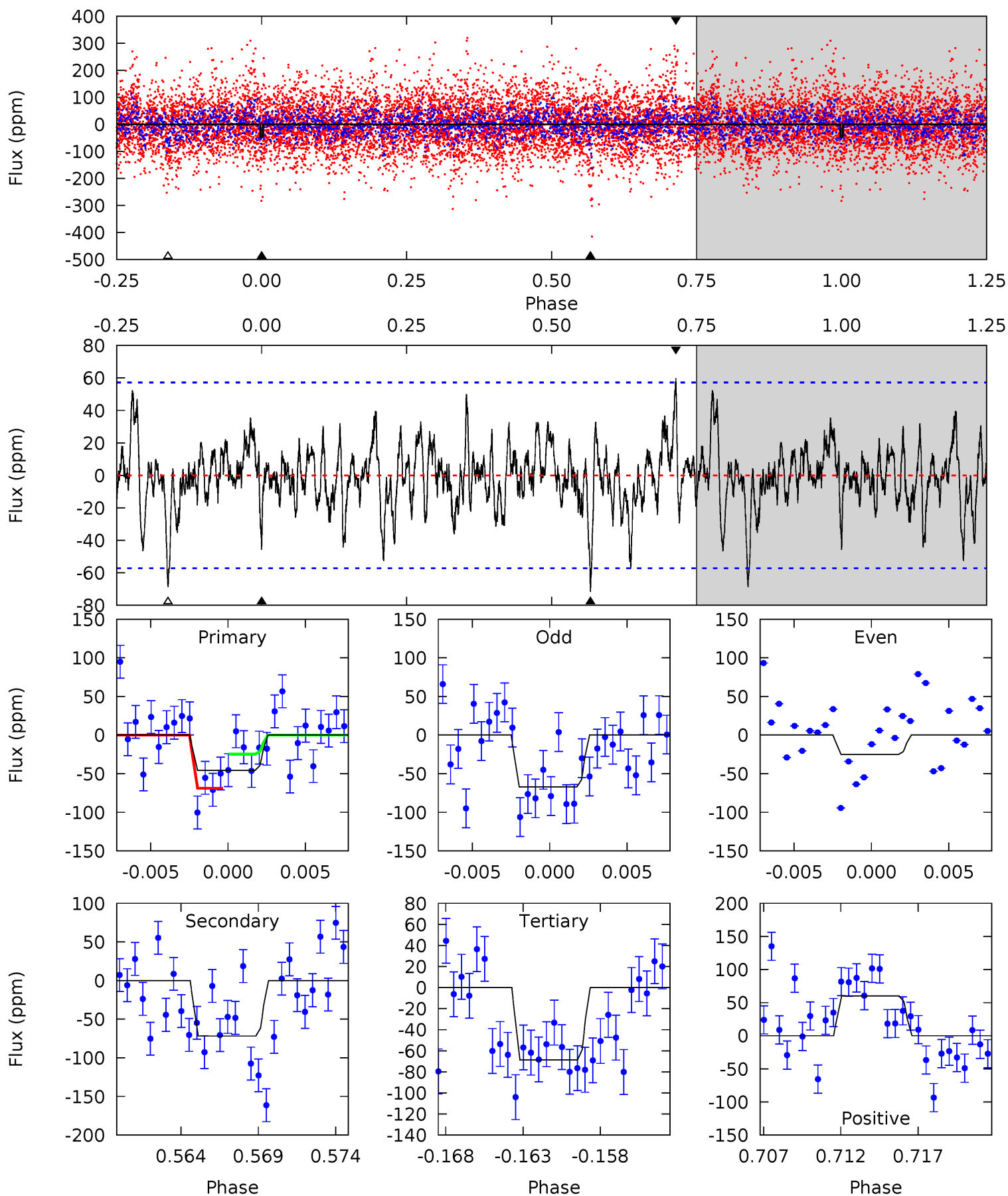
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.95	5.99	5.54	3.55	5.06	2.64	1.50	1.40	3.40	0.45	2.44	1.96	1.05	0.34	0.54



# Alt Model-Shift Uniqueness Test

007200092-03, P = 39.665776 Days, E = 97.035336 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
4.13	6.48	6.20	5.42	5.16	2.81	1.52	-2.08	-1.30	0.28	1.06	1.90	1.92	0.46	1.99



### Stellar Parameters For KIC 007200092

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M(M_{\odot})$	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$7671^{+214}_{-349}$	$4.121^{+0.098}_{-0.182}$	$0.210^{+0.150}_{-0.450}$	$1.927^{+0.519}_{-0.346}$	$1.790^{+0.181}_{-0.294}$	$0.353^{+0.195}_{-0.172}$
	+3%/-5%	+2%/-4%	+71%/-214%	+27%/-18%	+10%/-16%	+55%/-49%
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 007200092-03 / KOI

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{\text{max}}$ (K)	$T_{\text{obs}}$ (K)	$A_{\text{obs}}$
DV	$-49 \pm 8$	$1.66^{+0.97}_{-0.84}$	$1261^{+86}_{-76}$	$7143^{+4525}_{-1459}$	$700^{+2196}_{-418}$
Alt.	$-72 \pm 11$	$1.44^{+0.90}_{-0.79}$	$1256^{+85}_{-76}$	$8877^{+7896}_{-2294}$	$1414^{+5145}_{-901}$

$T_{\text{max}}$  = 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

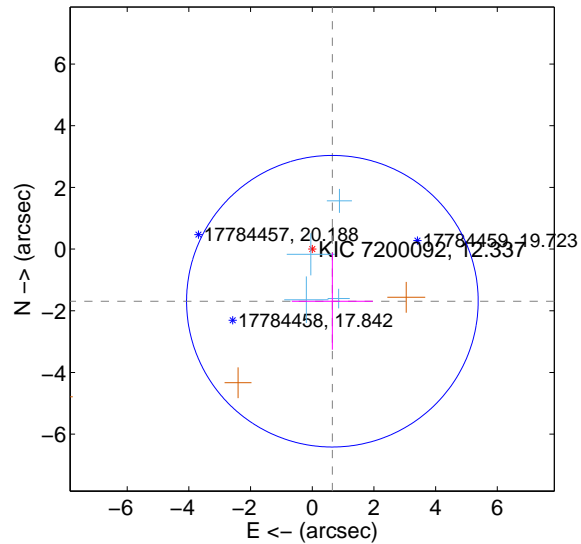
Supplemental centroid analysis for 007200092-03. Kepler magnitude: 12.34. Transit SNR 8.81

There are 4 quarters with good PRF difference image offsets

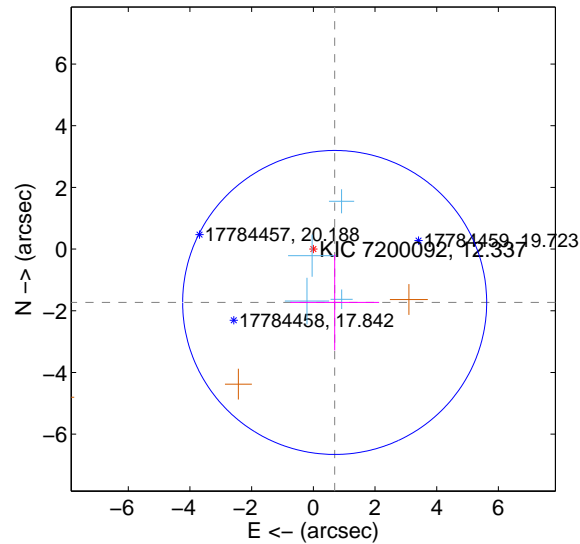
The direct PRF centroid is offset from the target star catalog position by about 0.05 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$1.812 \pm 1.576$	1.15	$-0.653 \pm 1.315$	$-1.690 \pm 1.573$
PRF-fit source offset from KIC position	$1.863 \pm 1.643$	1.13	$-0.691 \pm 1.440$	$-1.730 \pm 1.554$
photometric centroid source offset	$0.95 \pm 1.01$	0.94	$0.95 \pm 1.01$	$-0.09 \pm 0.98$

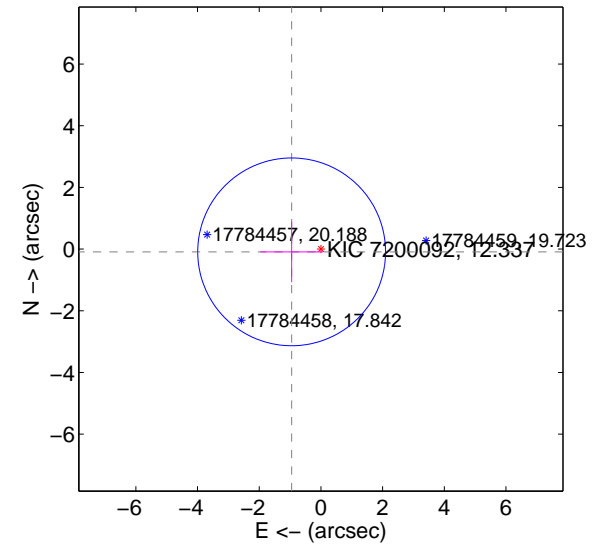
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position



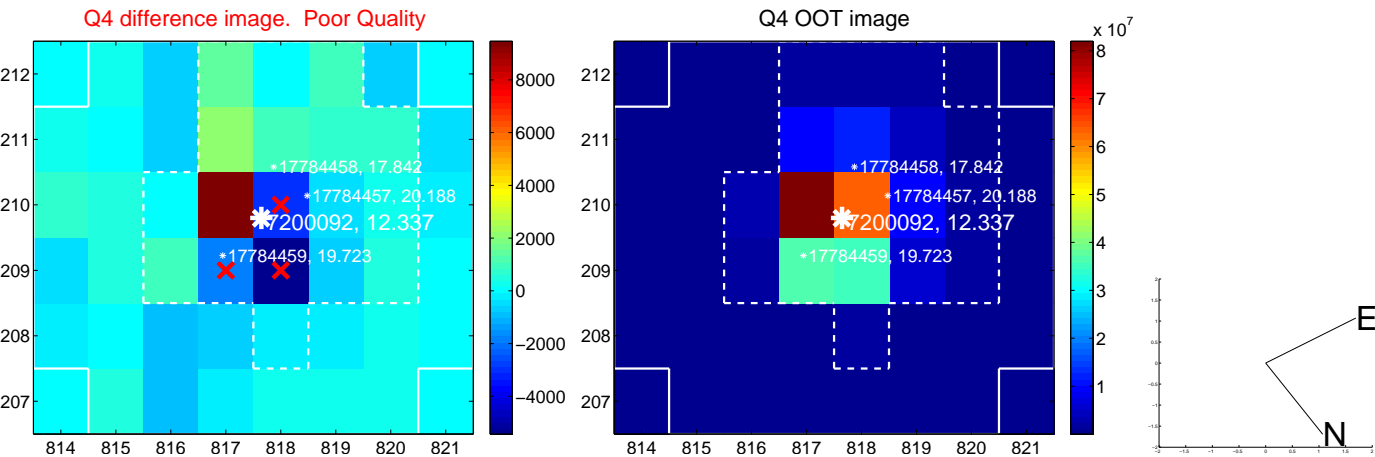
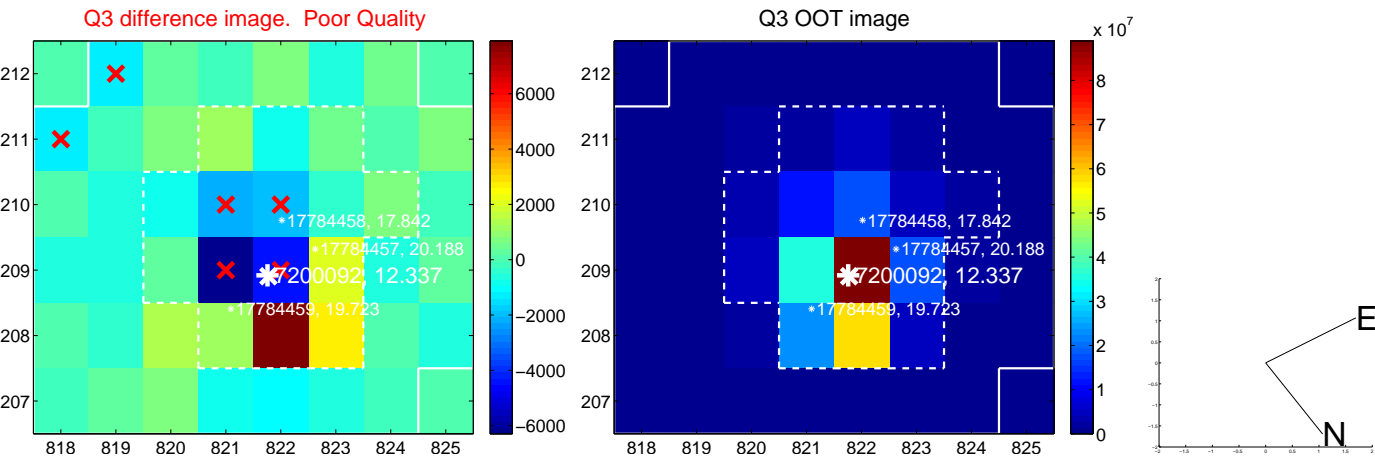
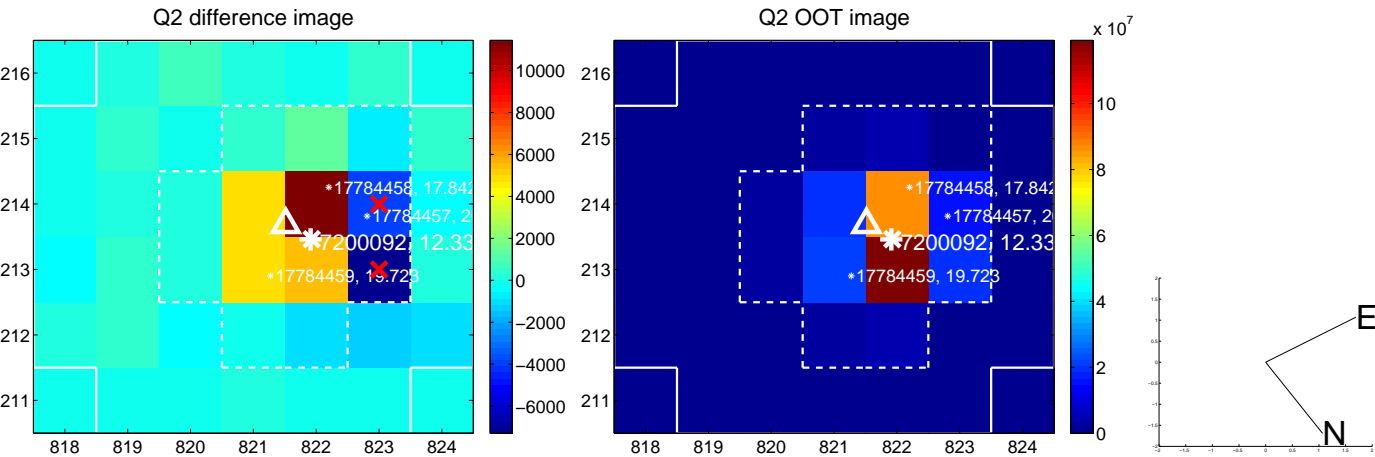
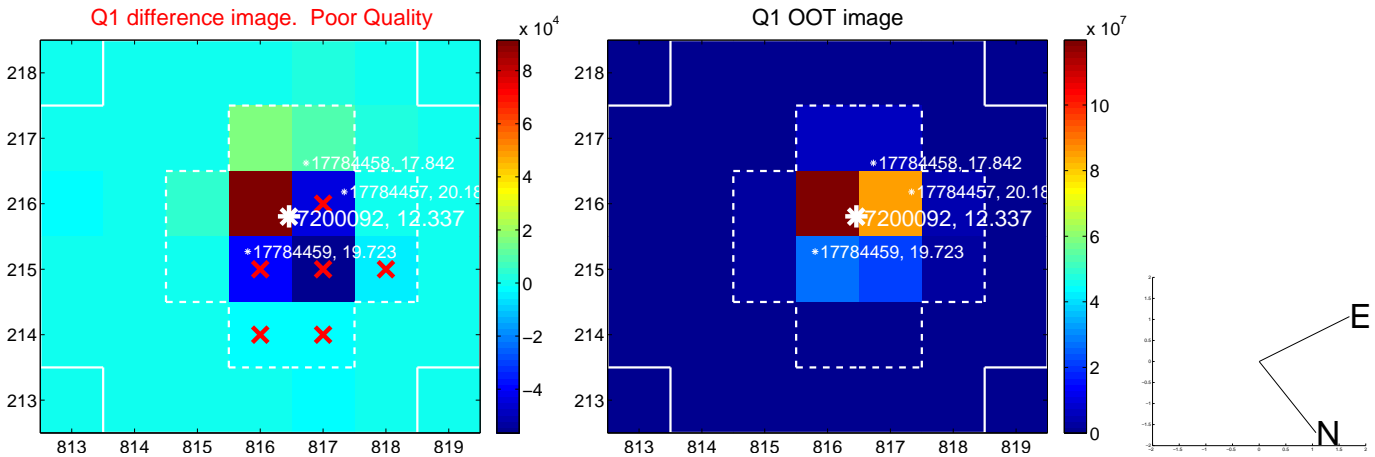
offset from photometric centroids



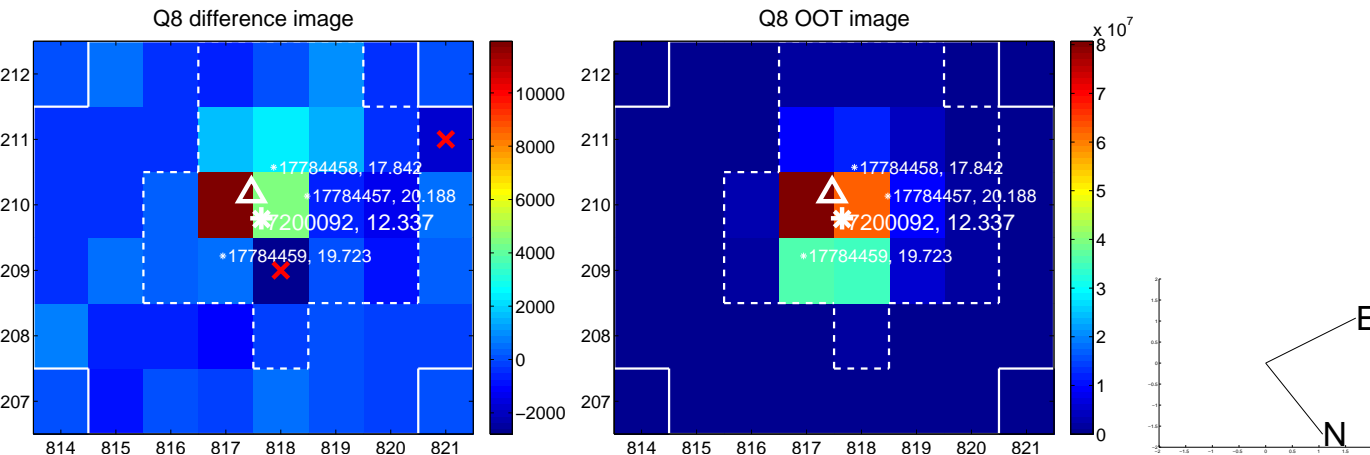
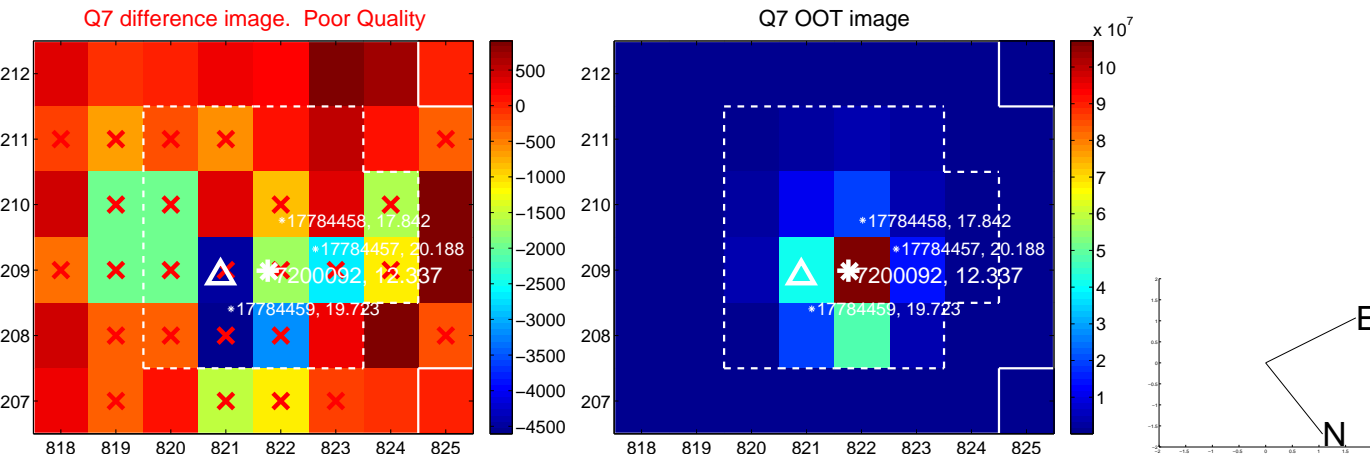
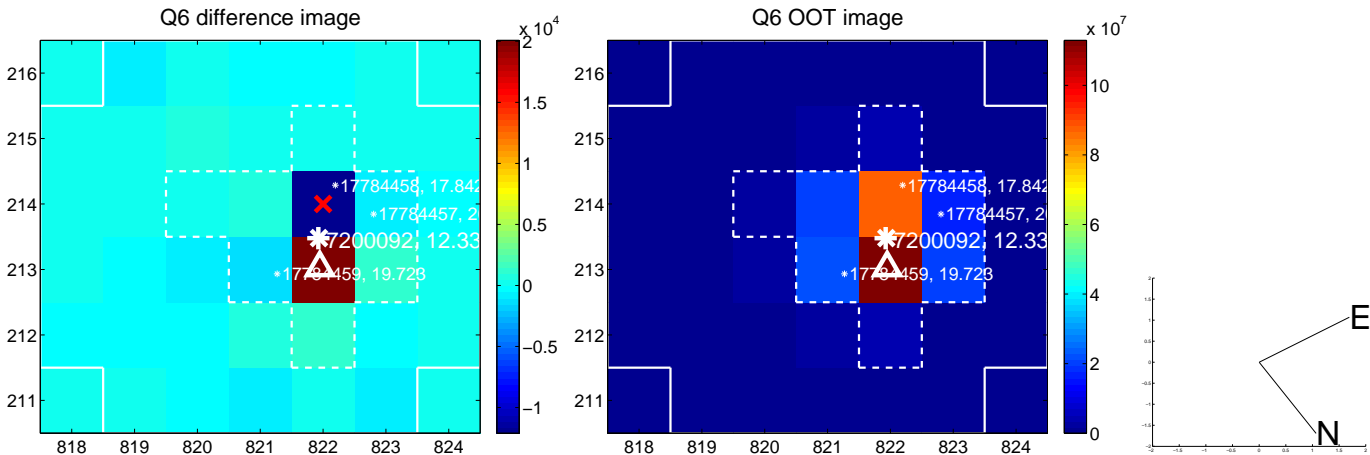
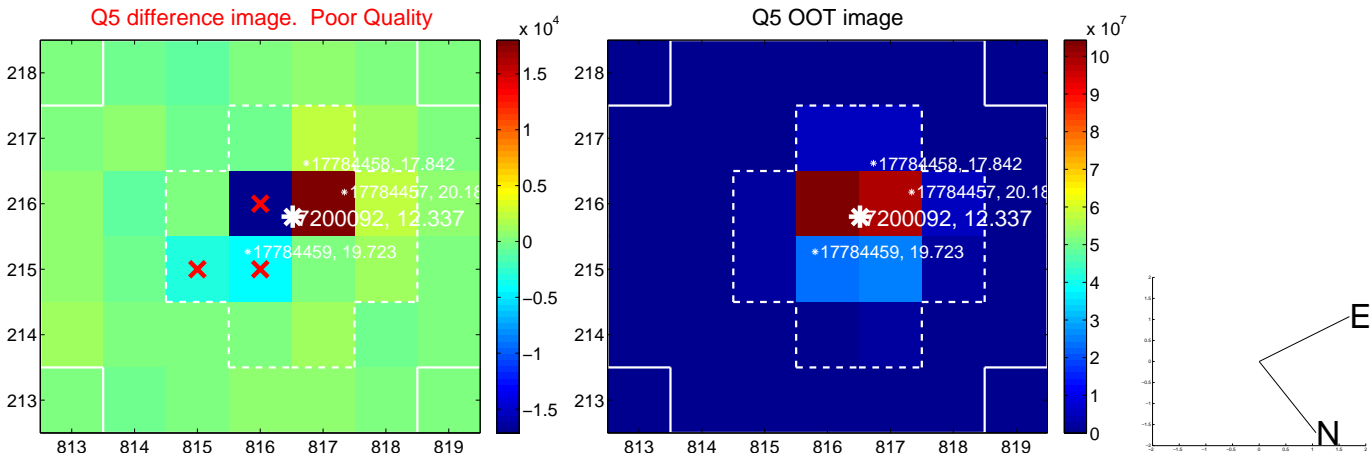
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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



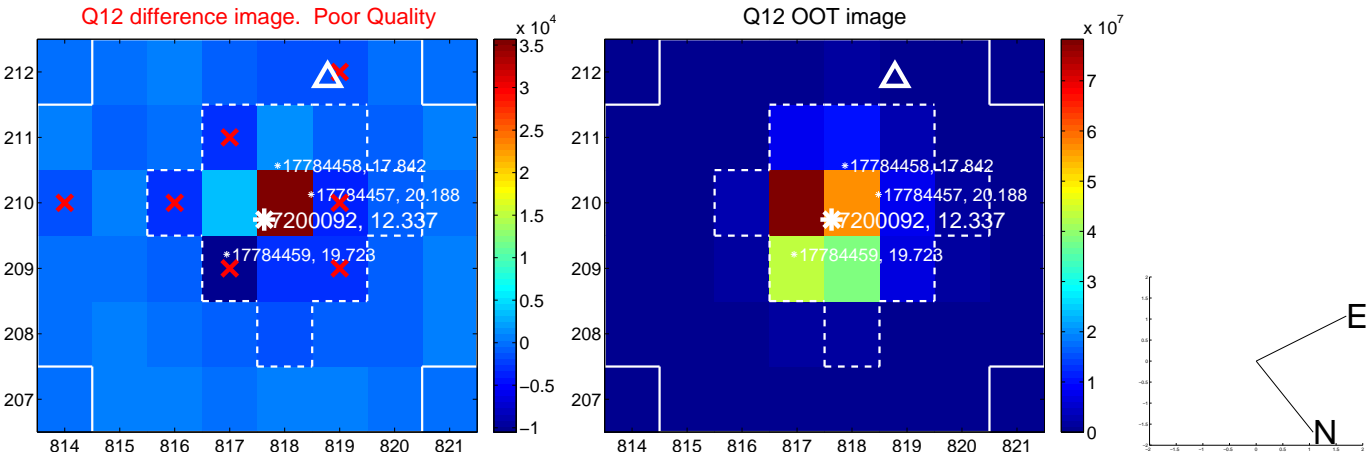
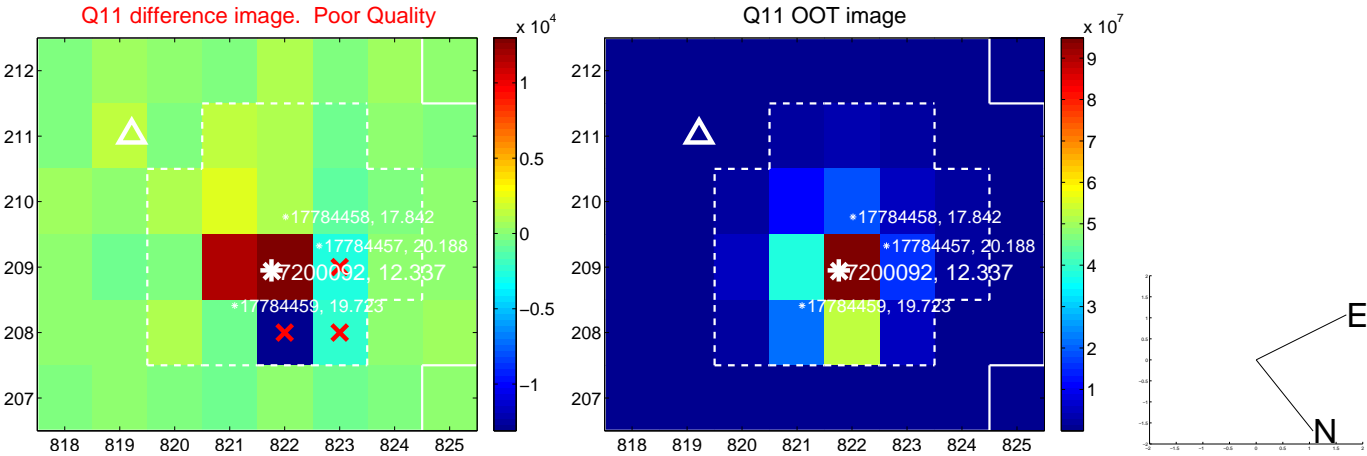
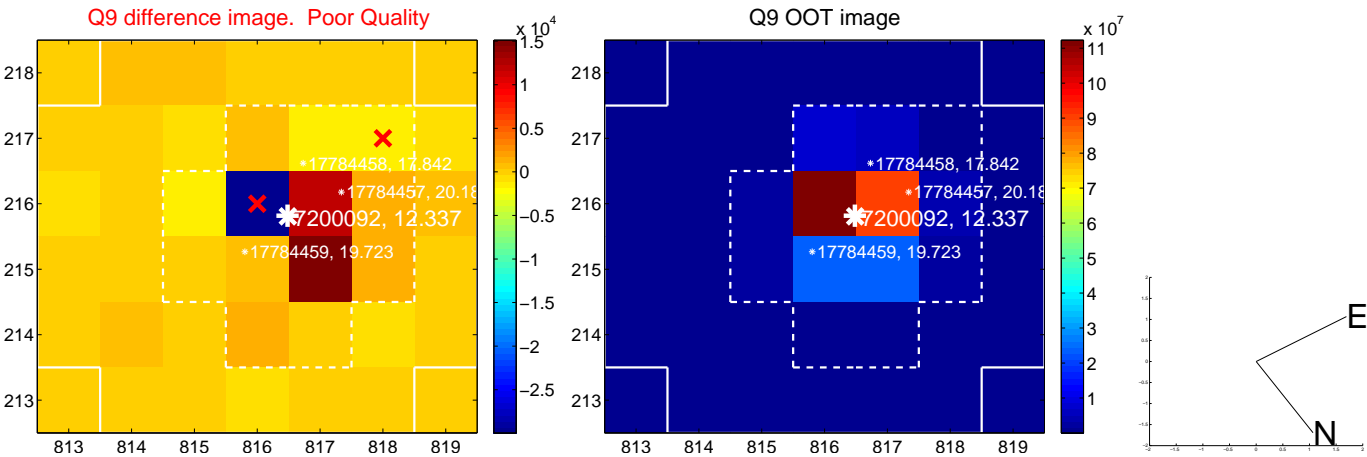
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



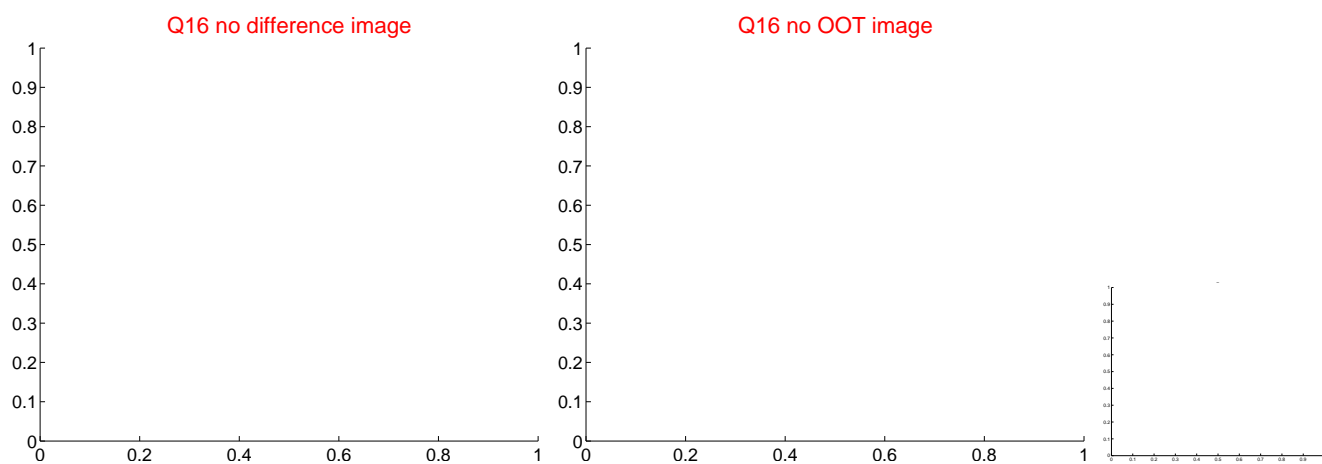
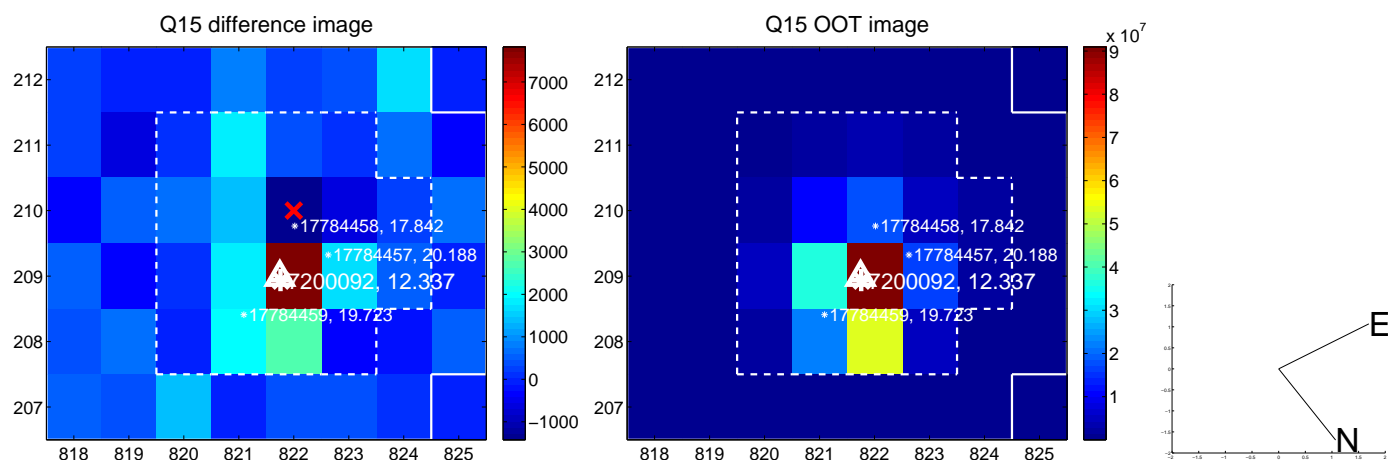
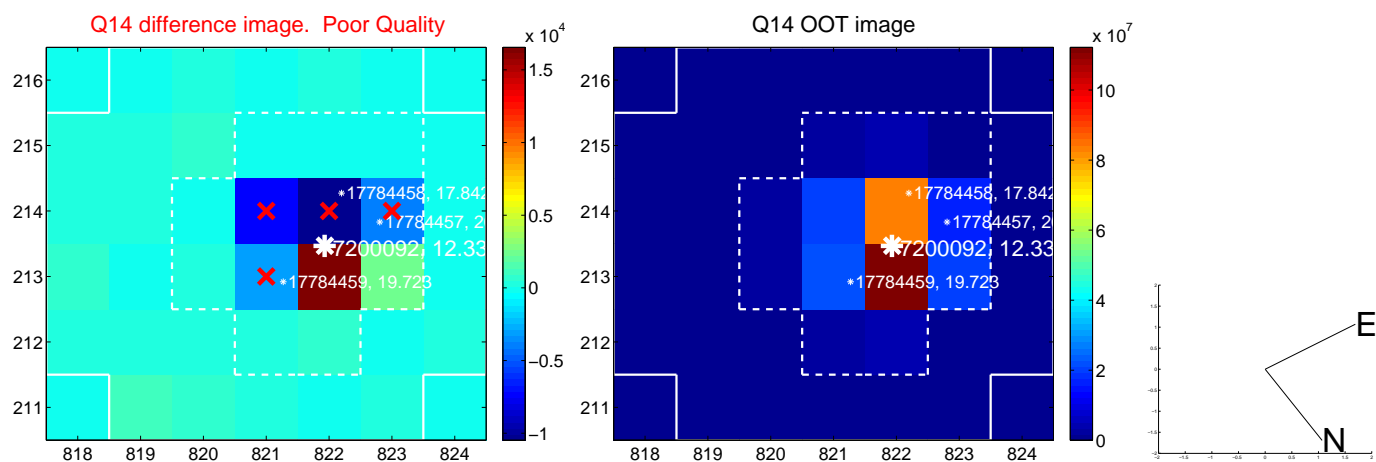
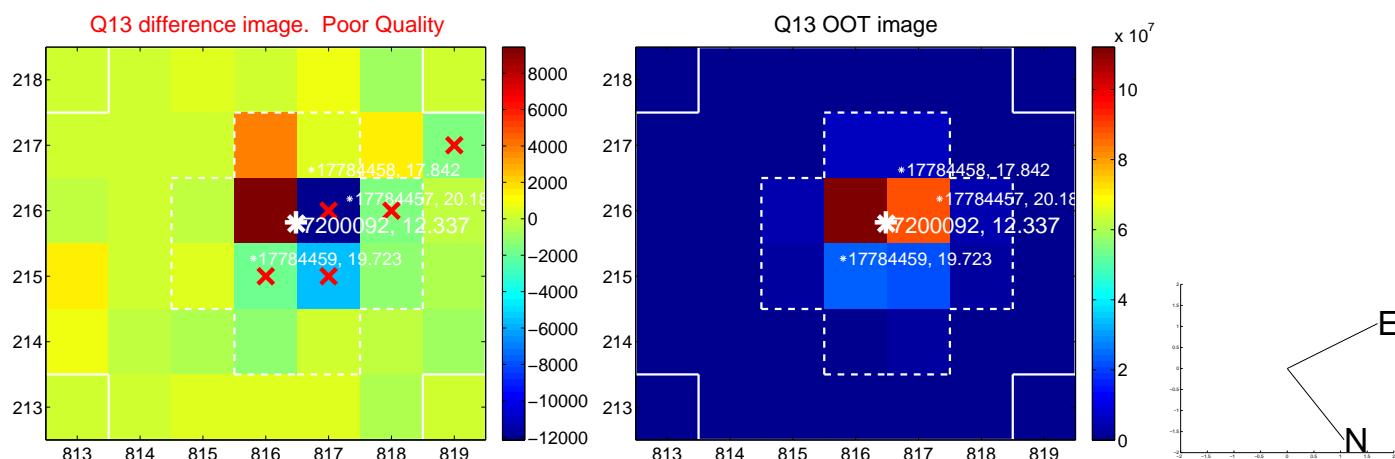
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



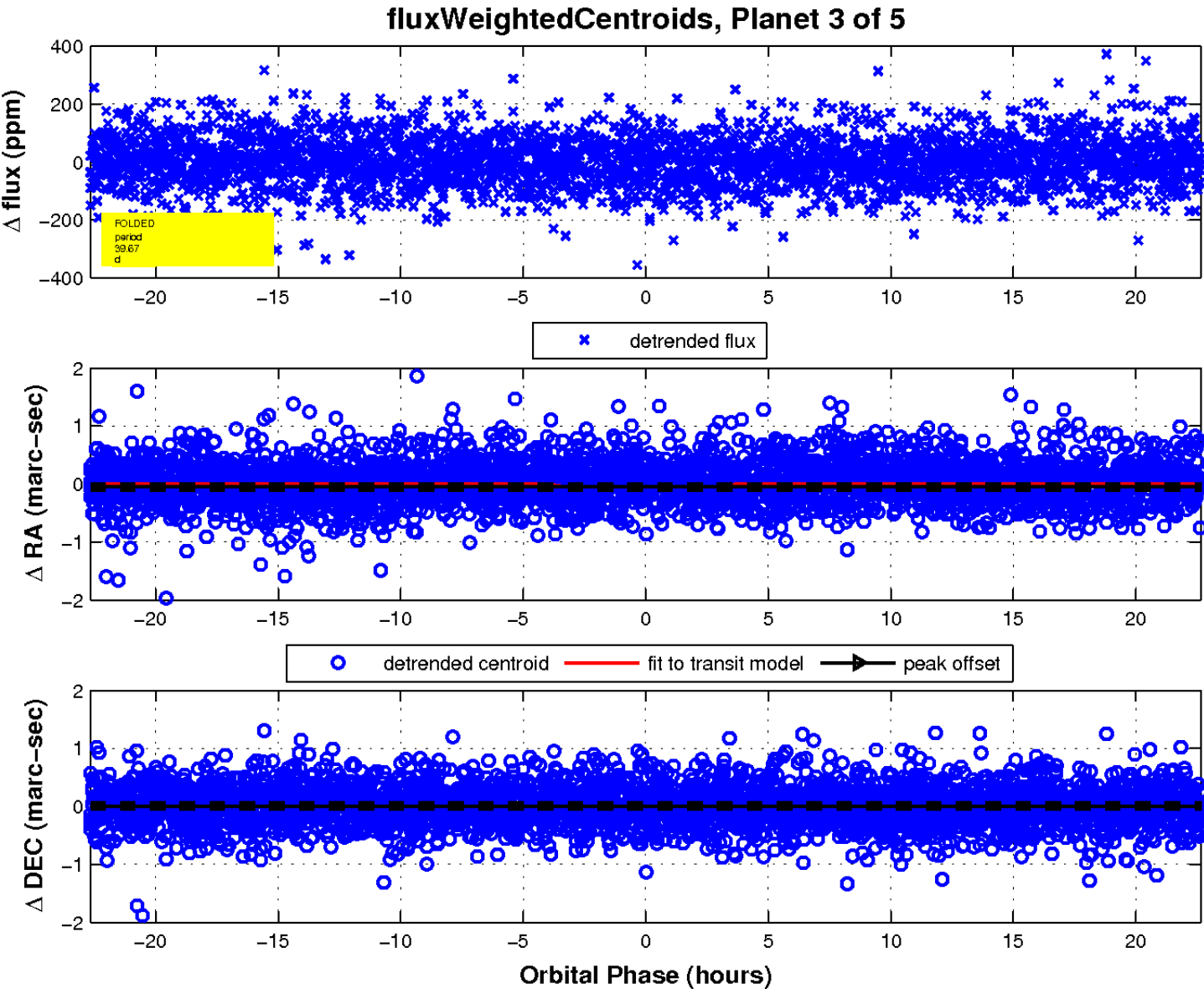
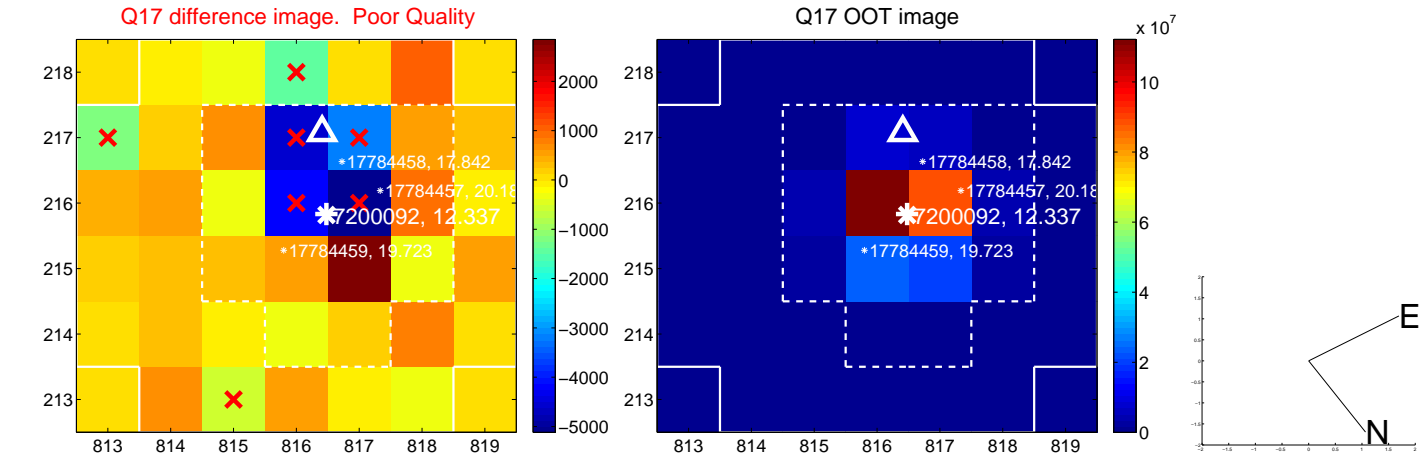
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

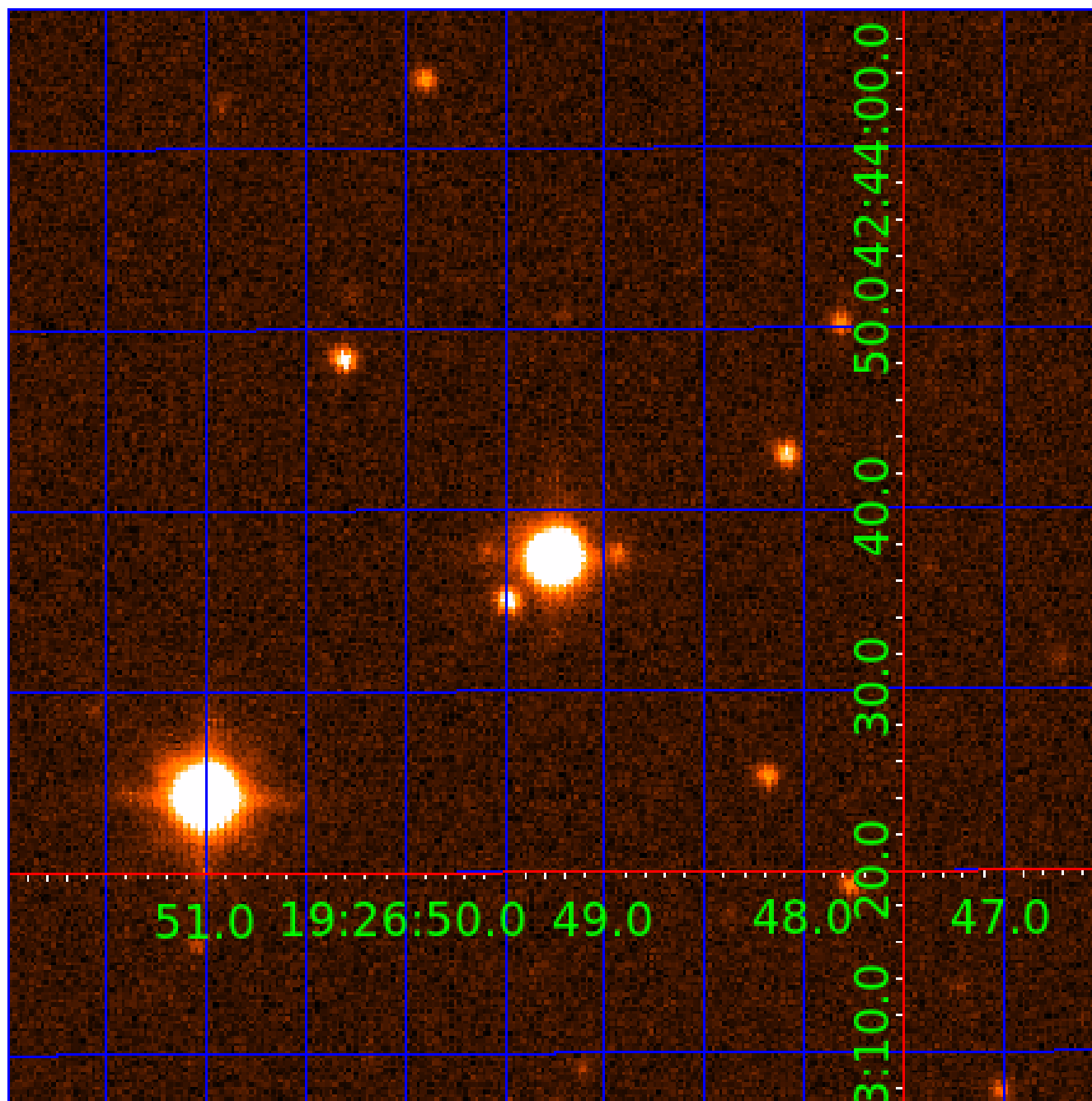


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



UKIRT Image

Declination





# KIC 007200092

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
007200092-01	OBS	No	2.876939	132.456951	5.0	19.520	9.8	4.8	1.93	7671	0.49	4984.82
007200092-02	OBS	No	77.266405	141.242888	87.8	7.110	12.8	10.6	1.93	7671	2.06	61.98
007200092-03	OBS	No	39.666500	136.651802	54.2	7.555	9.7	8.8	1.93	7671	1.59	150.77
007200092-04	OBS	No	49.079634	142.364509	166.9	0.943	8.9	9.8	1.93	7671	2.67	113.51
007200092-05	OBS	No	43.573542	168.835292	145.0	1.256	8.2	7.5	1.93	7671	2.66	133.02

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007200092-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—MOD_NONUNIQ_DV
007200092-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT
007200092-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
007200092-04	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_FEW_DIFFS
007200092-05	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_FEW_MEAS

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

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

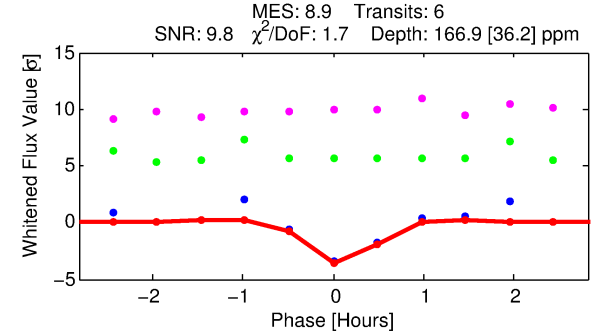
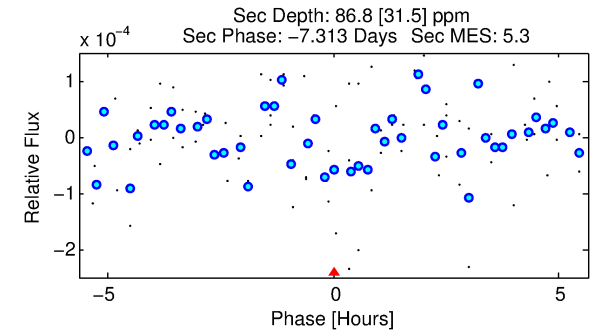
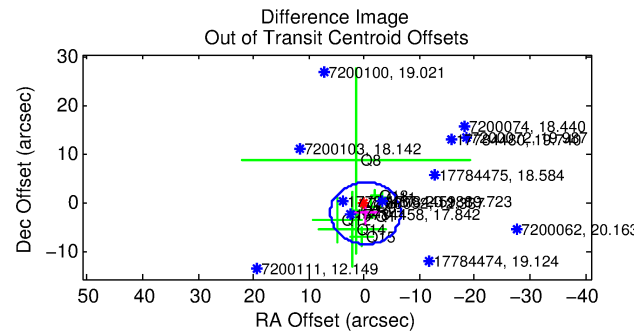
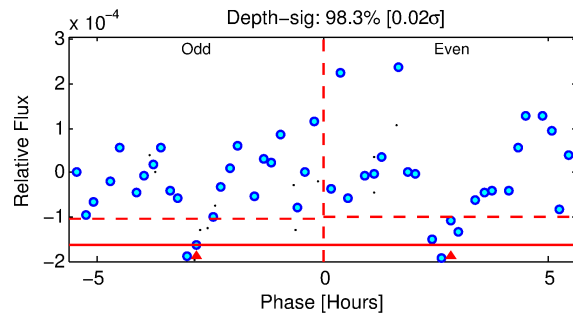
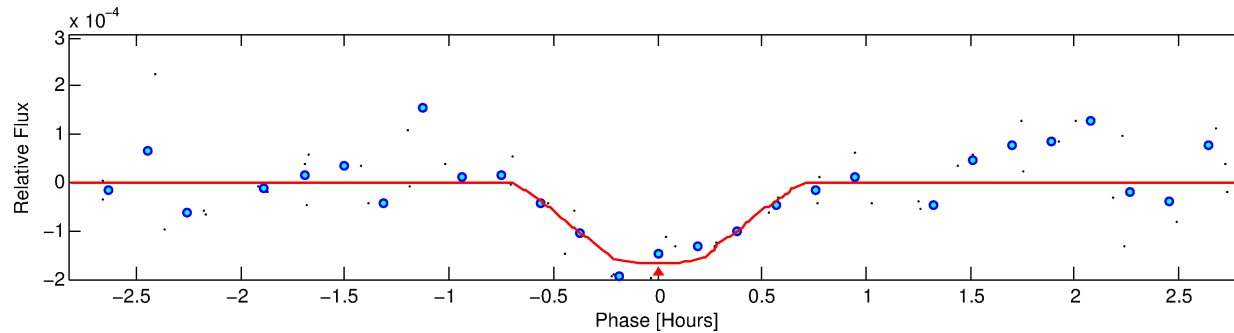
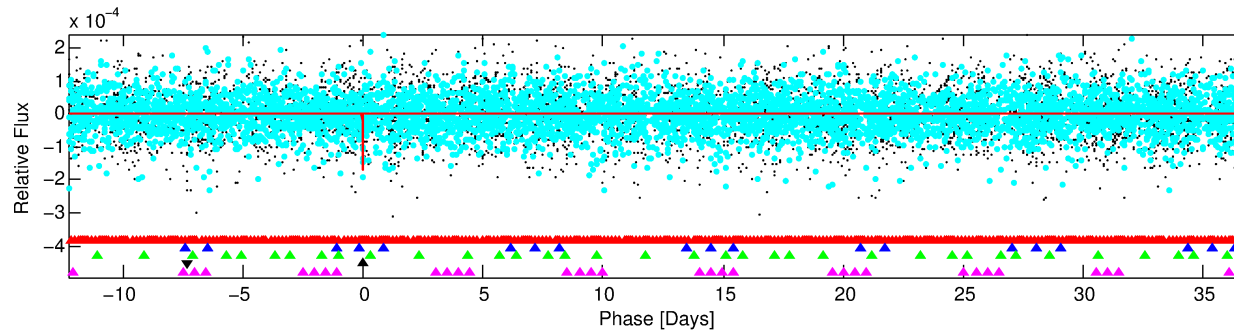
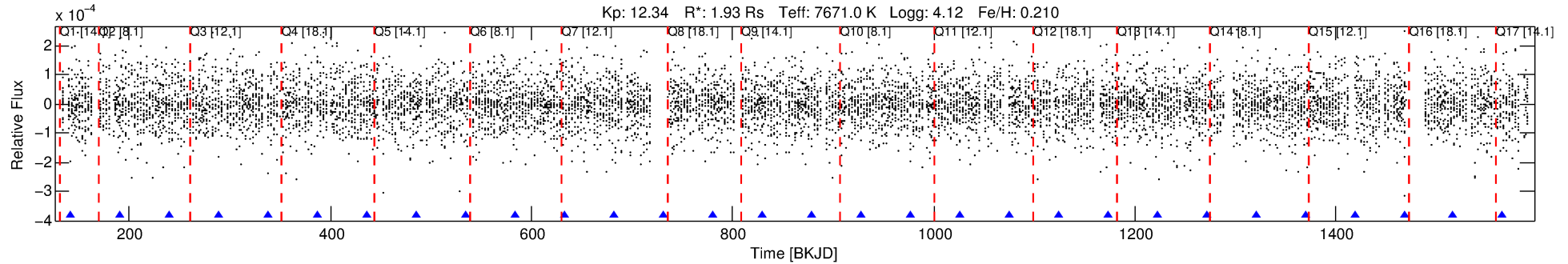
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 007200092-04

No Significant Match Found

# DV One-Page Summary

KIC: 7200092 Candidate: 4 of 5 Period: 49.080 d



## DV Fit Results:

Period = 49.07963 [0.00035] d  
Epoch = 142.3645 [0.0036] BKJD  
Rp/R\* = 0.0127 [0.0146]  
a/R\* = 302.81 [2142.69]  
b = 0.67 [5.85]  
Seff = 113.51 [42.98]  
Teq = 832 [79] K  
Rp = 2.67 [3.16] Re  
a = 0.3186 [0.0725] AU  
Ag = 678.15 [1597.74] [0.42σ]  
Teffp = 6567 [3841] K [1.49σ]

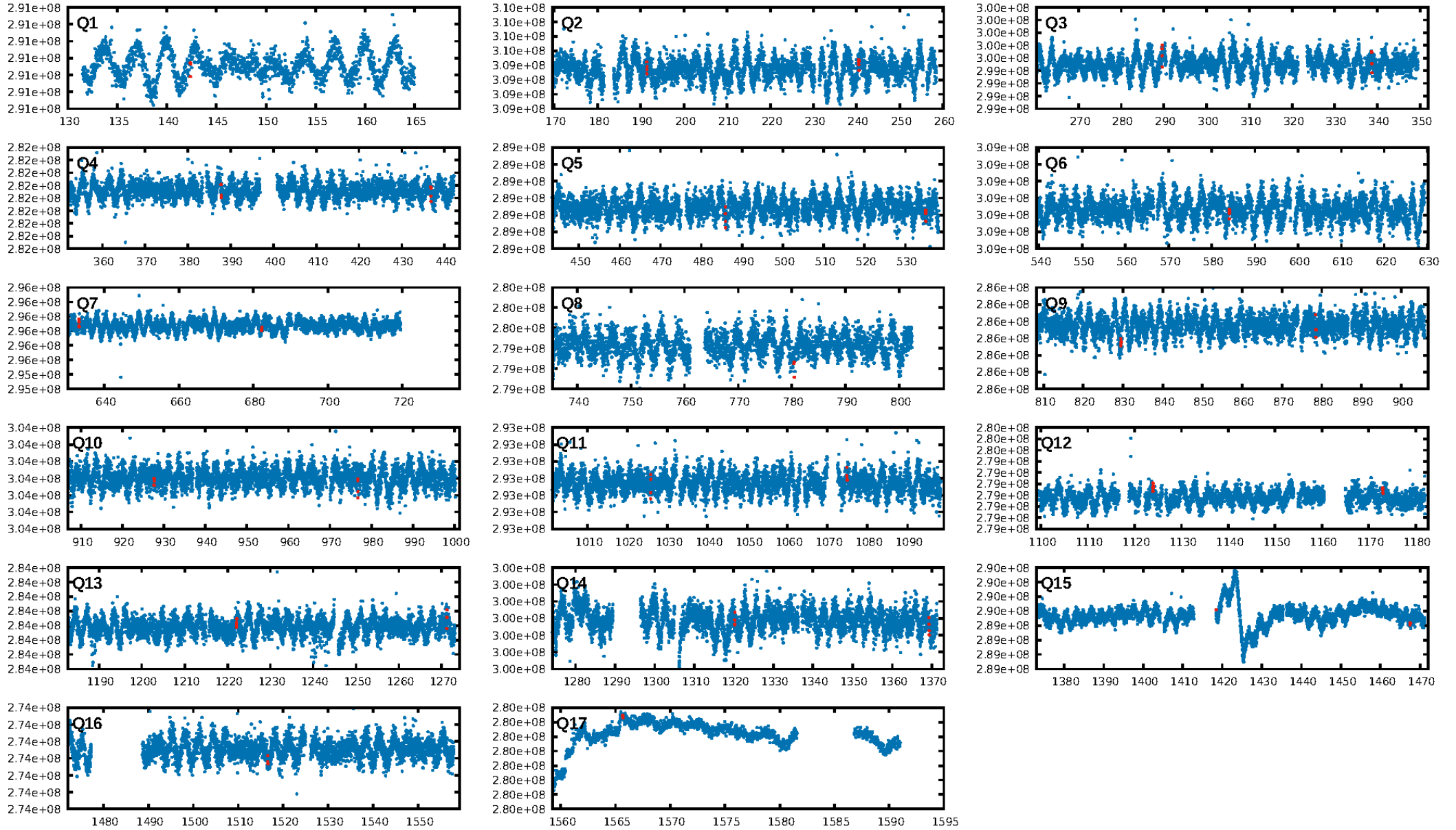
## DV Diagnostic Results:

ShortPeriod-sig: 100.0% [84.14σ]  
LongPeriod-sig: 100.0% [94.32σ]  
ModelChiSquare2-sig: 38.9%  
ModelChiSquareGof-sig: 85.2%  
**Bootstrap-pfa: 3.08e-08**  
RollingBand-fgt: 1.00 [5/5]  
GhostDiagnostic-chr: 3.529  
Centroid-sig: 83.6%  
Centroid-so: 0.406 arcsec [0.45σ]  
OotOffset-rm: 2.055 arcsec [0.97σ]  
KicOffset-rm: 2.070 arcsec [0.98σ]  
OotOffset-st: 3/2/2/3 [10]  
KicOffset-st: 3/2/2/3 [10]  
DiffImageQuality-fgm: 0.20 [2/10]  
DiffImageOverlap-fno: 0.53 [9/17]

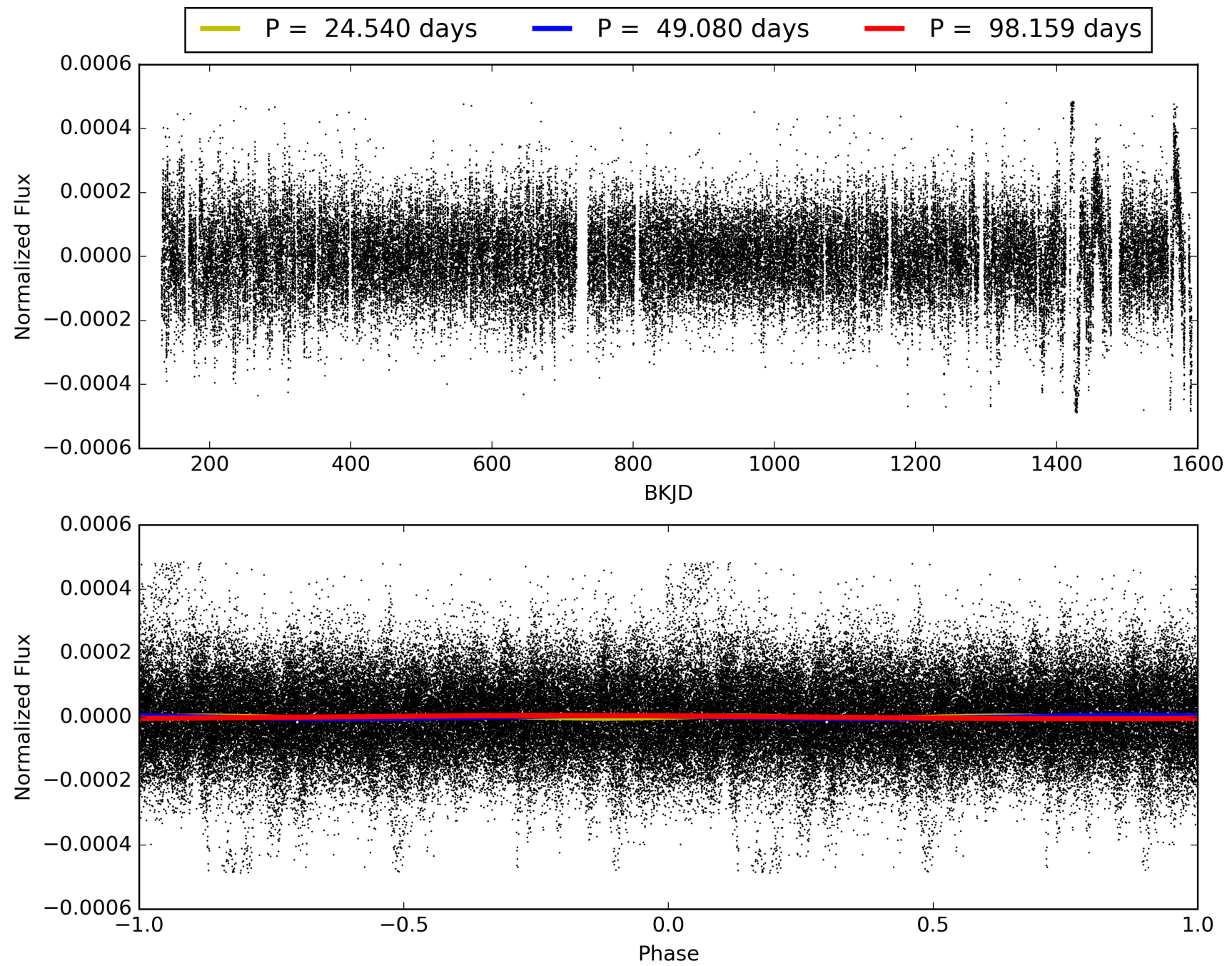
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 04:06:16 Z

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

# TCE 007200092-04, PDC Light Curves

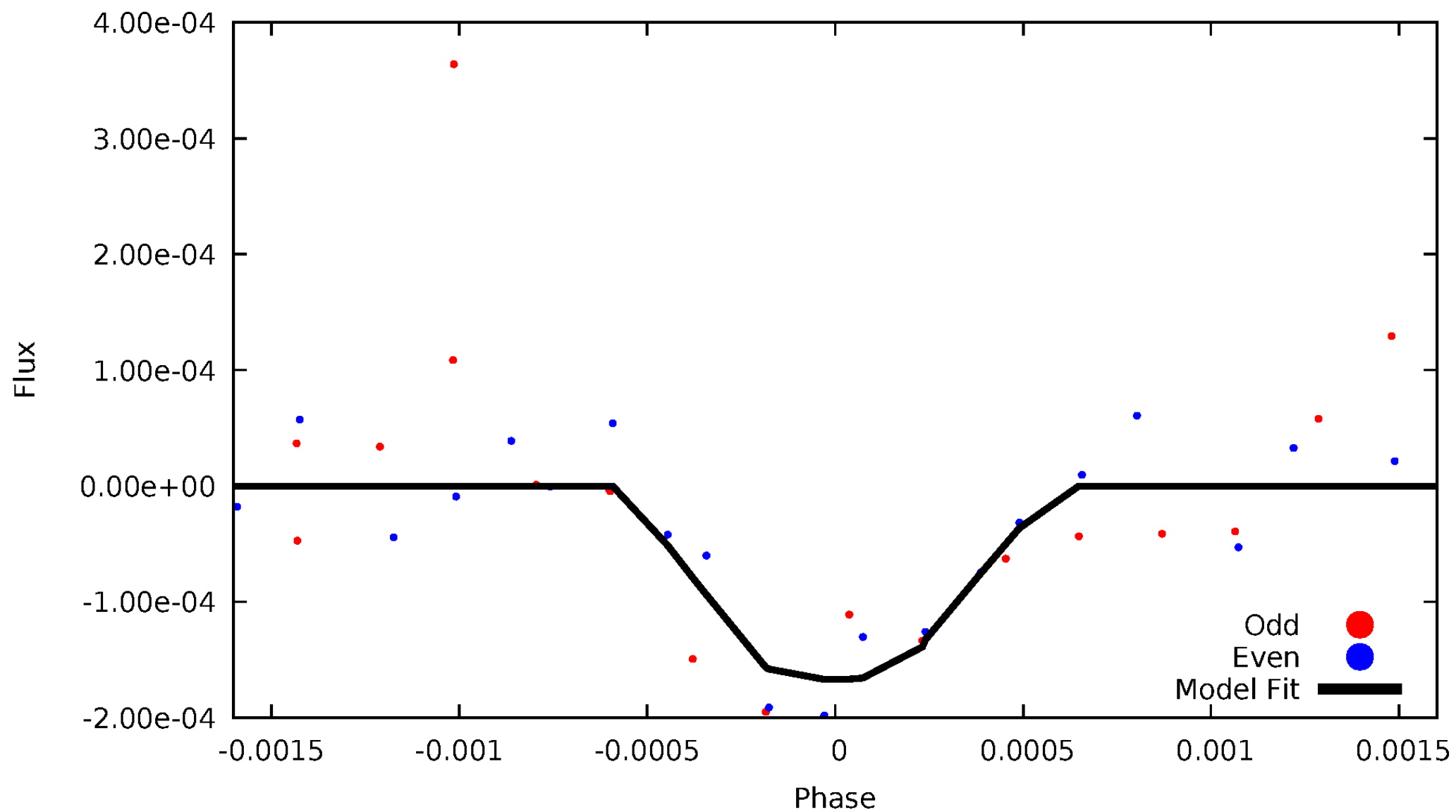


TCE 007200092-04



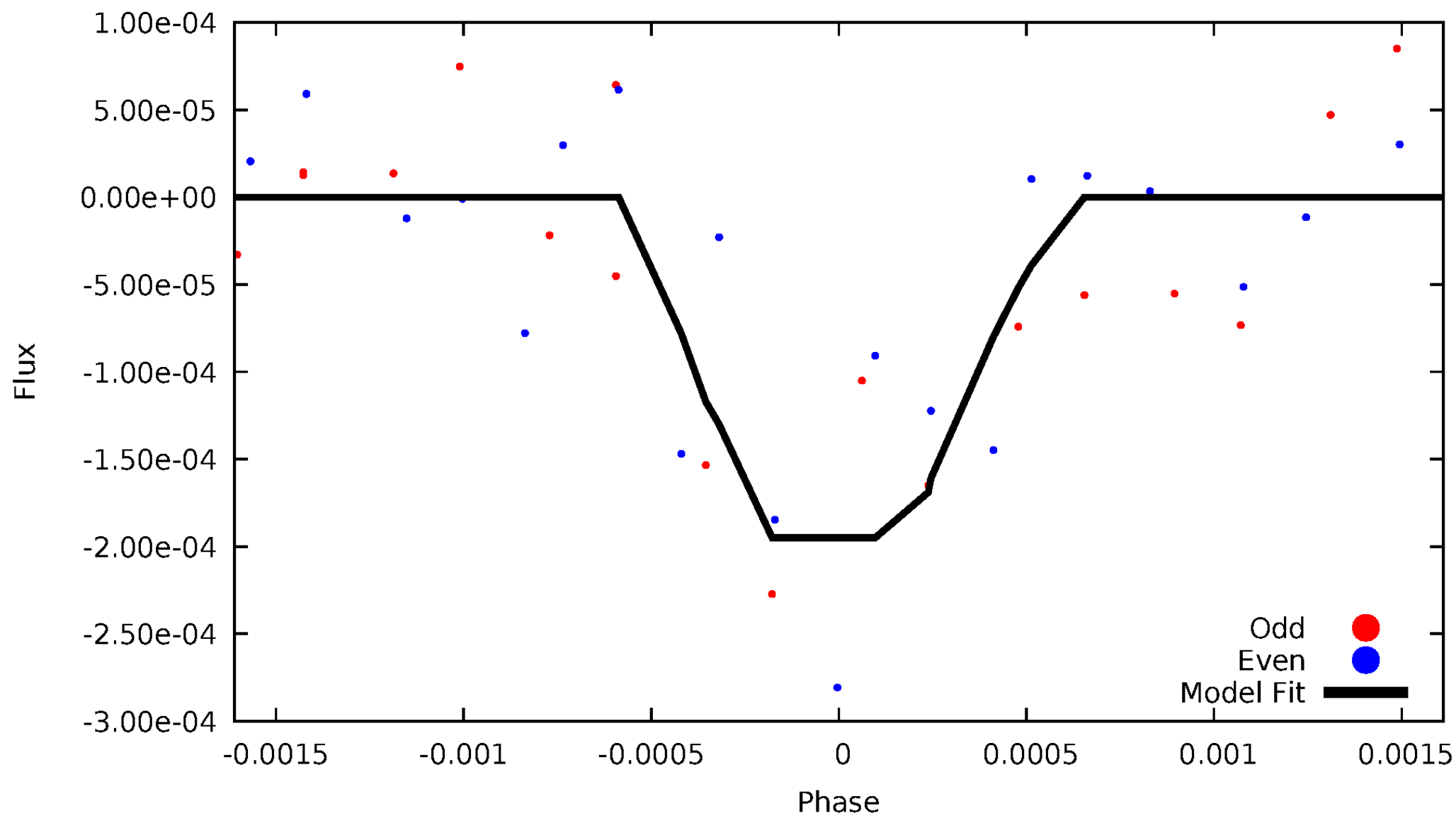
# DV Odd/Even

TCE 007200092-04



# ALT Odd/Even

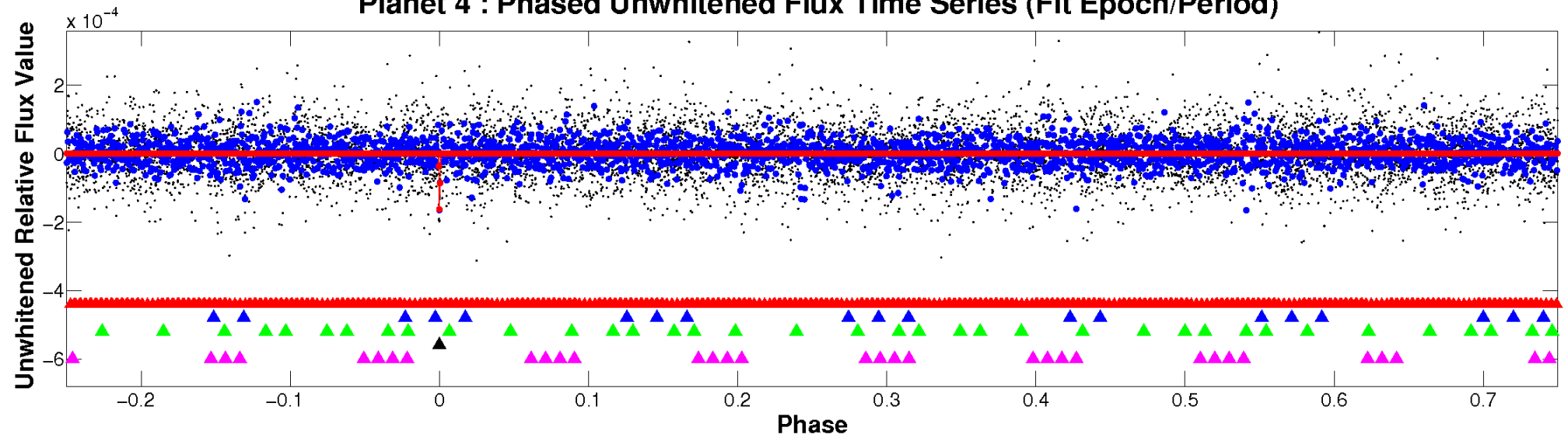
TCE 007200092-04



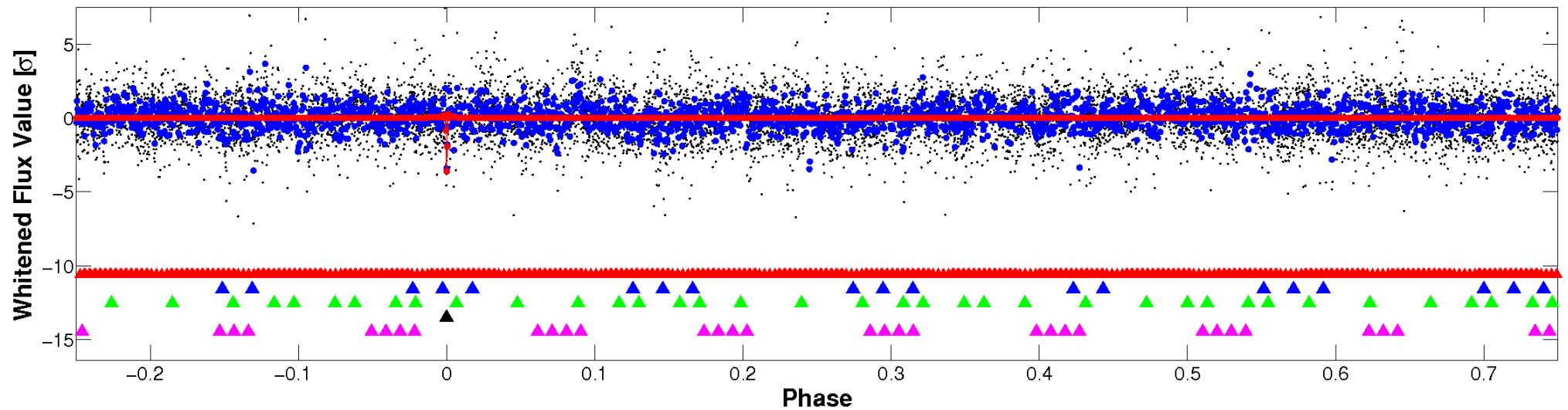


# Non-Whitened Vs. Whitened Light Curve

## Planet 4 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

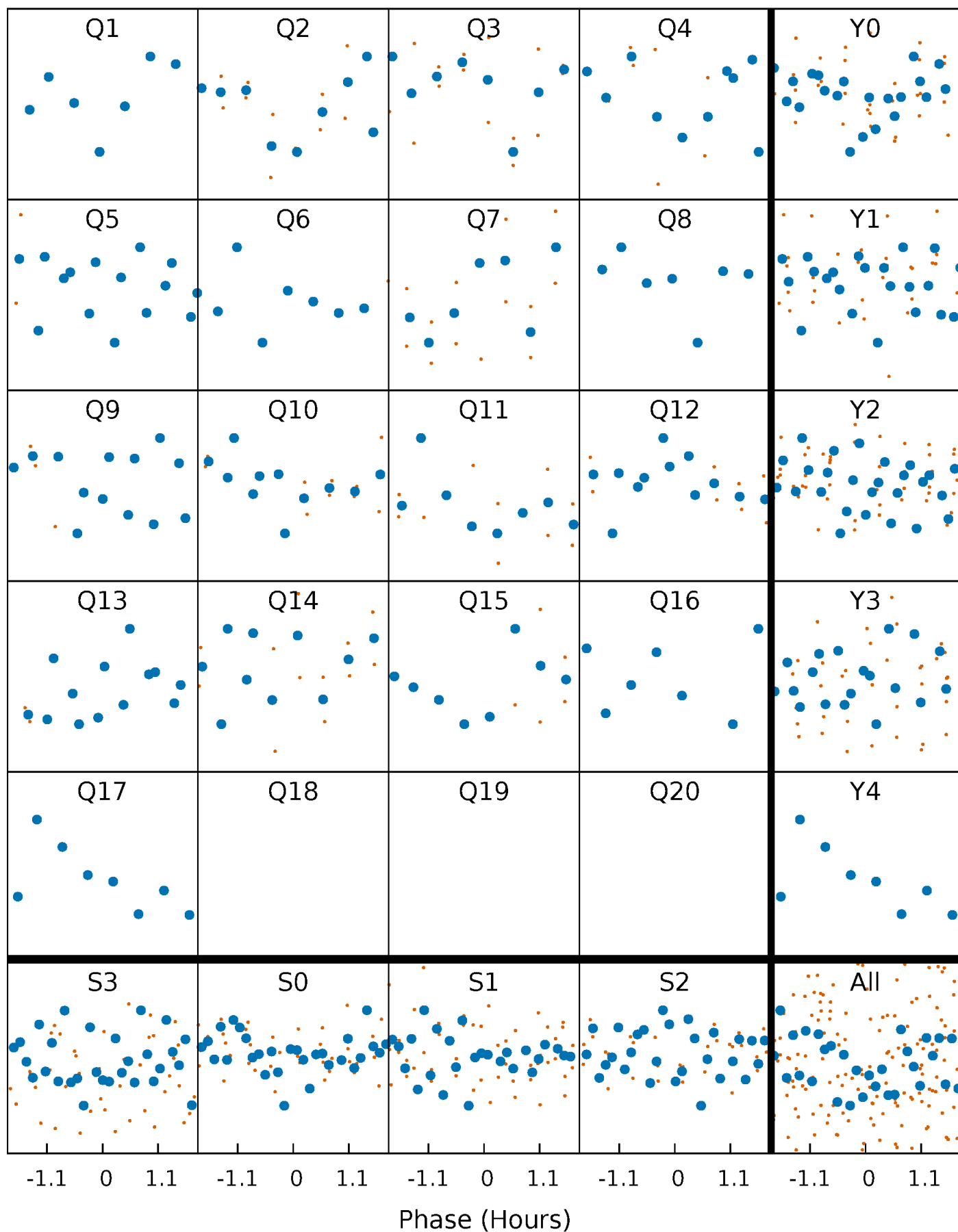


## Planet 4 : Phased Whitened Flux Time Series (Fit Epoch/Period)



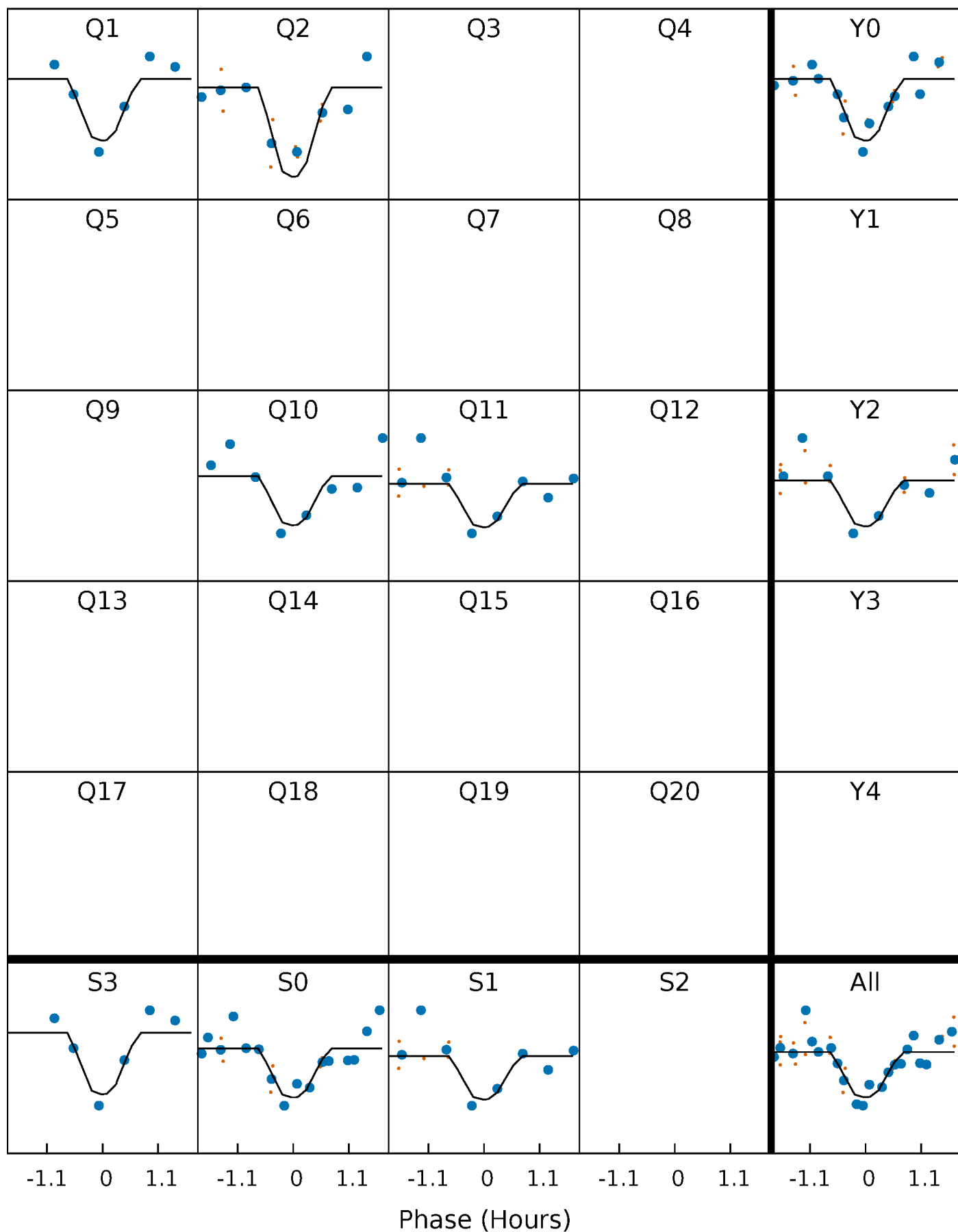
# PDC Quarter-Phased Transit Curves

TCE 007200092-04 P= 49.079634 Days  $T_0=142.364509$  (BKJD)



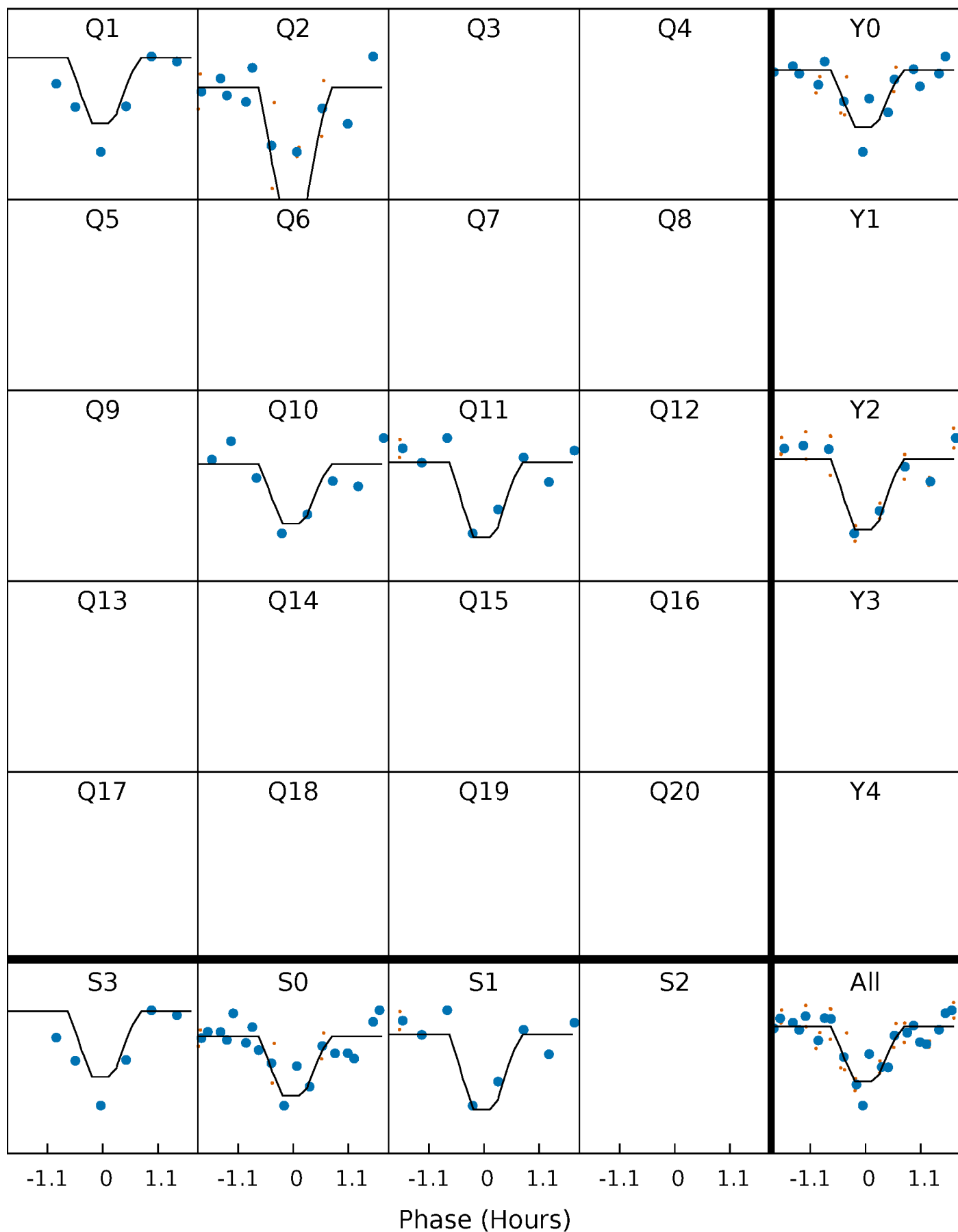
# DV Quarter-Phased Transit Curves

TCE 007200092-04     $P = 49.079634$  Days     $T_0 = 142.364509$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

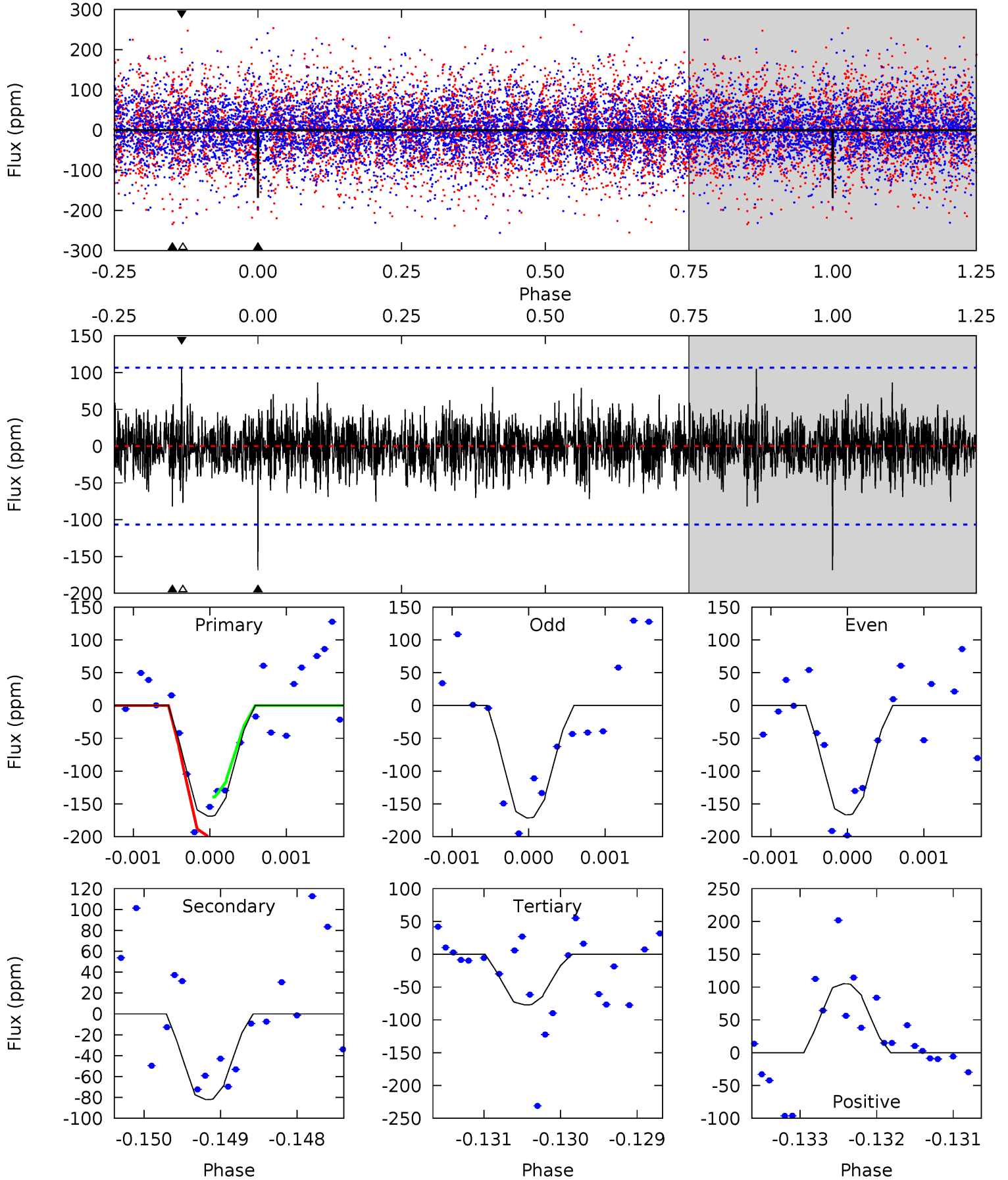
TCE 007200092-04    P= 49.079688 Days     $T_0=142.363257$  (BKJD)



# DV Model-Shift Uniqueness Test

007200092-04, P = 49.079634 Days, E = 93.284875 Days

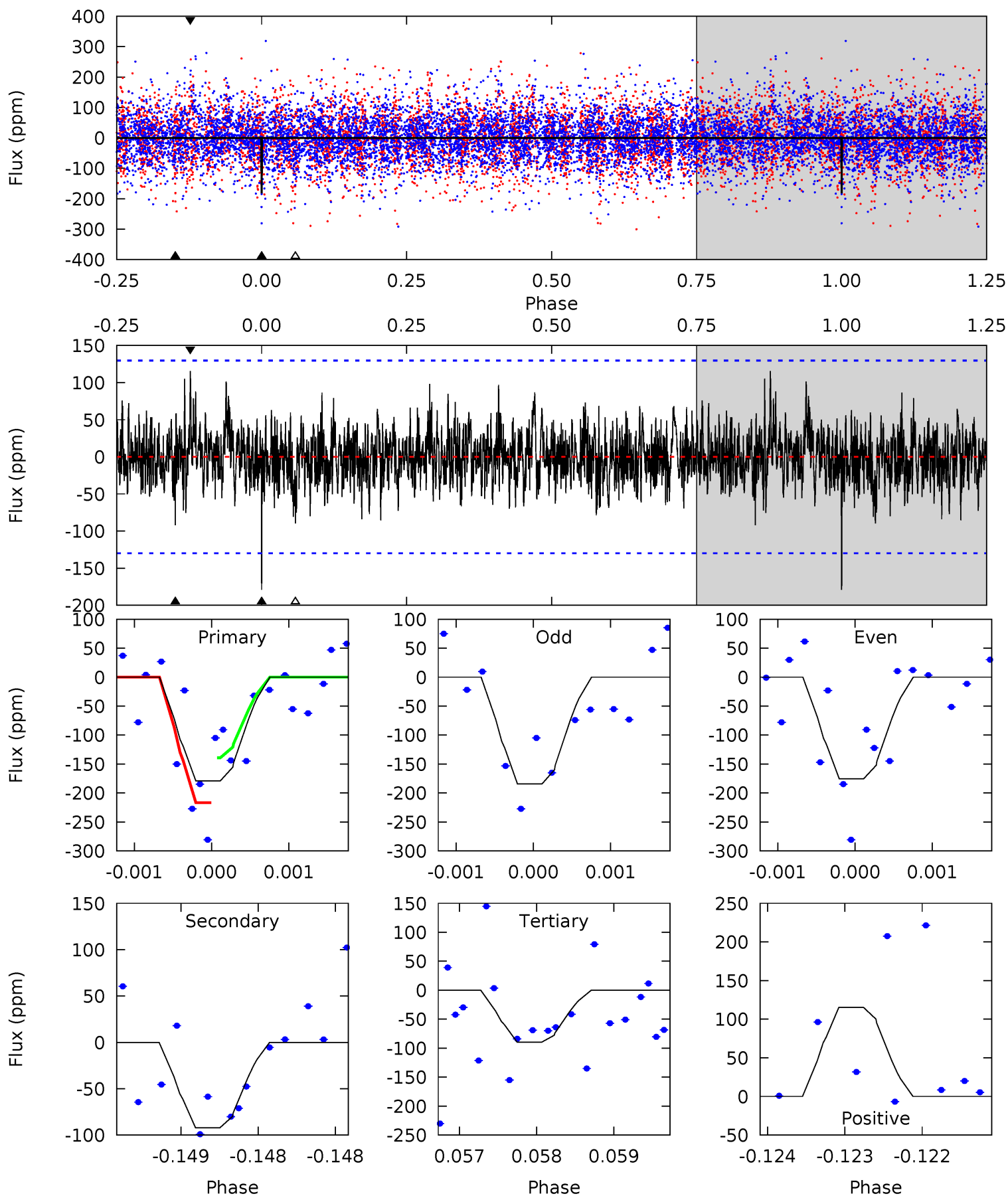
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.60	4.19	3.93	5.35	5.44	3.27	1.22	4.67	3.25	0.25	-1.17	0.12	0.91	0.38	1.50



# Alt Model-Shift Uniqueness Test

007200092-04, P = 49.079688 Days, E = 93.283569 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
7.56	3.89	3.79	4.87	5.48	3.33	1.20	3.77	2.69	0.10	-0.99	0.19	1.06	0.39	1.61



### Stellar Parameters For KIC 007200092

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M$ ( $M_{\odot}$ )	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$7671^{+214}_{-349}$	$4.121^{+0.098}_{-0.182}$	$0.210^{+0.150}_{-0.450}$	$1.927^{+0.519}_{-0.346}$	$1.790^{+0.181}_{-0.294}$	$0.353^{+0.195}_{-0.172}$
	+3%/-5%	+2%/-4%	+71%/-214%	+27%/-18%	+10%/-16%	+55%/-49%
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 007200092-04 / KOI

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{max}$ (K)	$T_{obs}$ (K)	$A_{obs}$
DV	$-82 \pm 20$	$3.45^{+2.86}_{-2.24}$	$1169^{+82}_{-66}$	$5632^{+4832}_{-1288}$	$383^{+2862}_{-269}$
Alt.	$-92 \pm 24$	$3.51^{+2.97}_{-2.22}$	$1175^{+75}_{-74}$	$5626^{+4910}_{-1204}$	$375^{+2687}_{-261}$

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



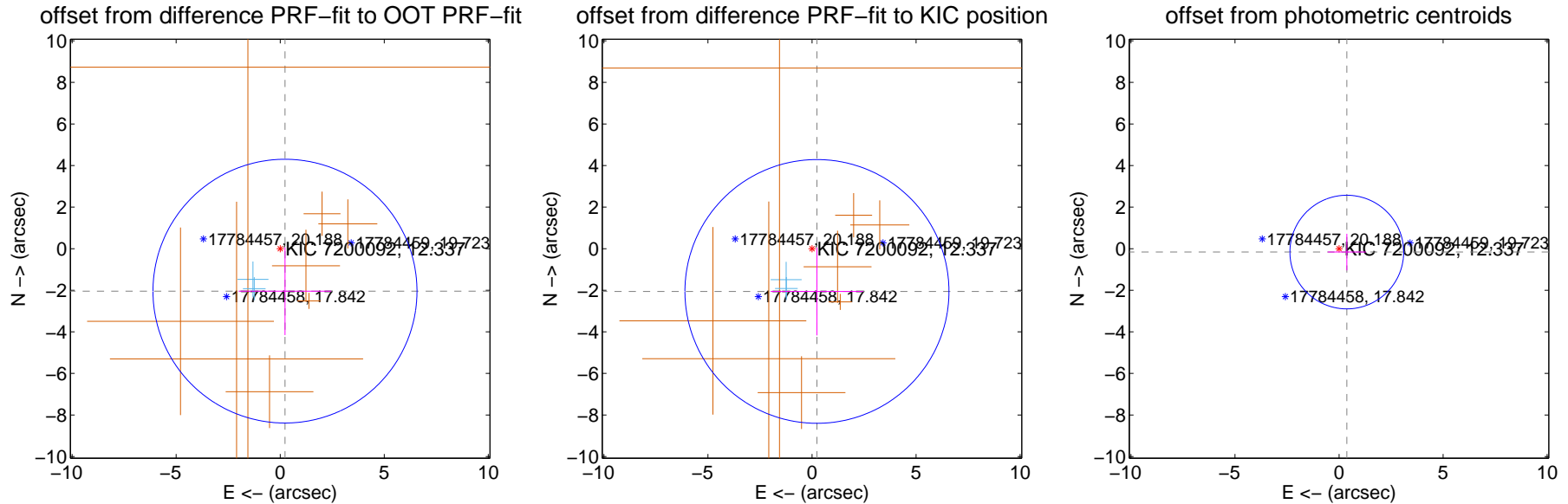
## DV Centroid Data

Supplemental centroid analysis for 007200092-04. Kepler magnitude: 12.34. Transit SNR 9.85

There are 2 quarters with good PRF difference image offsets

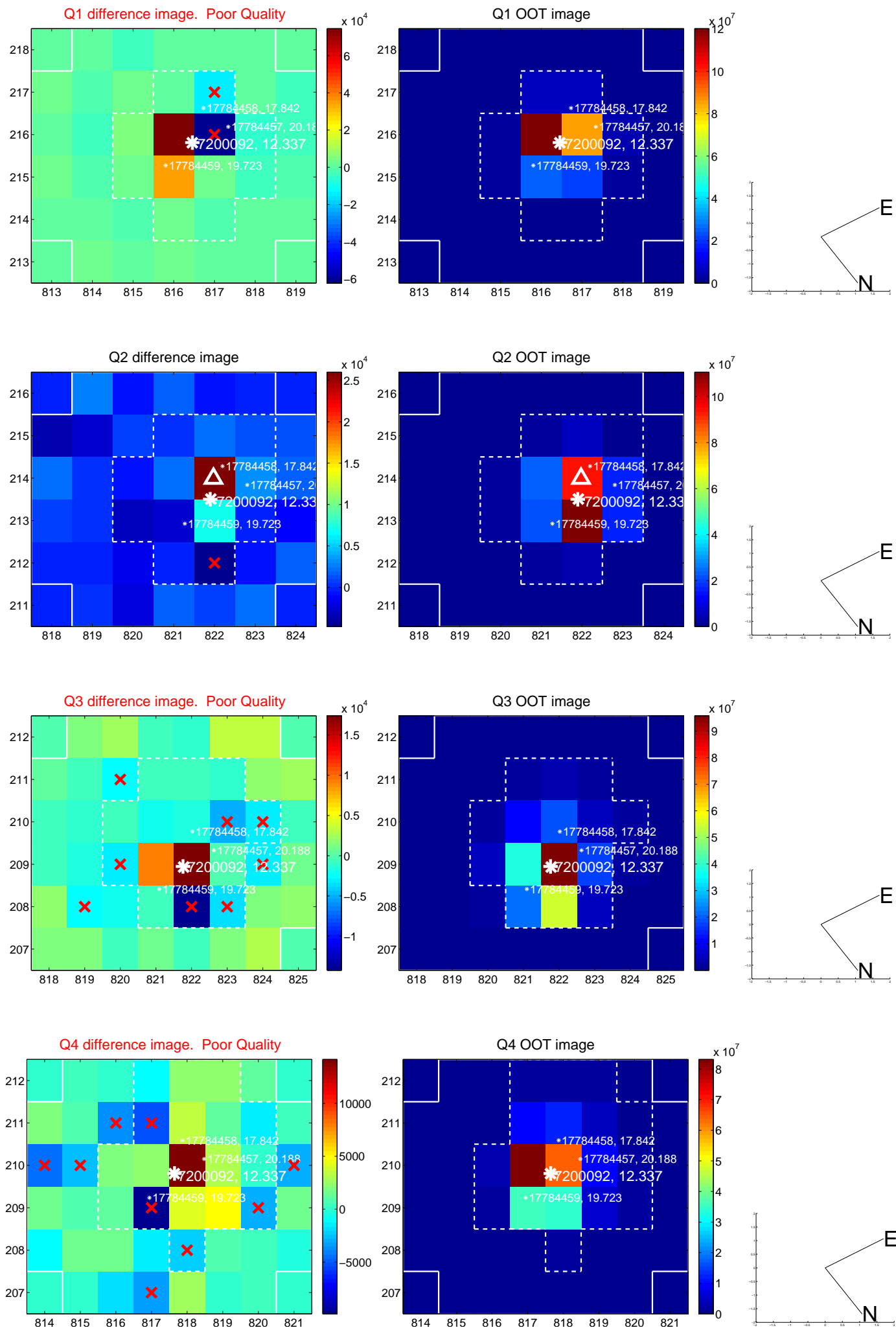
The direct PRF centroid is offset from the target star catalog position by about 0.06 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$2.055 \pm 2.115$	0.97	$-0.230 \pm 2.224$	$-2.043 \pm 2.113$
PRF-fit source offset from KIC position	$2.070 \pm 2.115$	0.98	$-0.237 \pm 2.224$	$-2.056 \pm 2.113$
photometric centroid source offset	$0.41 \pm 0.91$	0.45	$-0.37 \pm 0.92$	$-0.16 \pm 0.88$

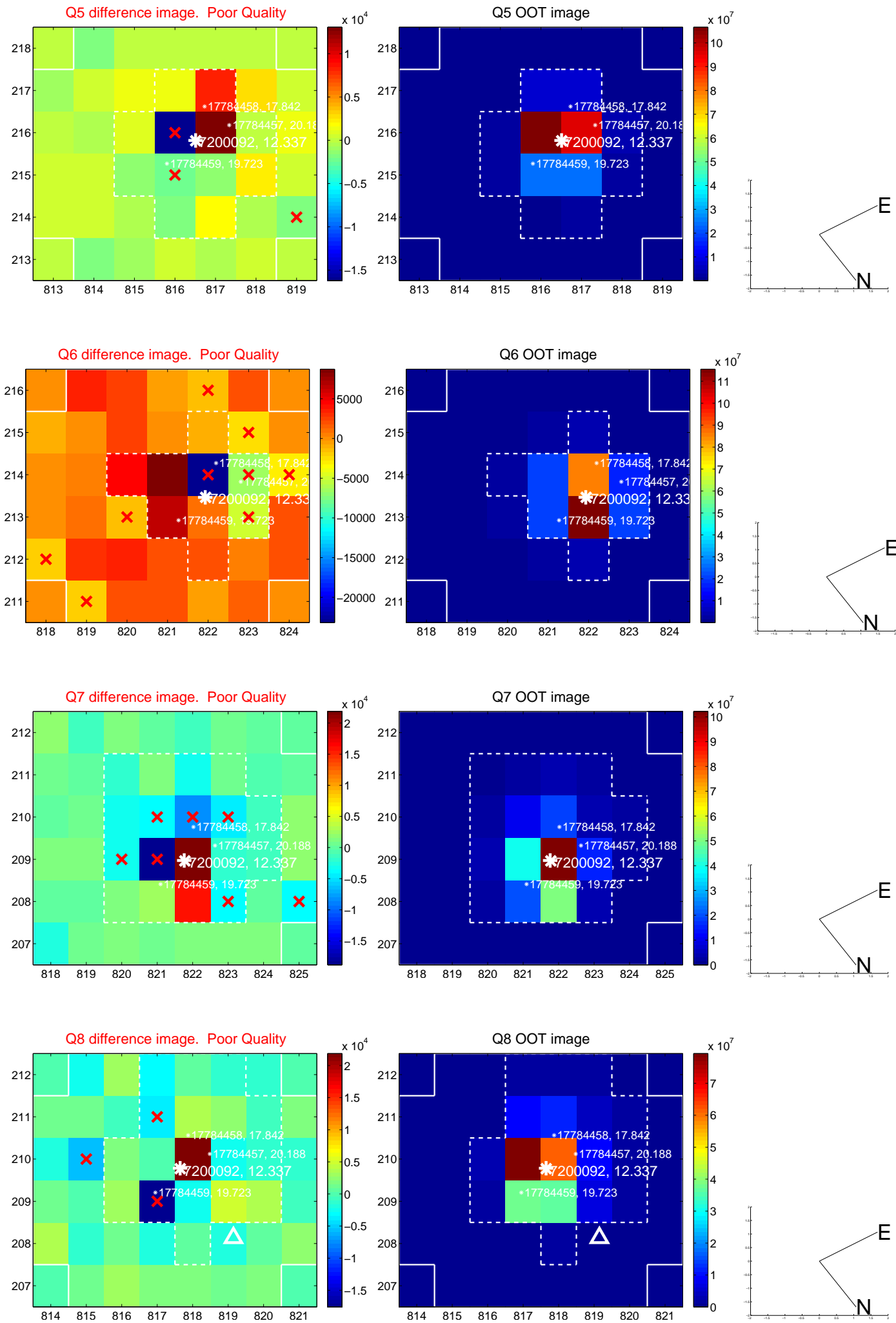


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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

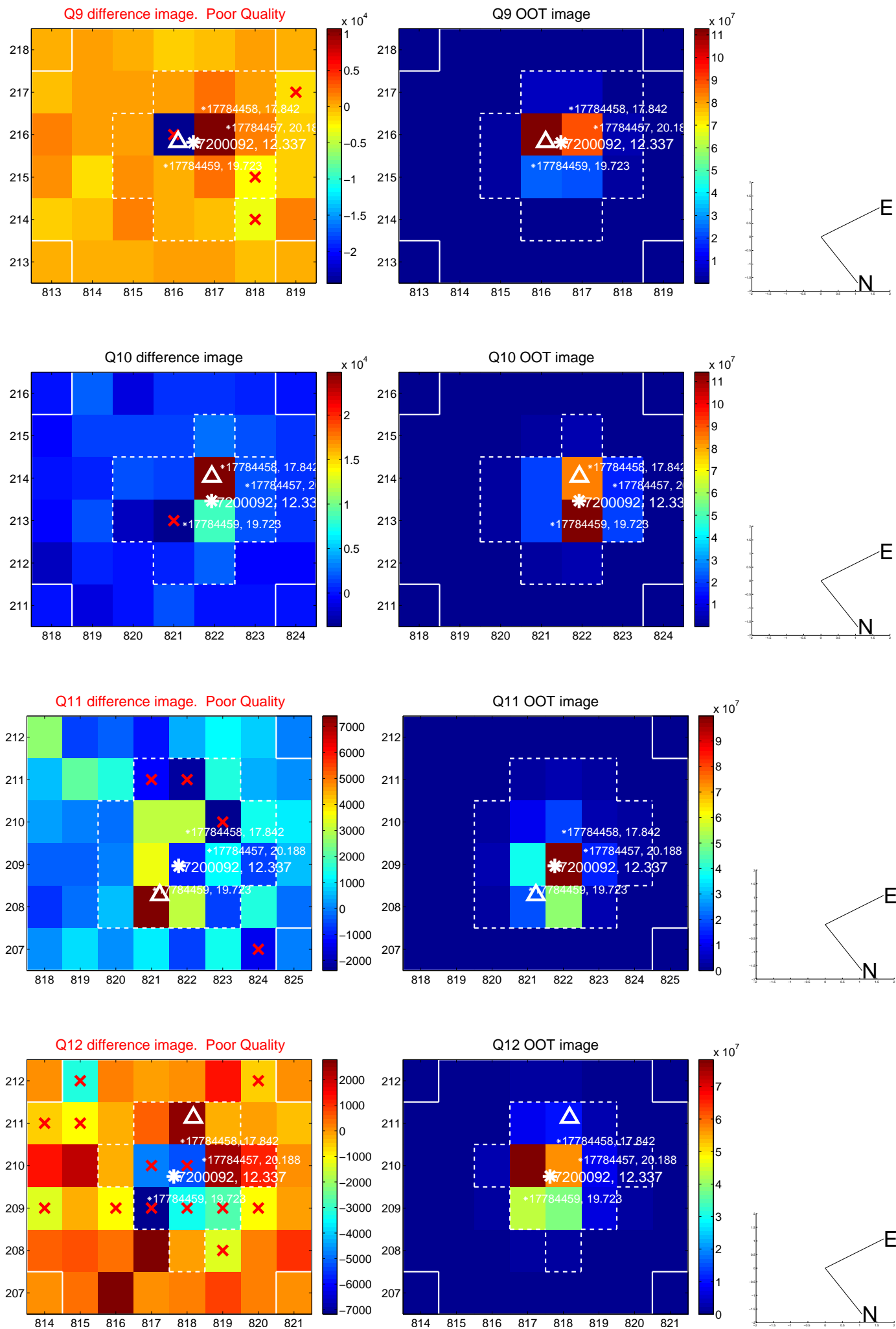
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



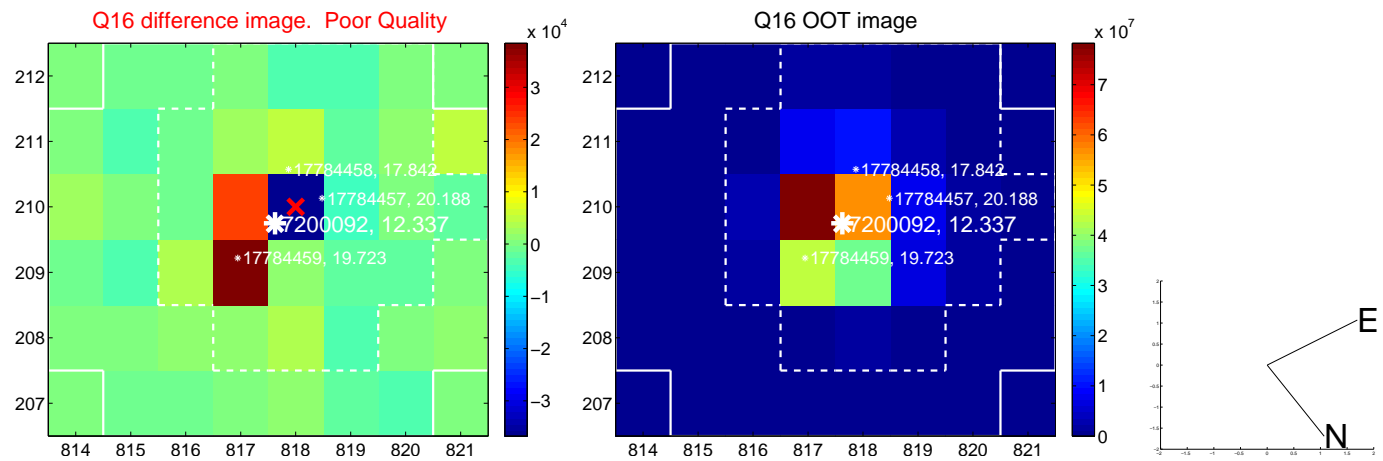
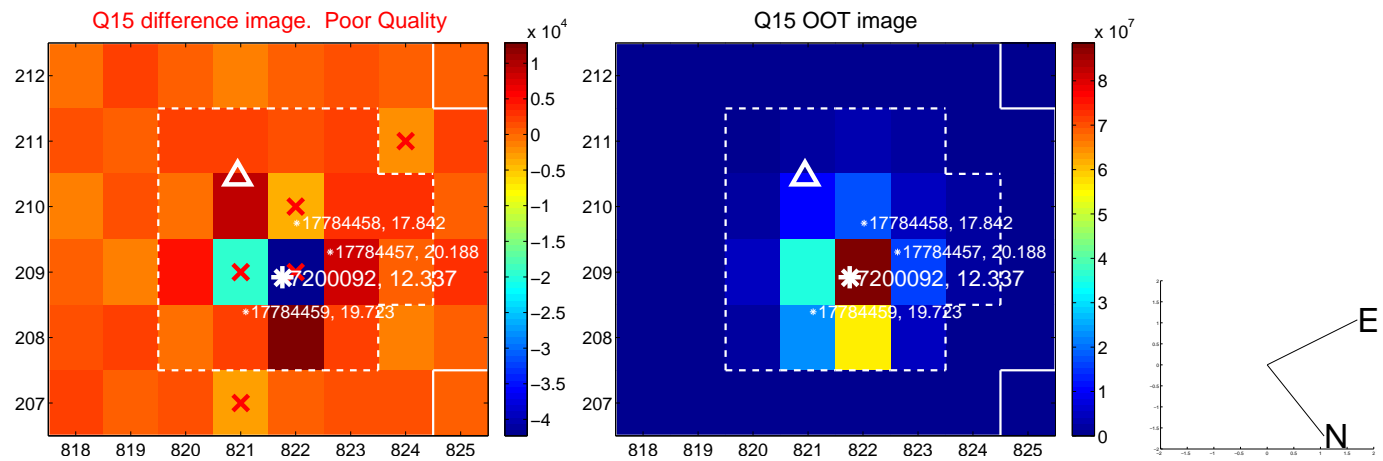
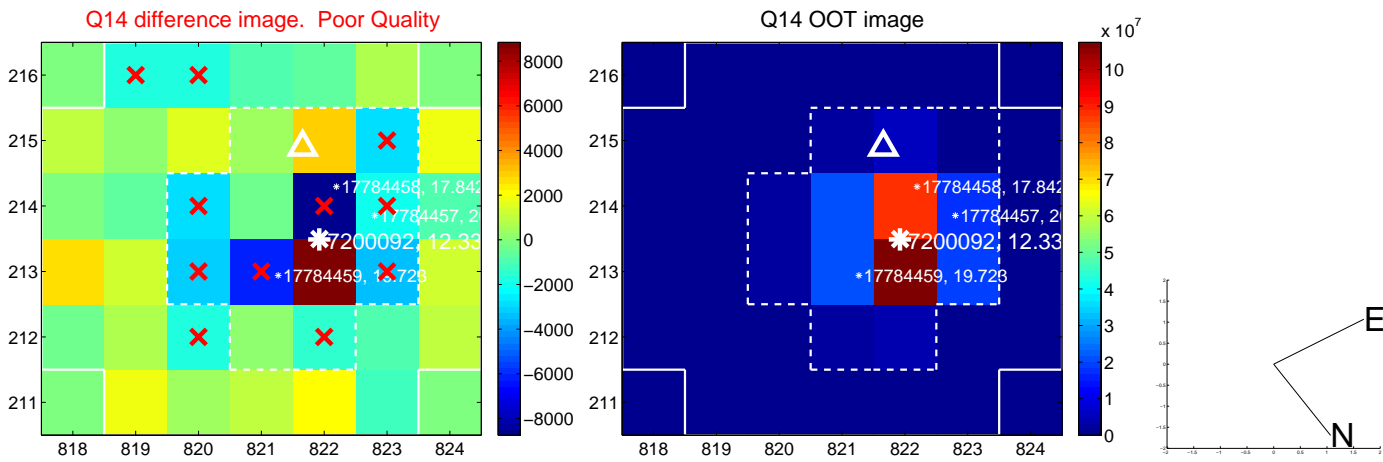
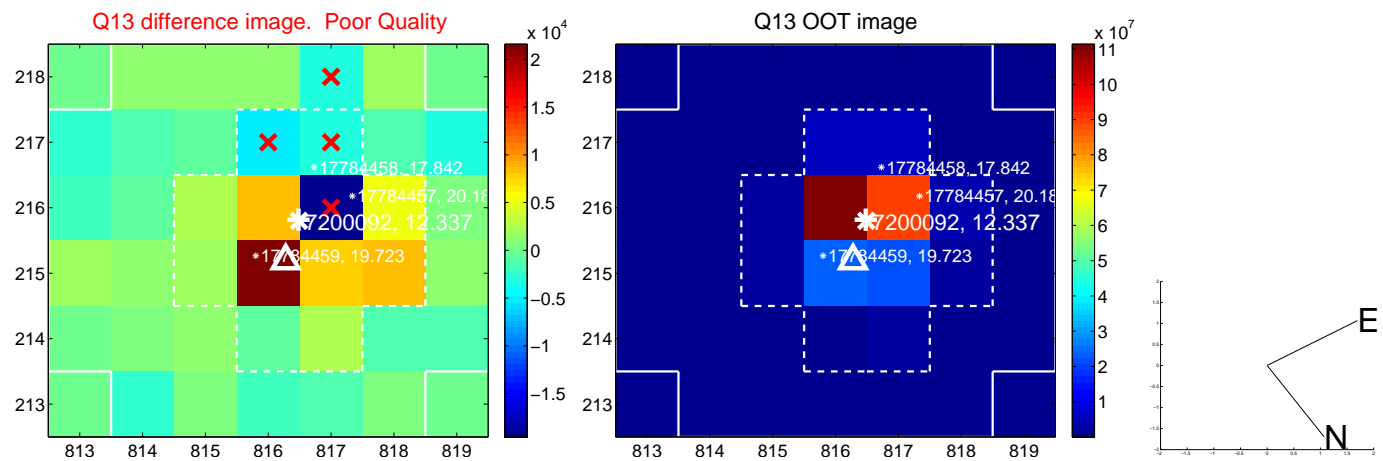
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



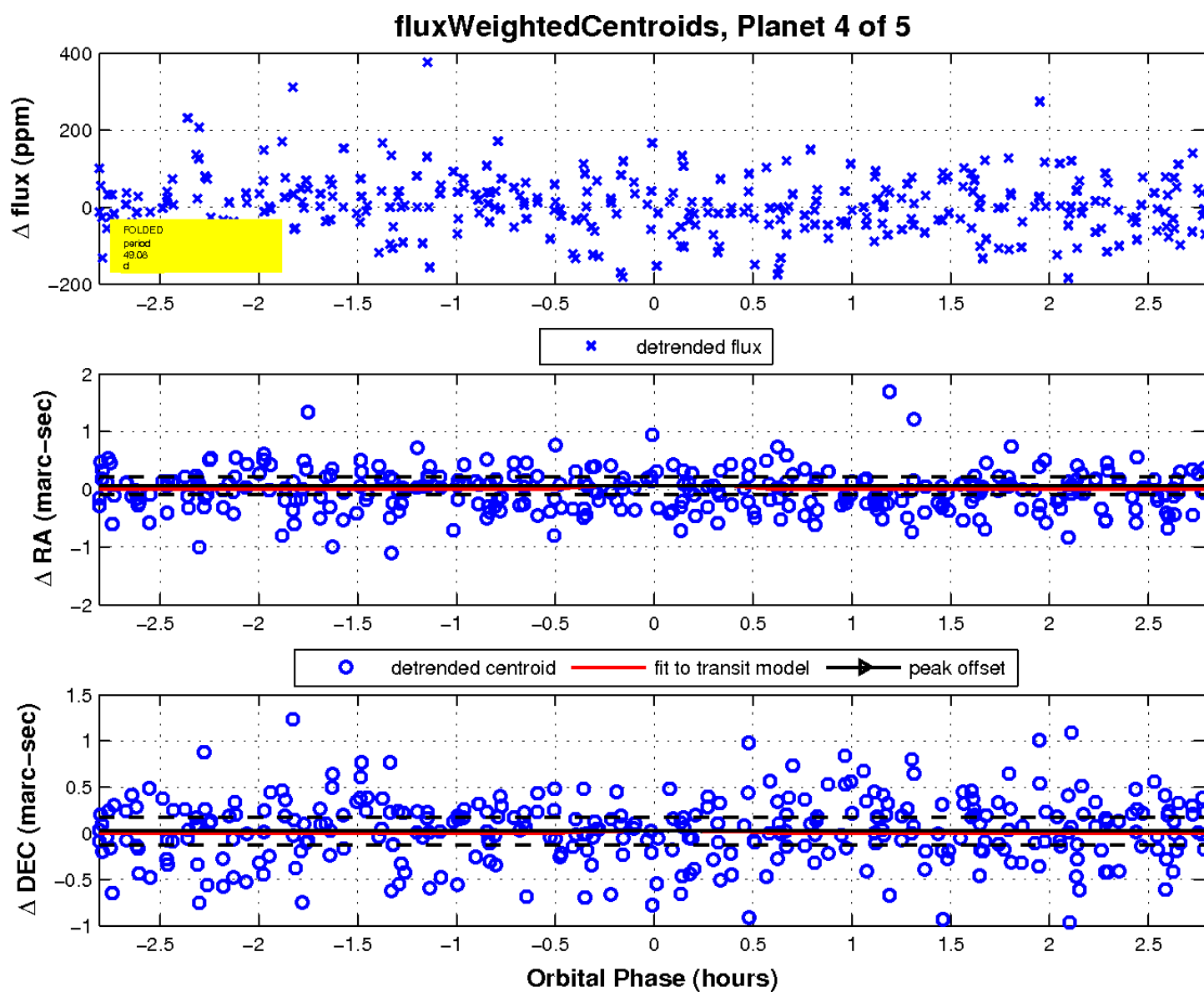
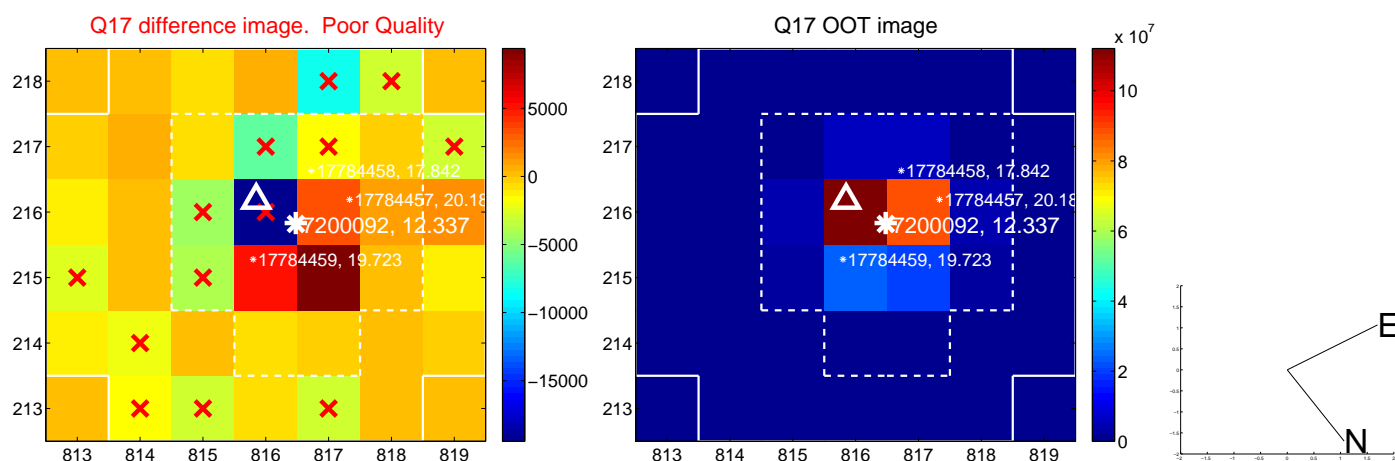
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

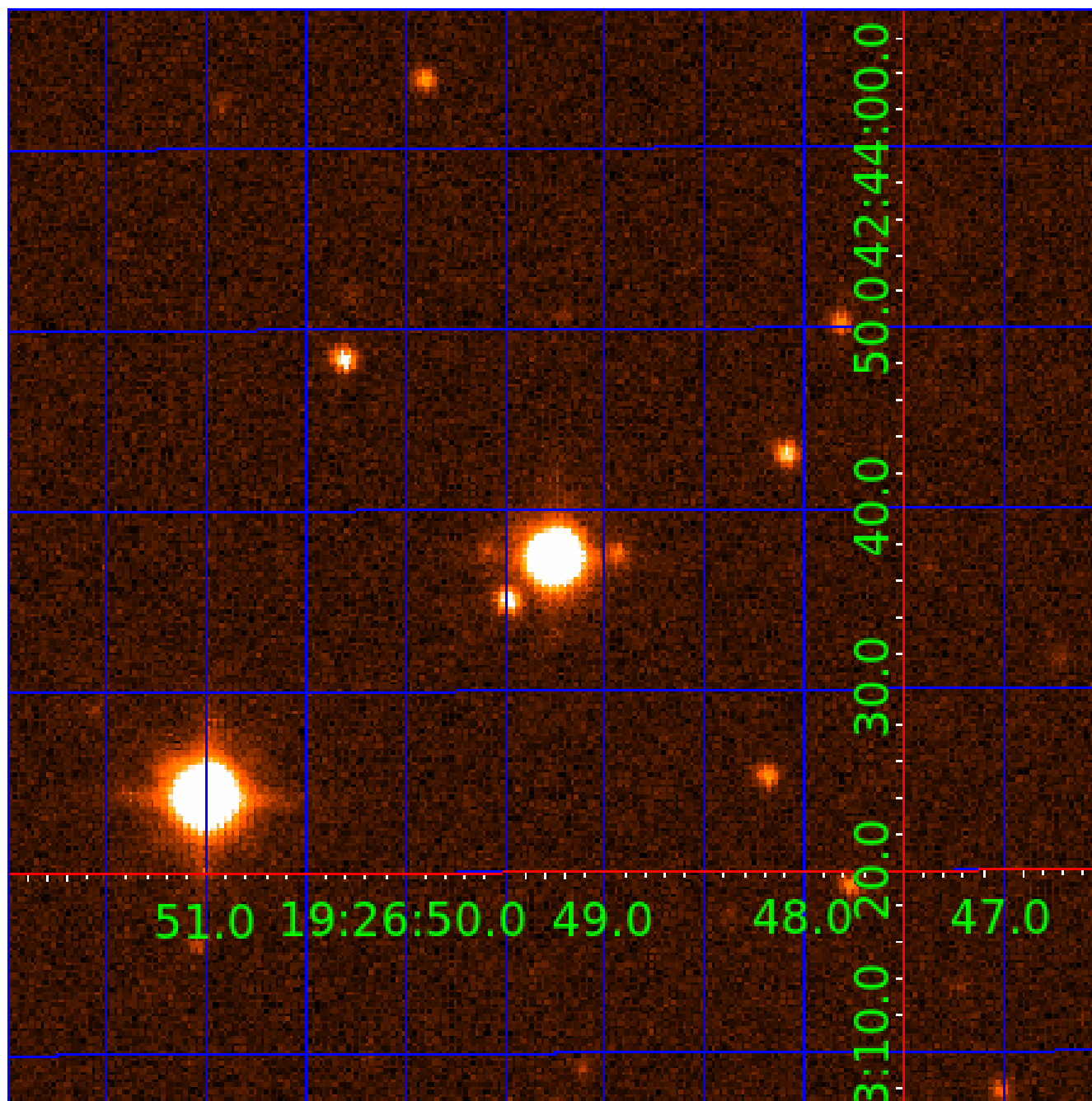


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



UKIRT Image

Declination





# KIC 007200092

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
007200092-01	OBS	No	2.876939	132.456951	5.0	19.520	9.8	4.8	1.93	7671	0.49	4984.82
007200092-02	OBS	No	77.266405	141.242888	87.8	7.110	12.8	10.6	1.93	7671	2.06	61.98
007200092-03	OBS	No	39.666500	136.651802	54.2	7.555	9.7	8.8	1.93	7671	1.59	150.77
007200092-04	OBS	No	49.079634	142.364509	166.9	0.943	8.9	9.8	1.93	7671	2.67	113.51
007200092-05	OBS	No	43.573542	168.835292	145.0	1.256	8.2	7.5	1.93	7671	2.66	133.02

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007200092-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—MOD_NONUNIQ_DV
007200092-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT
007200092-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
007200092-04	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_FEW_DIFFS
007200092-05	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_FEW_MEAS

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

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

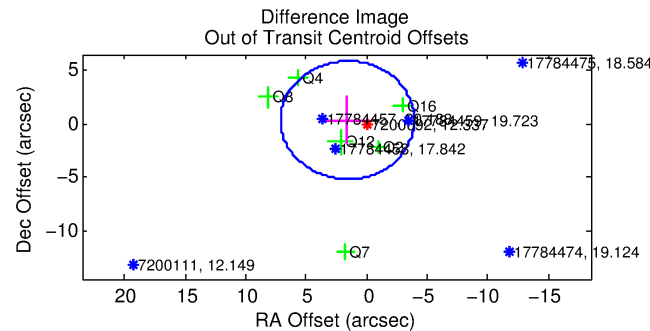
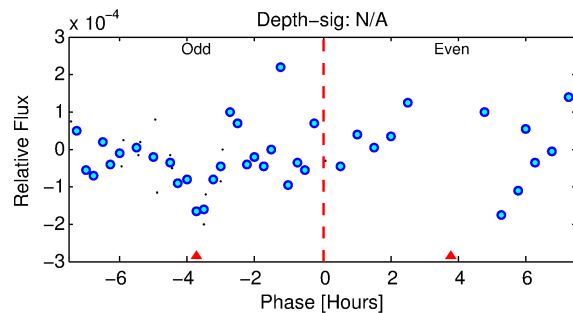
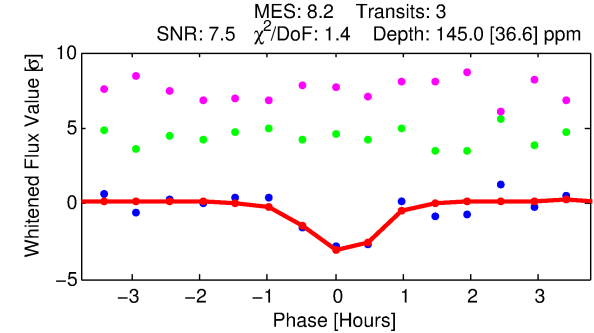
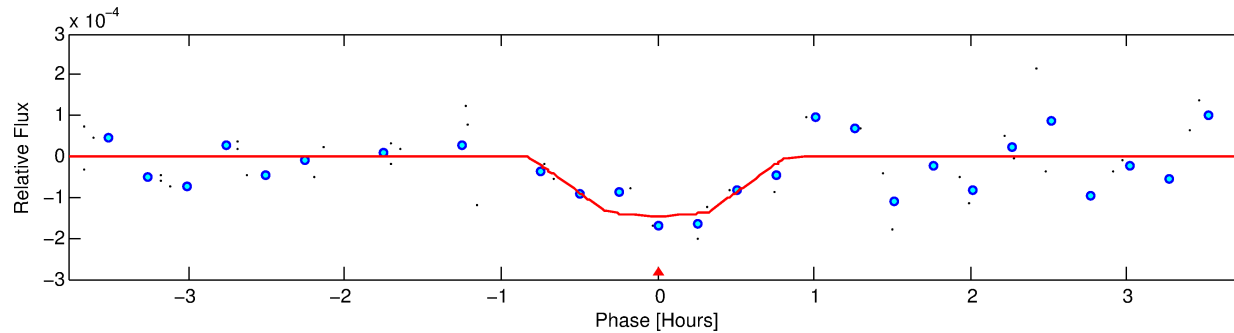
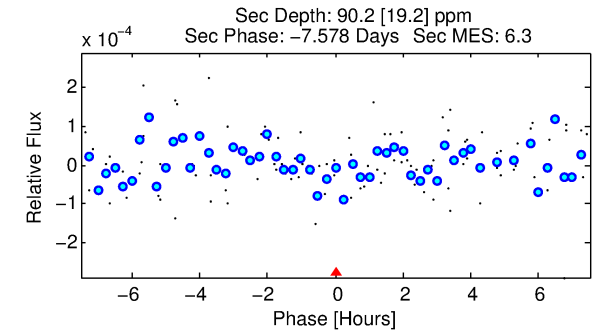
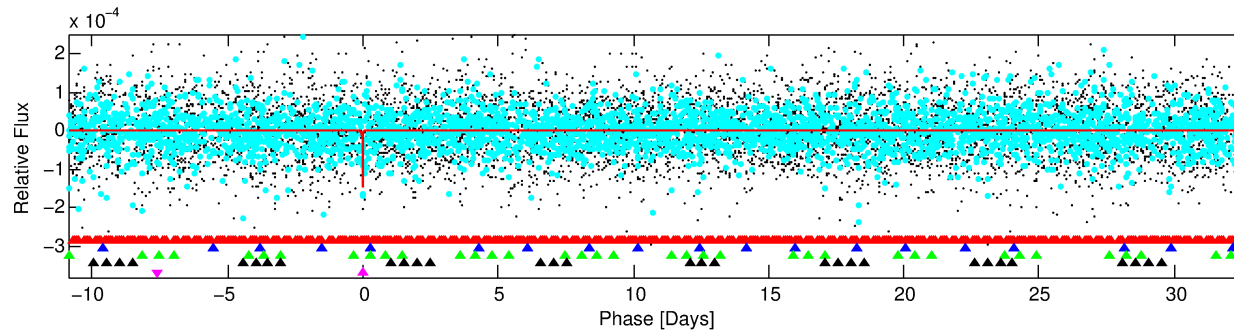
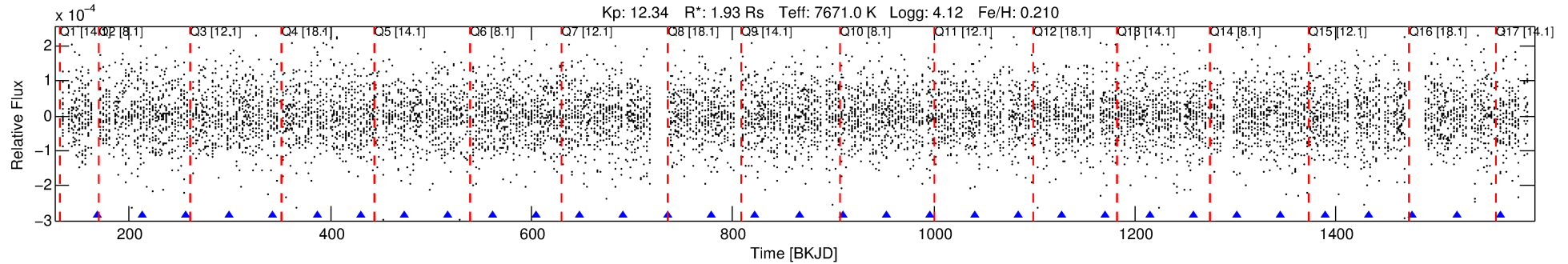
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

Ephemeris Match Information For 007200092-05

No Significant Match Found

# DV One-Page Summary

KIC: 7200092 Candidate: 5 of 5 Period: 43.574 d



## DV Fit Results:

Period = 43.57354 [0.00067] d  
Epoch = 168.8353 [0.0149] BKJD  
Rp/R\* = 0.0126 [0.0246]  
a/R\* = 134.87 [1677.15]  
b = 0.88 [3.38]  
Seff = 133.02 [50.38]  
Teq = 866 [82] K  
Rp = 2.66 [5.22] Re  
a = 0.2943 [0.0669] AU  
Ag = 608.64 [2379.45] [0.26σ]  
Teffp = 6650 [6483] K [0.89σ]

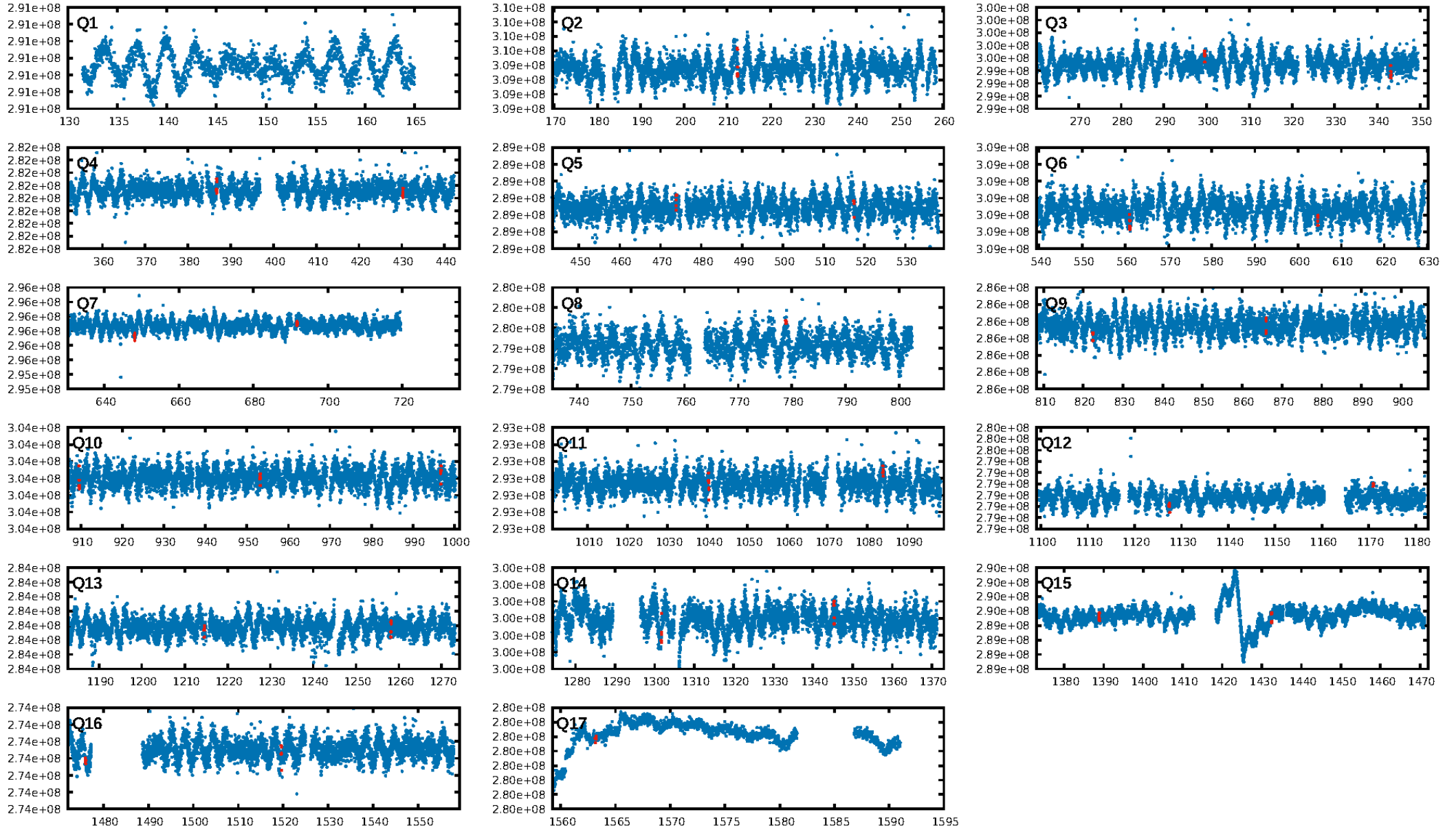
## DV Diagnostic Results:

ShortPeriod-sig: 100.0% [12.24σ]  
LongPeriod-sig: 100.0% [84.14σ]  
ModelChiSquare2-sig: 28.5%  
ModelChiSquareGof-sig: 78.6%  
**Bootstrap-pfa: 2.25e-07**  
RollingBand-fgt: 1.00 [3/3]  
GhostDiagnostic-chr: -1.527  
Centroid-sig: 0.7%  
Centroid-so: 2.010 arcsec [2.22σ]  
OotOffset-rm: 1.641 arcsec [0.89σ]  
KicOffset-rm: 1.622 arcsec [0.88σ]  
OotOffset-st: 1/1/4/0 [6]  
KicOffset-st: 1/1/4/0 [6]  
DiffImageQuality-fgm: 0.17 [1/6]  
DiffImageOverlap-fno: 0.69 [11/16]

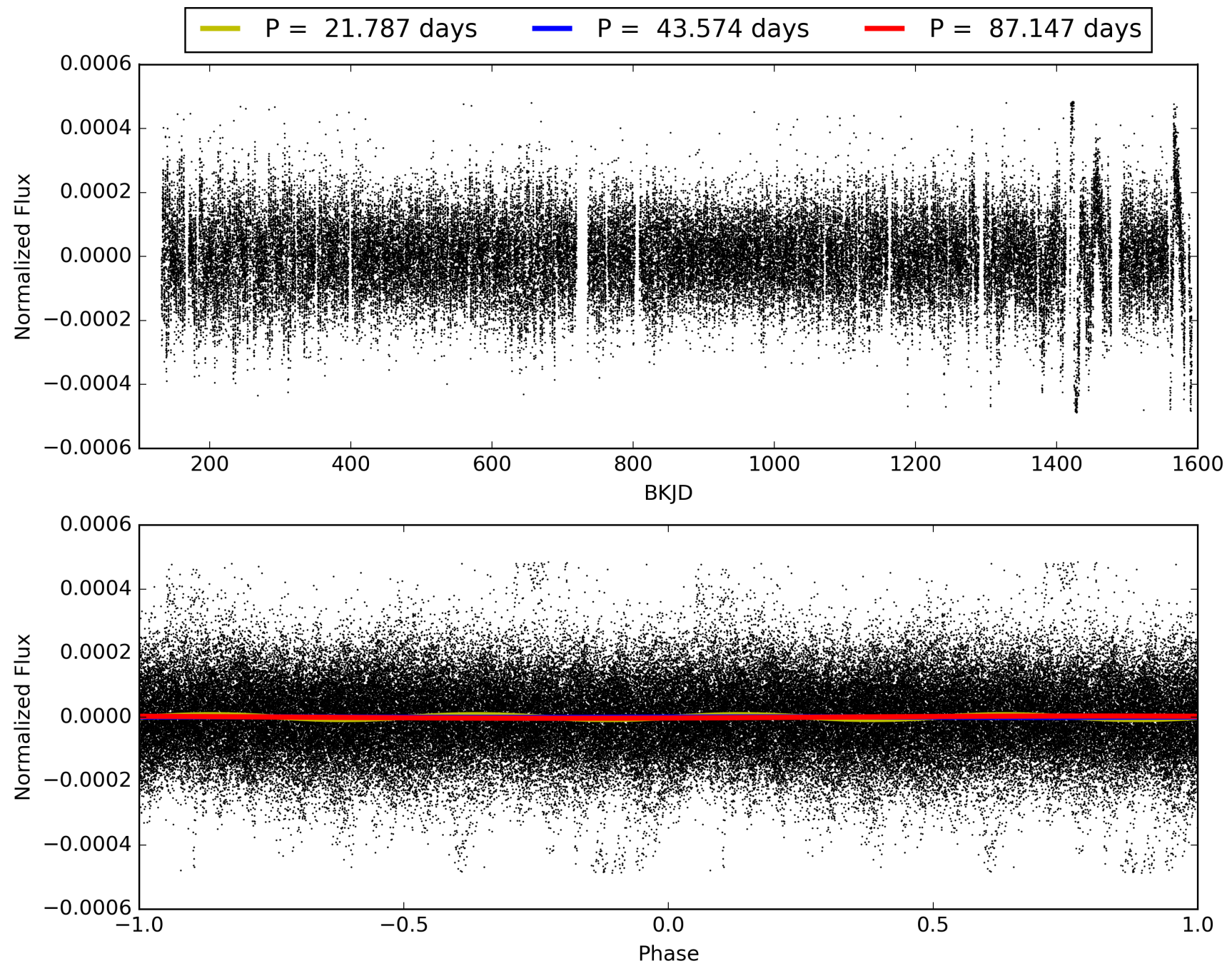
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 04:06:21 Z

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

# TCE 007200092-05, PDC Light Curves

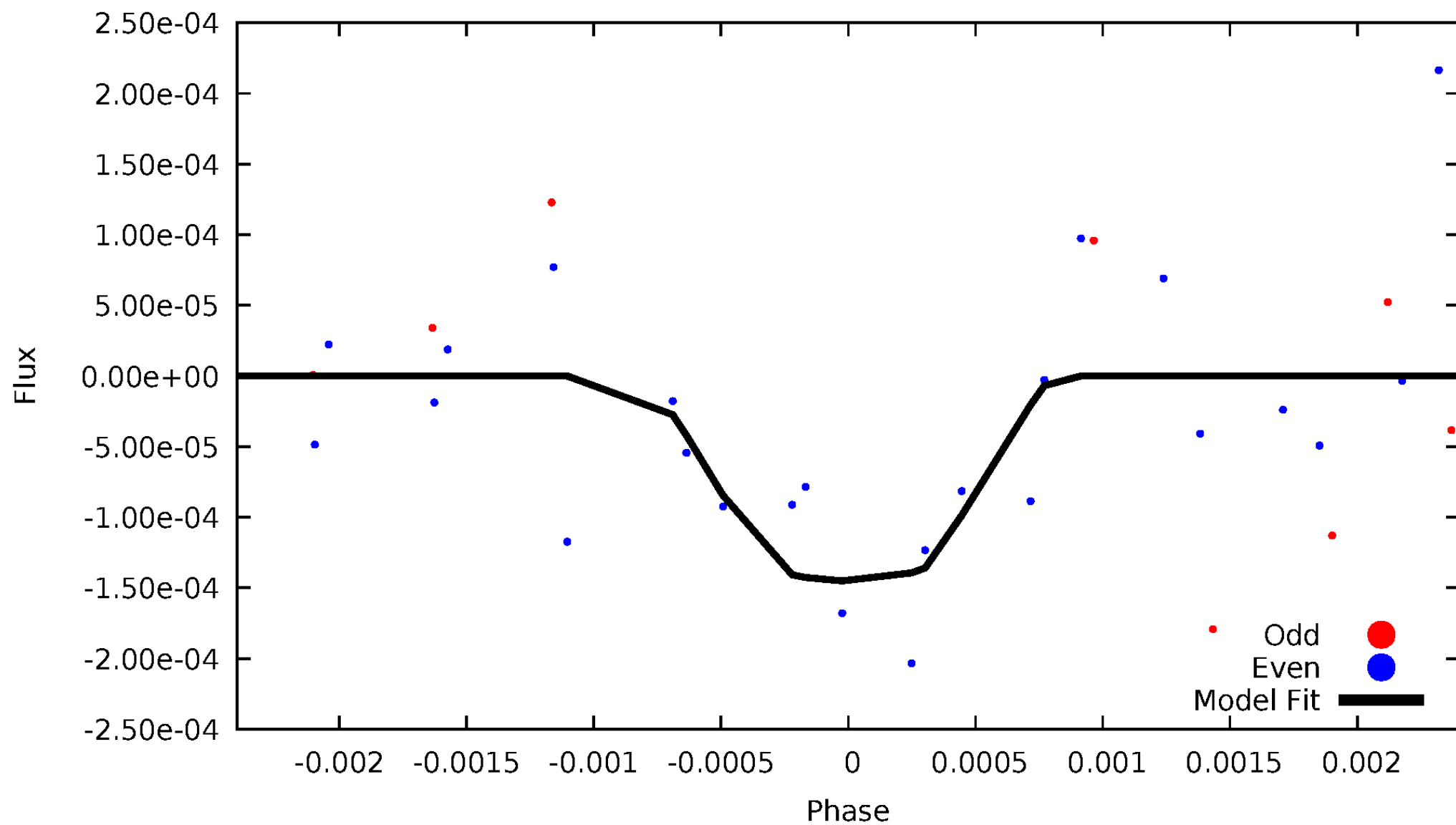


TCE 007200092-05



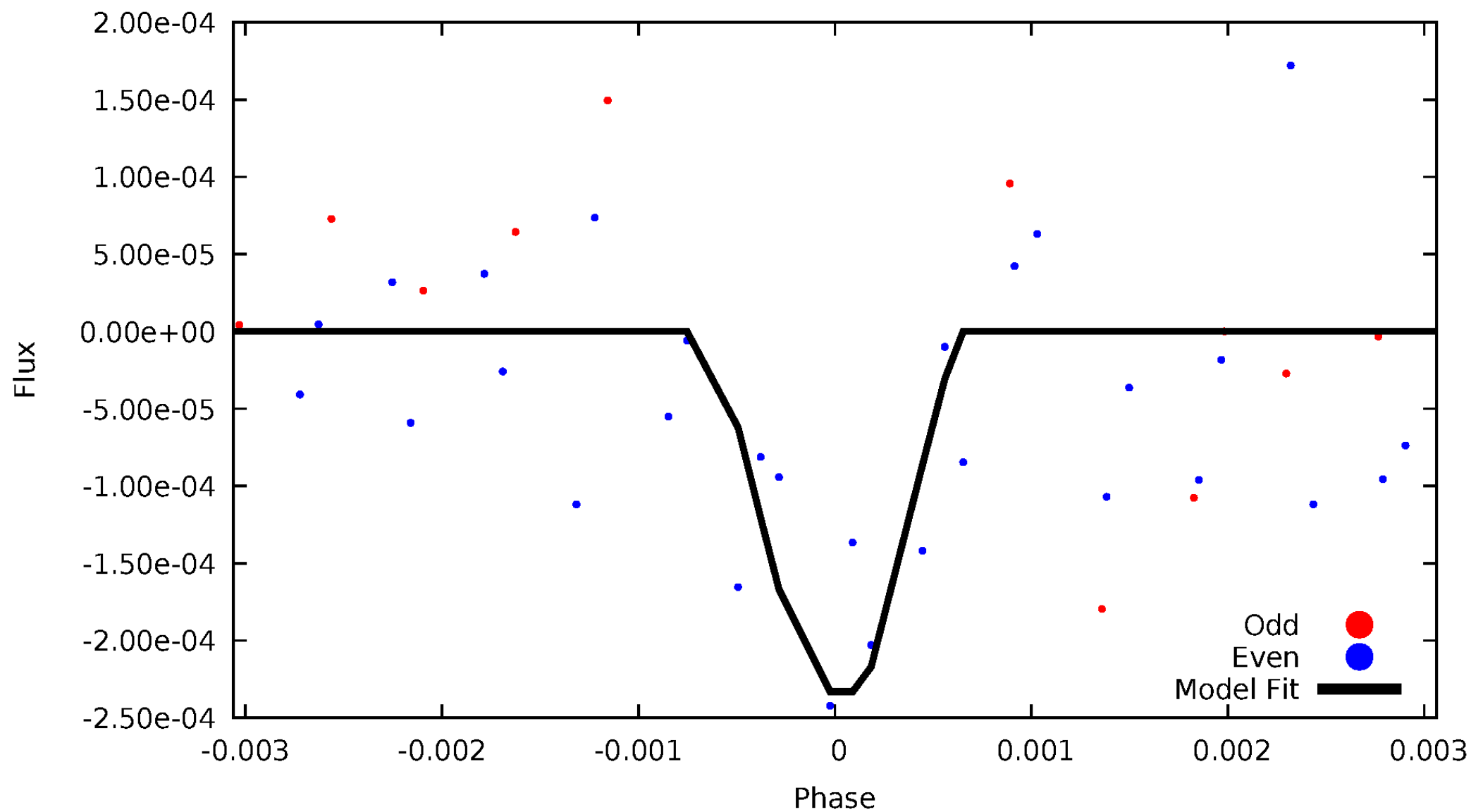
# DV Odd/Even

TCE 007200092-05



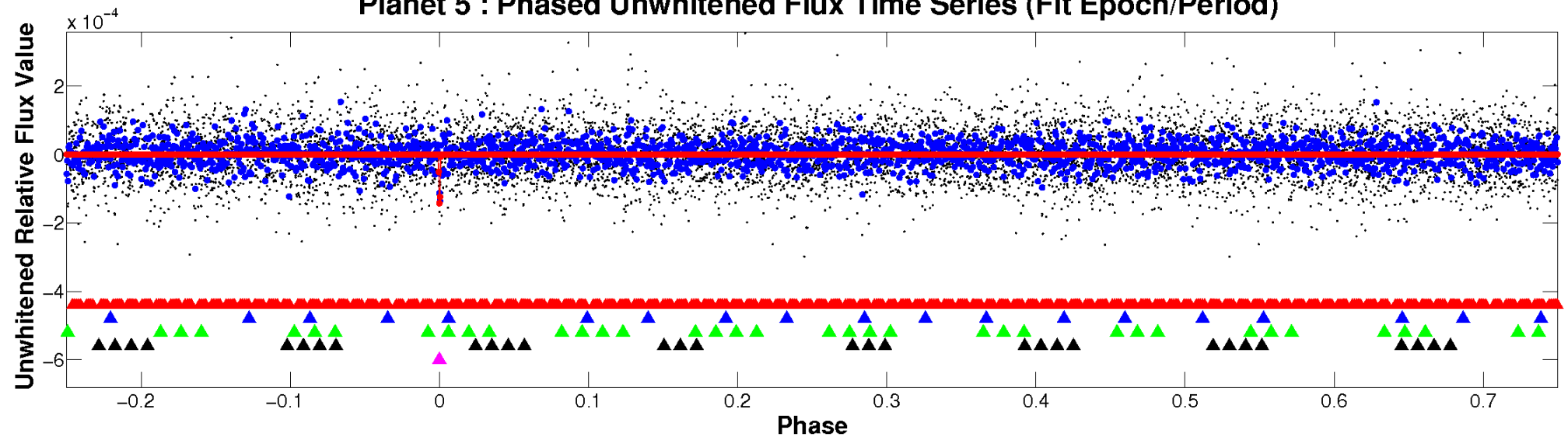
# ALT Odd/Even

TCE 007200092-05

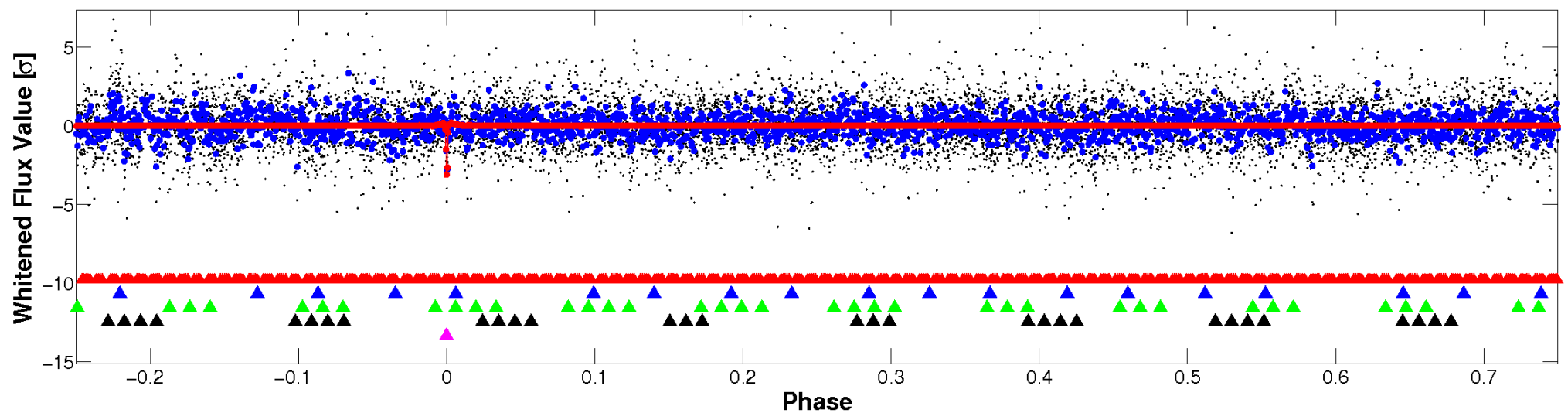


# Non-Whitened Vs. Whitened Light Curve

Planet 5 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)



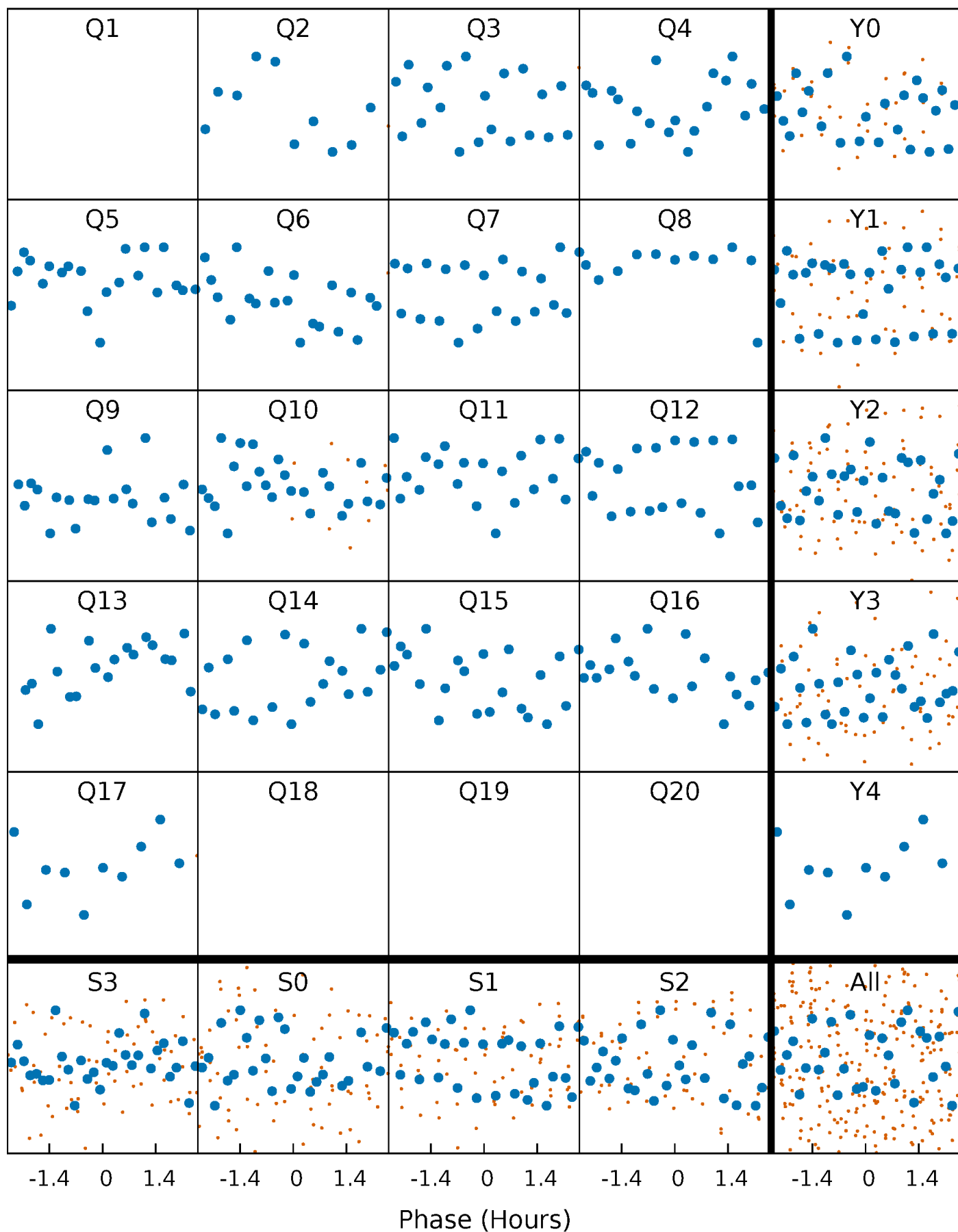
Planet 5 : Phased Whitened Flux Time Series (Fit Epoch/Period)





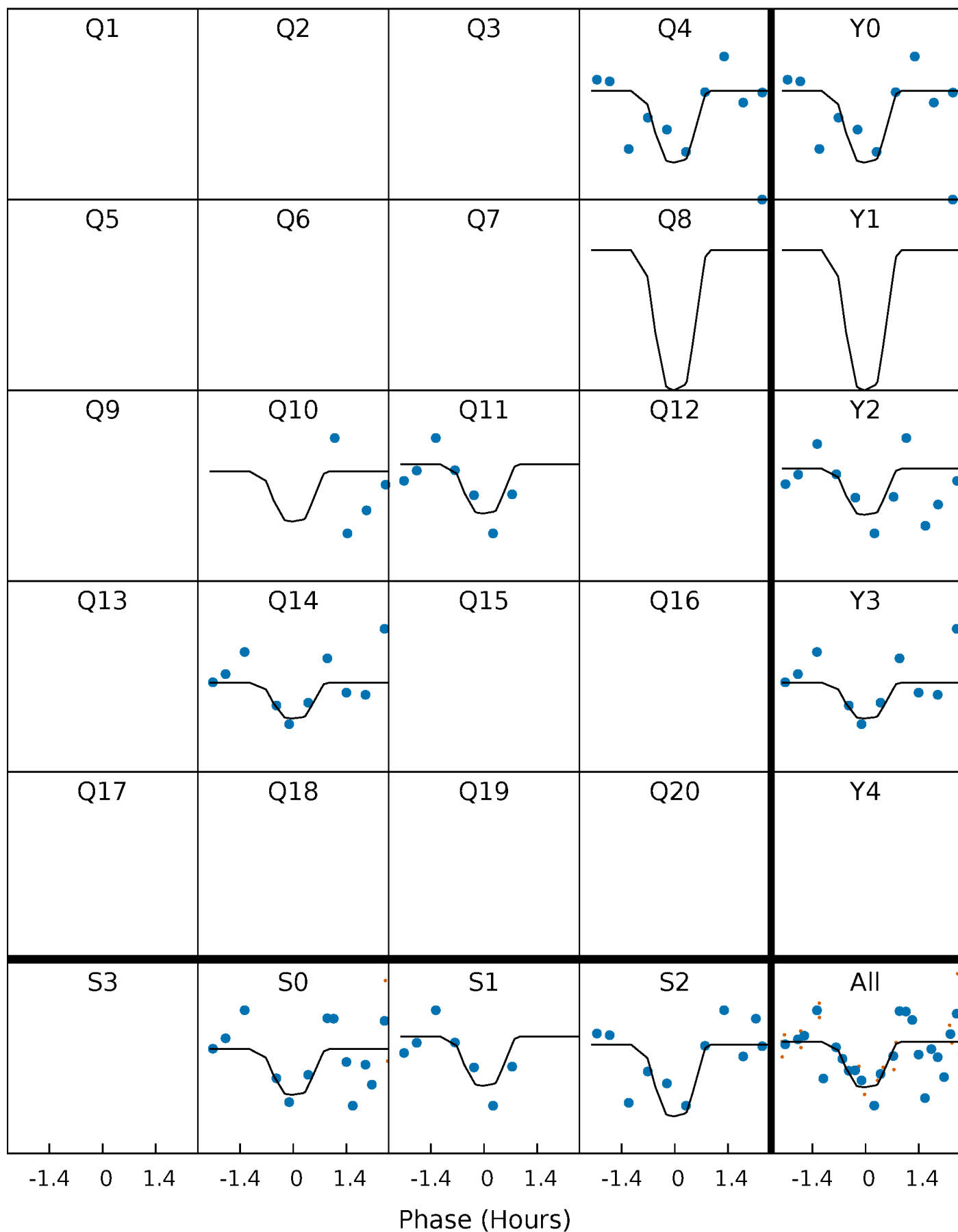
# PDC Quarter-Phased Transit Curves

TCE 007200092-05     $P = 43.573542$  Days     $T_0 = 168.835292$  (BKJD)



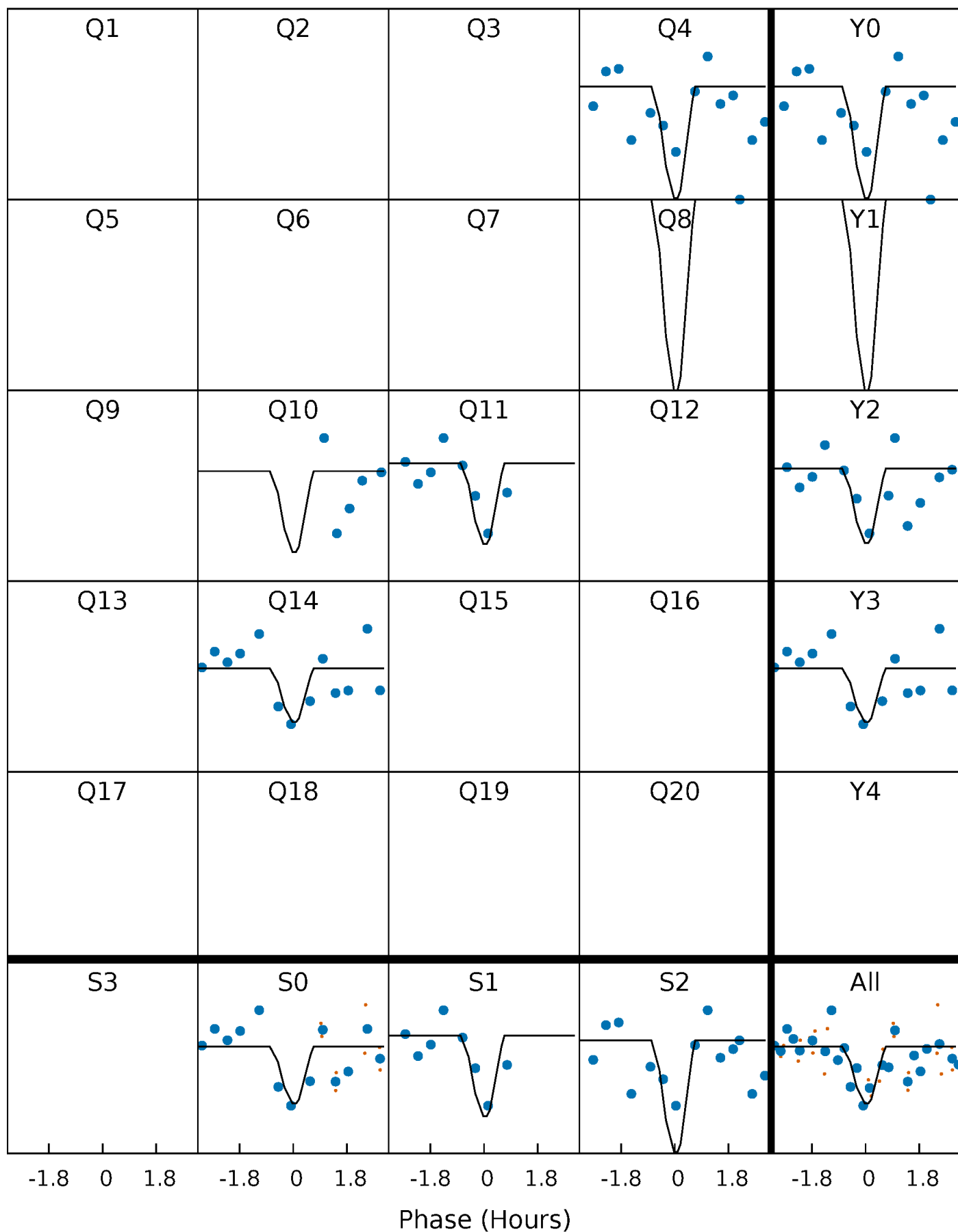
# DV Quarter-Phased Transit Curves

TCE 007200092-05     $P = 43.573542$  Days     $T_0 = 168.835292$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

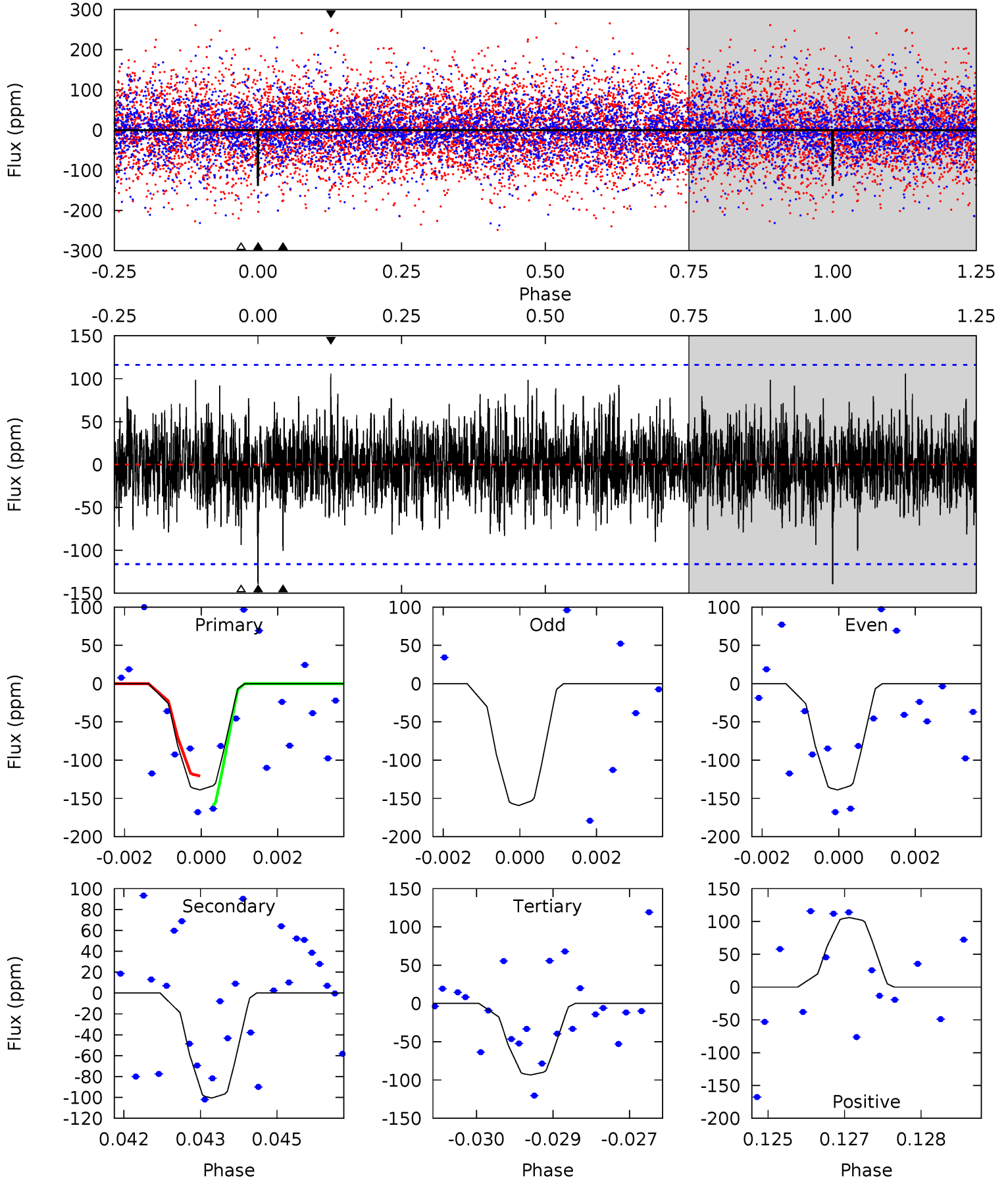
TCE 007200092-05     $P = 43.573084$  Days     $T_0 = 168.847220$  (BKJD)



# DV Model-Shift Uniqueness Test

007200092-05, P = 43.573542 Days, E = 125.261750 Days

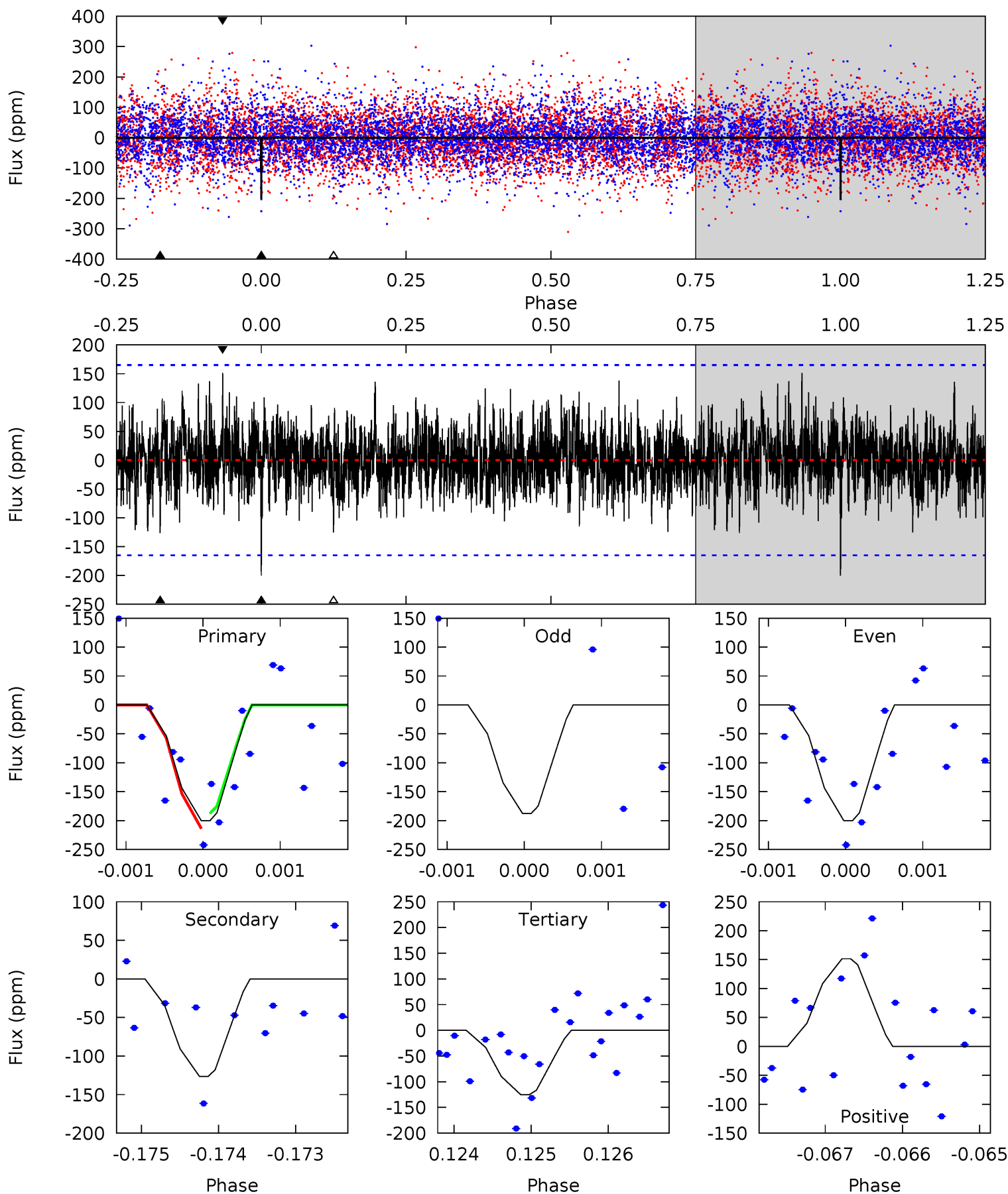
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.42	4.65	4.32	4.89	5.37	3.16	1.31	2.10	1.53	0.33	-0.24	0.57	0.91	0.43	0.89



# Alt Model-Shift Uniqueness Test

007200092-05, P = 43.573084 Days, E = 125.274136 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
6.61	4.17	4.13	5.00	5.45	3.28	1.27	2.48	1.61	0.05	-0.82	0.27	1.09	0.43	0.41



### Stellar Parameters For KIC 007200092

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M$ ( $M_{\odot}$ )	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$7671^{+214}_{-349}$	$4.121^{+0.098}_{-0.182}$	$0.210^{+0.150}_{-0.450}$	$1.927^{+0.519}_{-0.346}$	$1.790^{+0.181}_{-0.294}$	$0.353^{+0.195}_{-0.172}$
	+3%/-5%	+2%/-4%	+71%/-214%	+27%/-18%	+10%/-16%	+55%/-49%
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 007200092-05 / KOI

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{\text{max}}$ (K)	$T_{\text{obs}}$ (K)	$A_{\text{obs}}$
DV	$-101 \pm 22$	$4.76^{+4.88}_{-3.17}$	$1216^{+89}_{-76}$	$5073^{+3904}_{-1174}$	$205^{+1620}_{-155}$
Alt.	$-126 \pm 30$	$5.19^{+4.59}_{-3.52}$	$1220^{+90}_{-75}$	$5210^{+4184}_{-1224}$	$224^{+1583}_{-166}$

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

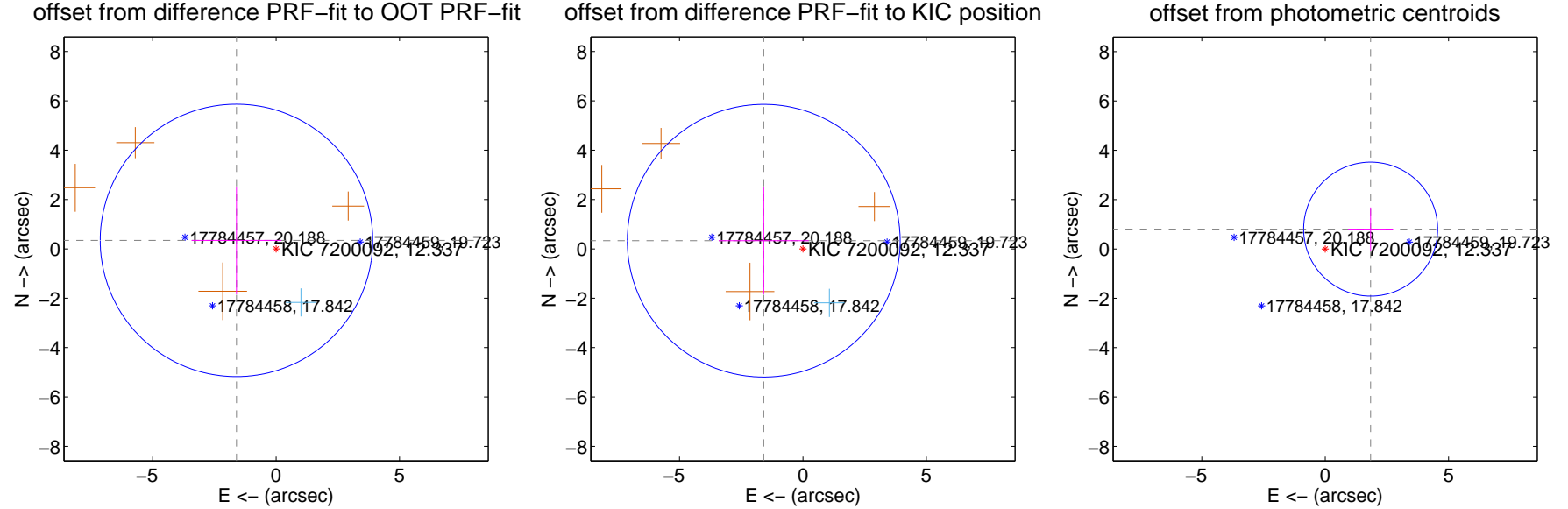
## DV Centroid Data

Supplemental centroid analysis for 007200092-05. Kepler magnitude: 12.34. Transit SNR 7.46

There are 1 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.03 arcsec

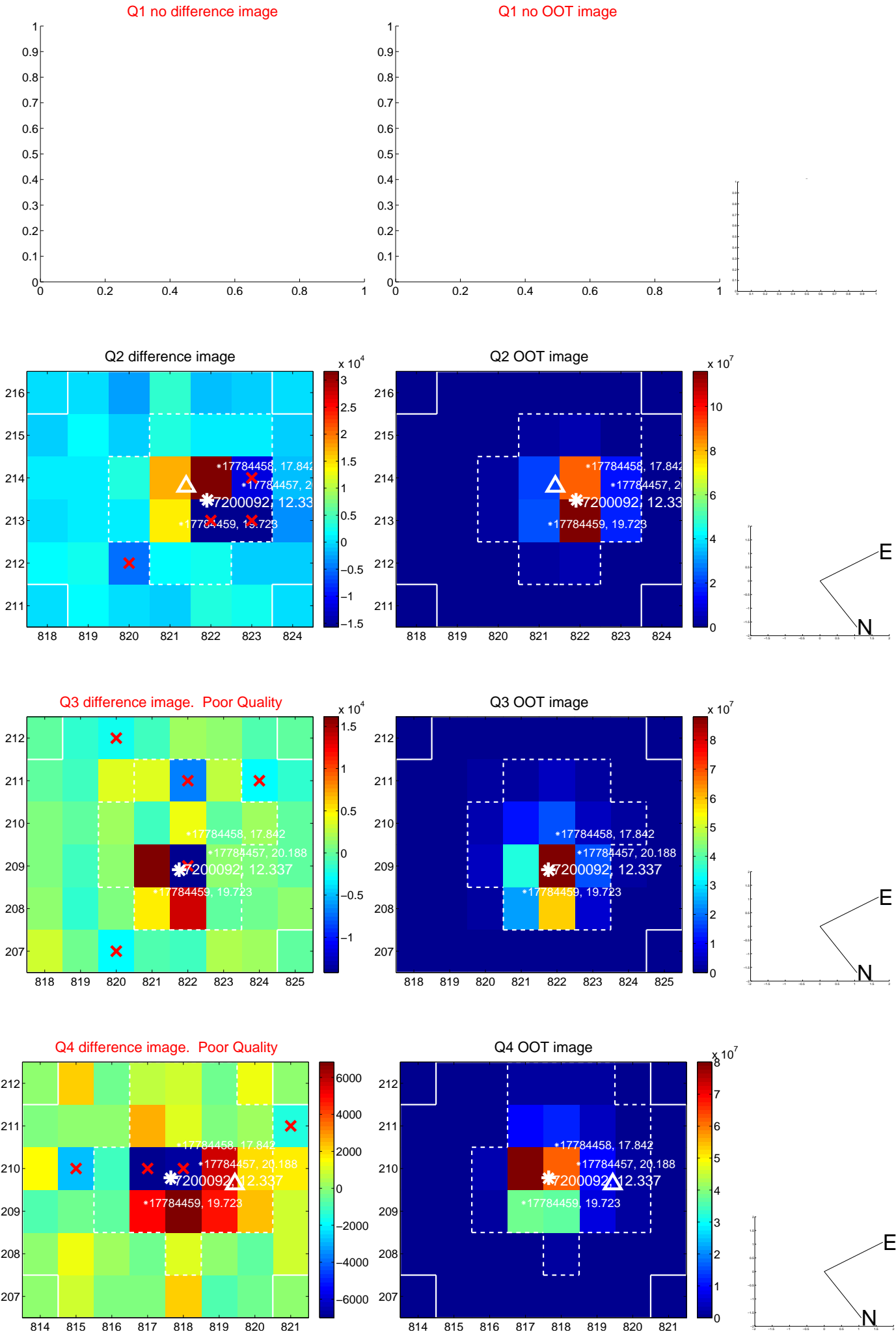
	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$1.641 \pm 1.840$	0.89	$1.604 \pm 1.823$	$0.344 \pm 2.183$
PRF-fit source offset from KIC position	$1.622 \pm 1.842$	0.88	$1.588 \pm 1.826$	$0.332 \pm 2.174$
photometric centroid source offset	$2.01 \pm 0.91$	2.22	$-1.84 \pm 0.91$	$0.80 \pm 0.88$



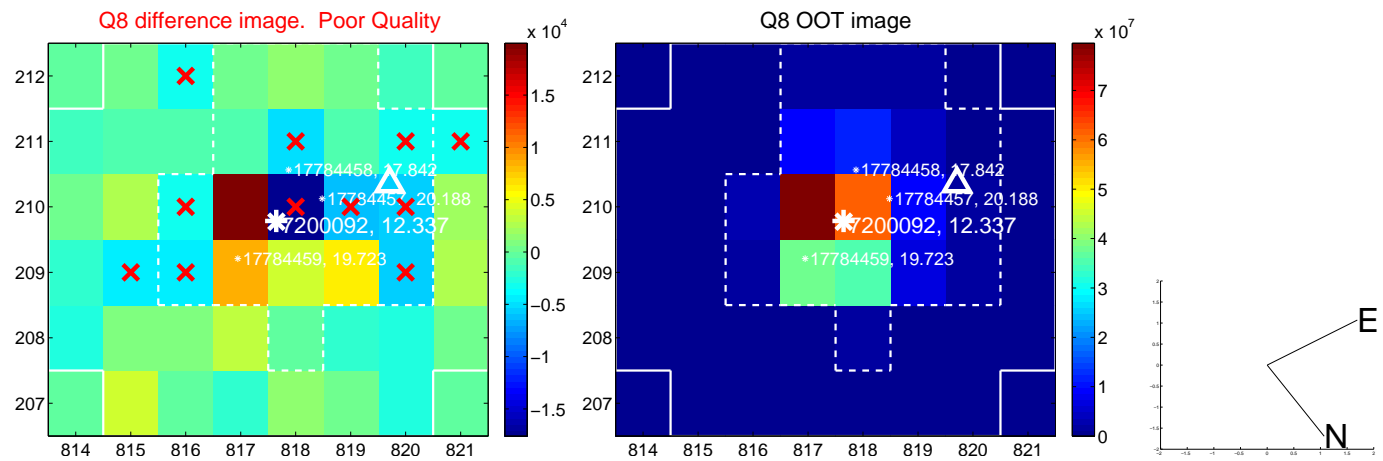
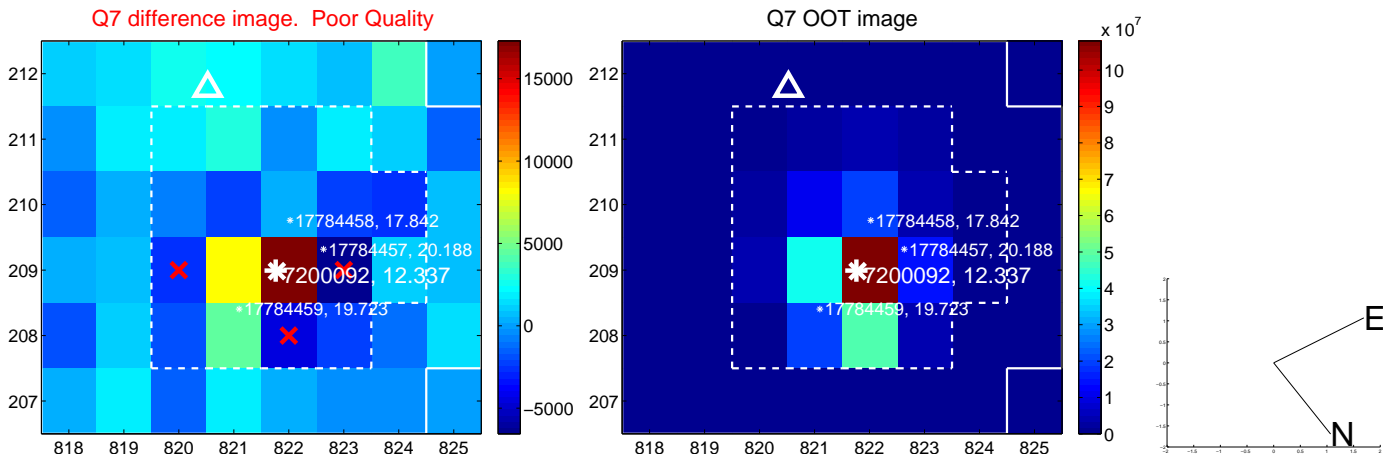
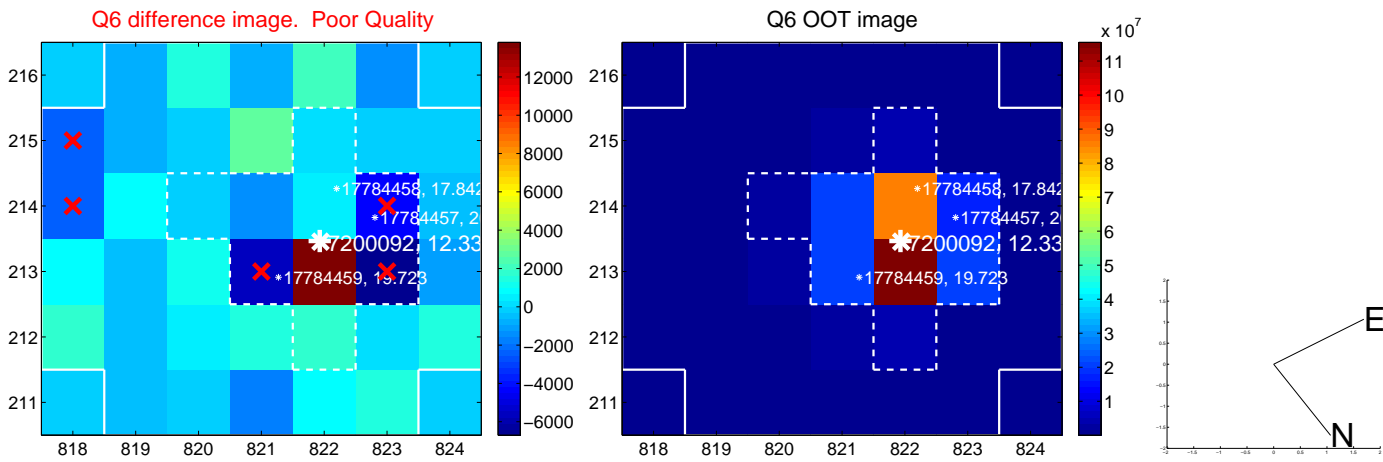
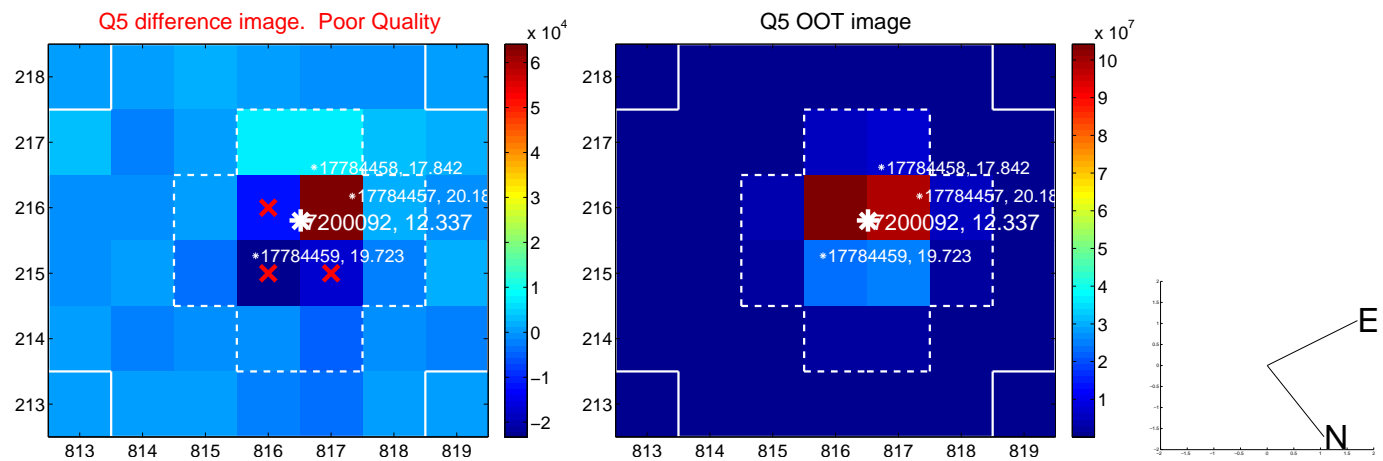
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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



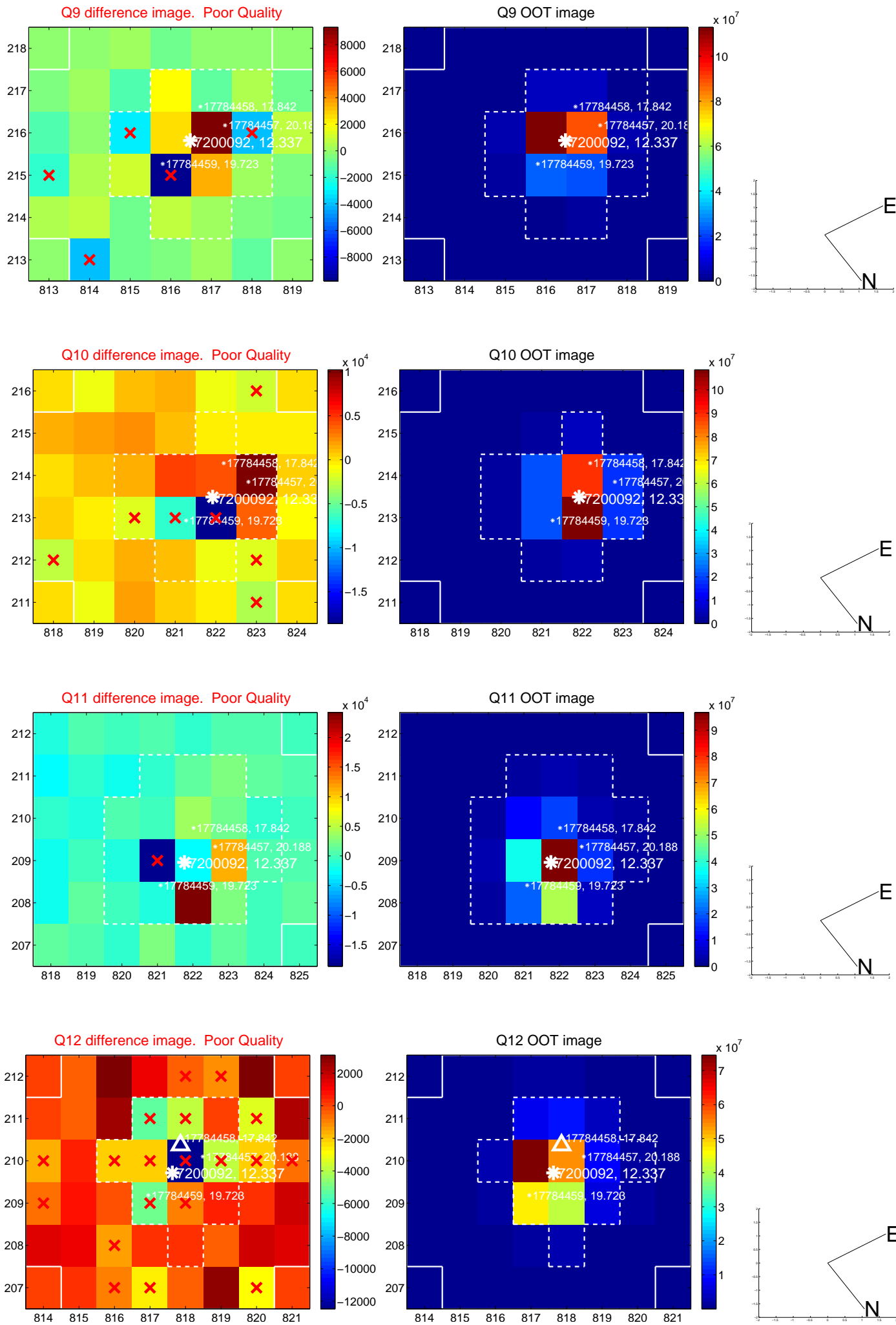
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



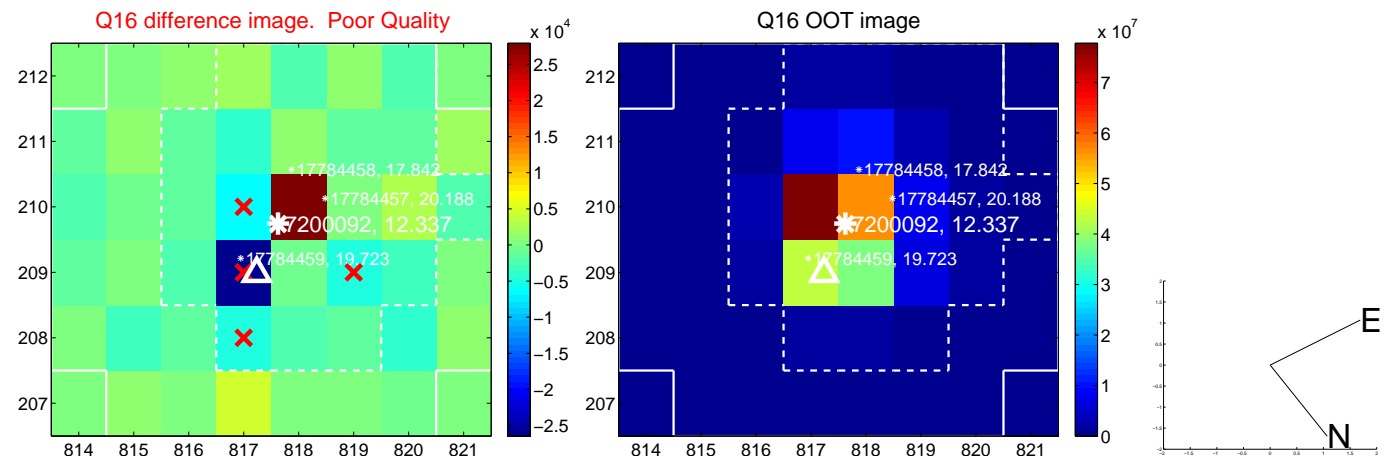
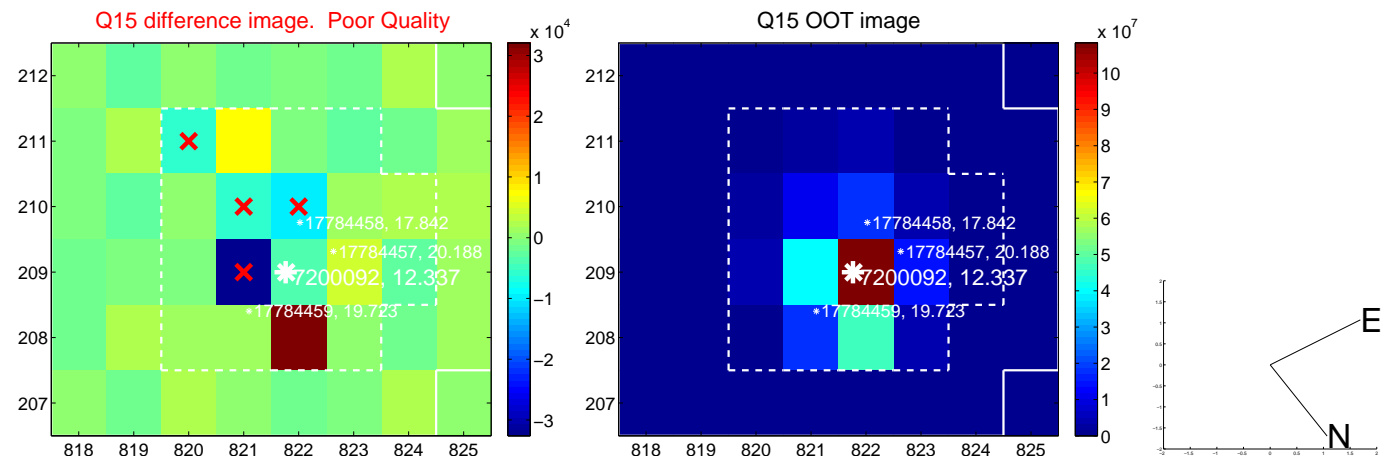
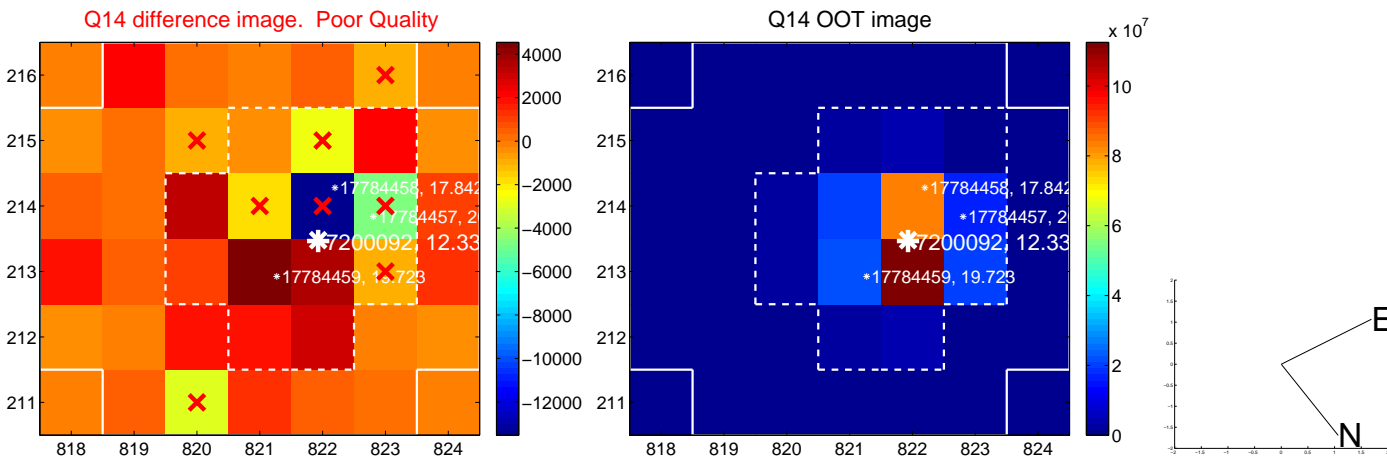
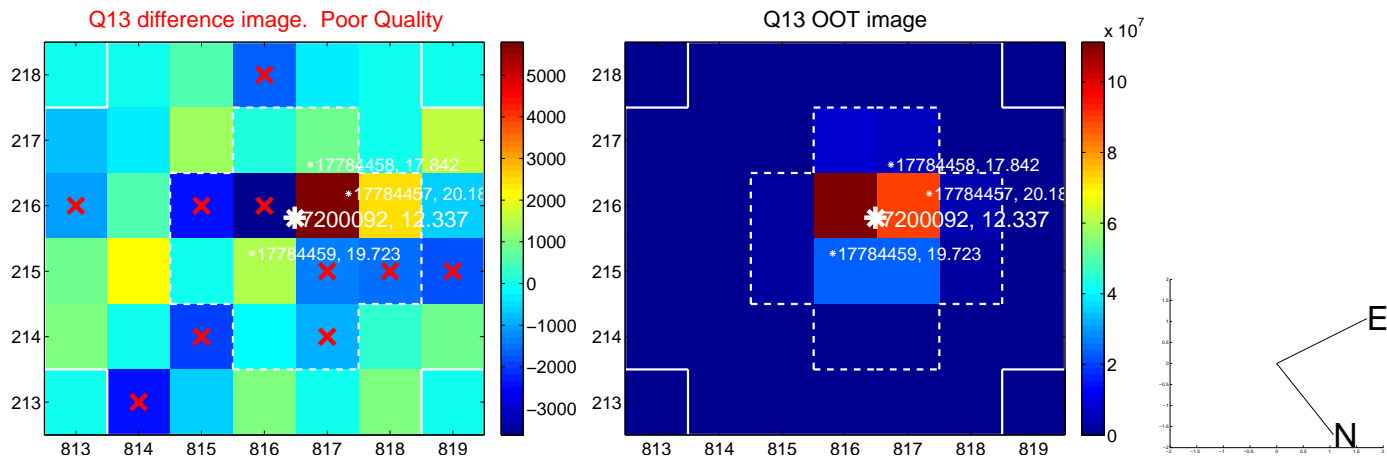
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



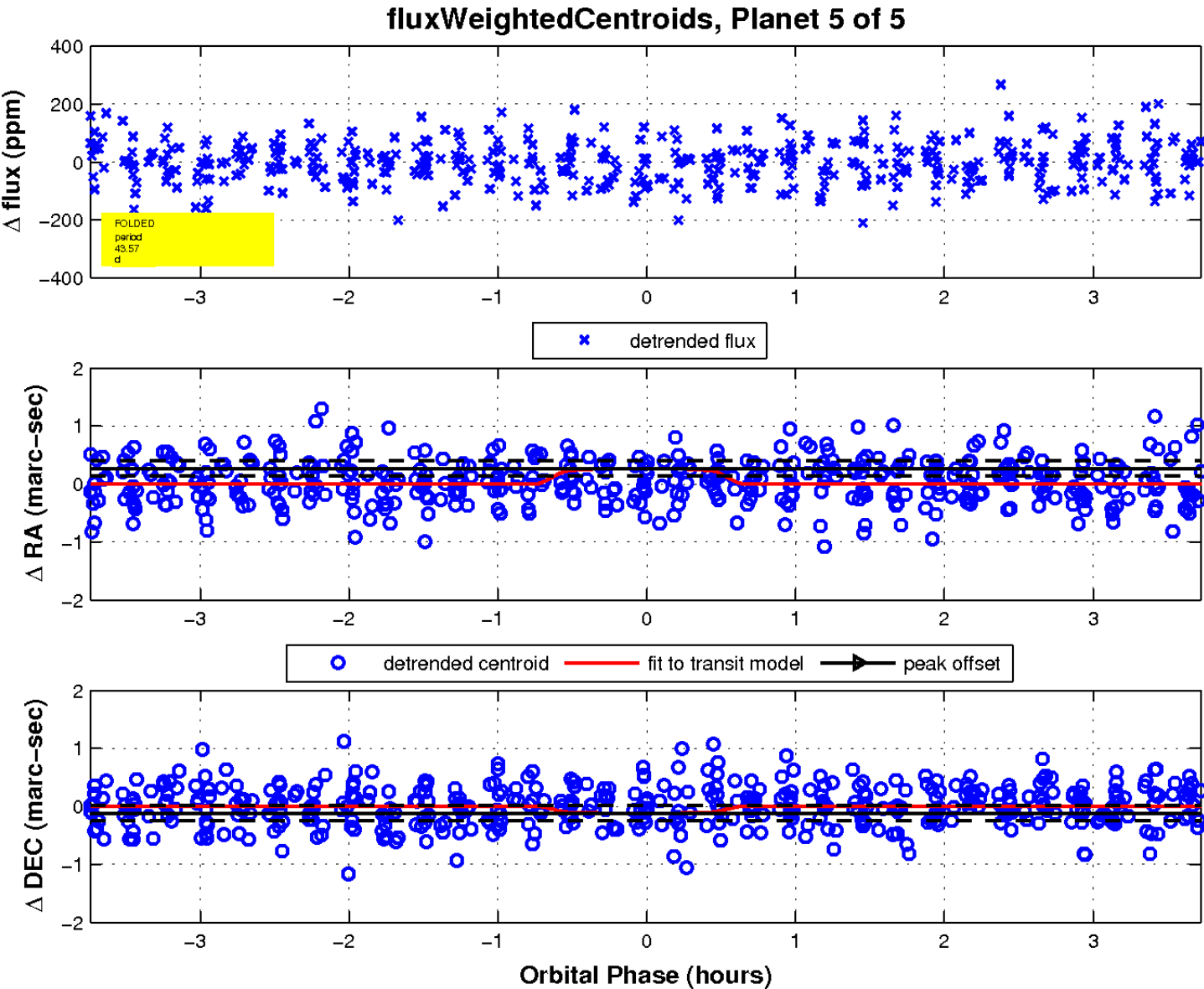
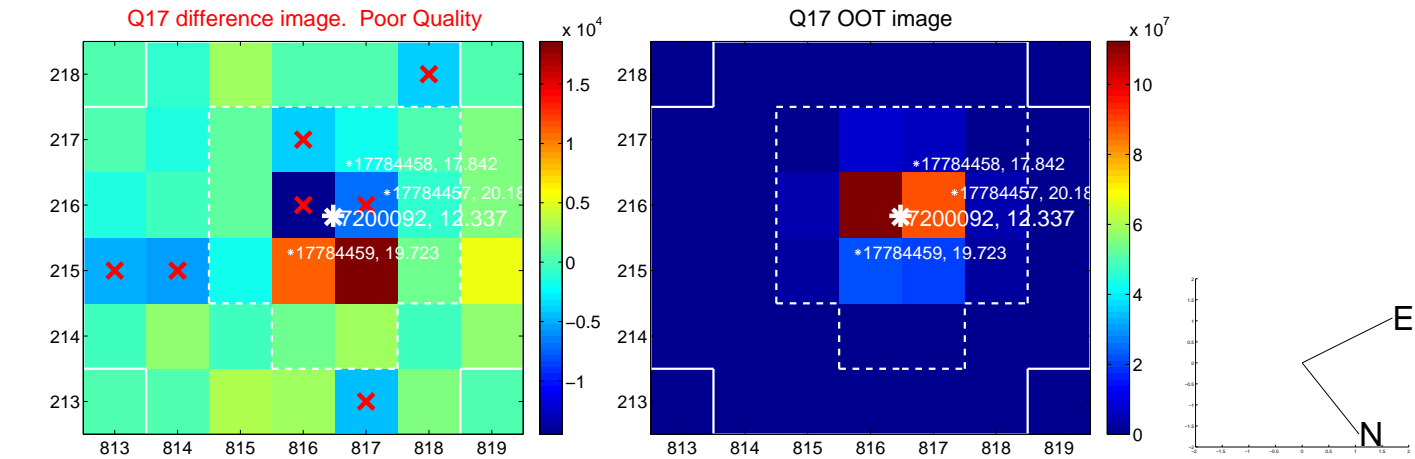
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

