

# KIC 005566775

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
005566775-01	OBS	No	1.185965	132.171442	29.7	5.273	9.2	9.0	11.63	6547	7.34	0.00
005566775-02	OBS	No	1.186076	131.731775	37.7	4.679	10.5	10.9	11.63	6547	8.16	0.00
005566775-03	OBS	No	1.582016	132.908883	124.4	11.973	12.6	15.5	11.63	6547	17.45	0.00

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005566775-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV
005566775-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD
005566775-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—CENT_FEW_DIFFS

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

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

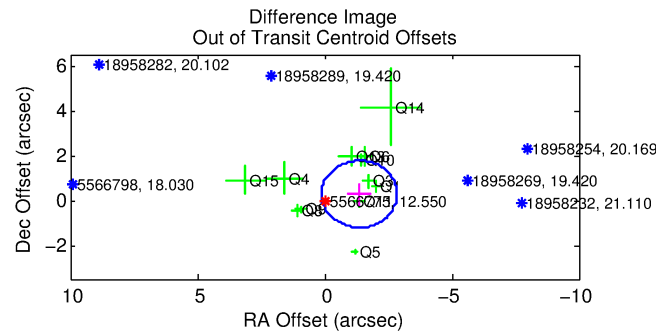
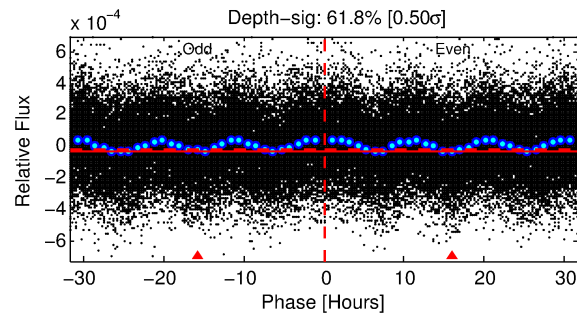
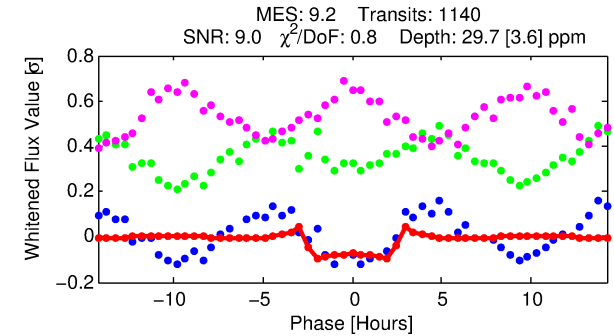
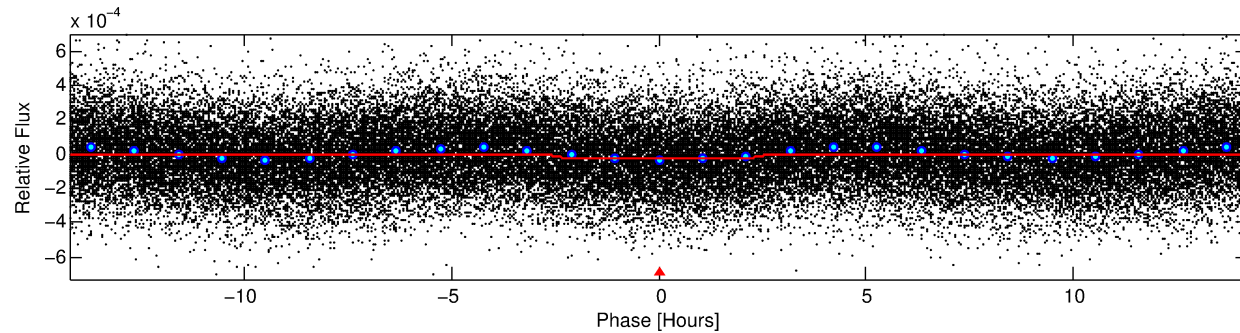
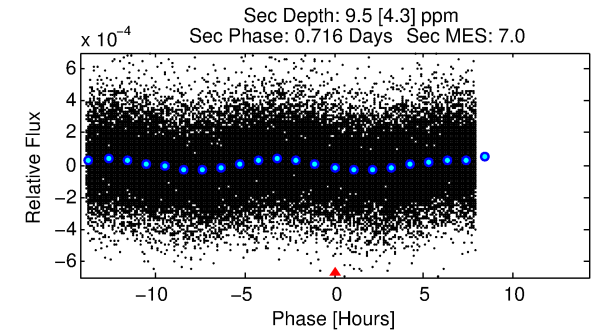
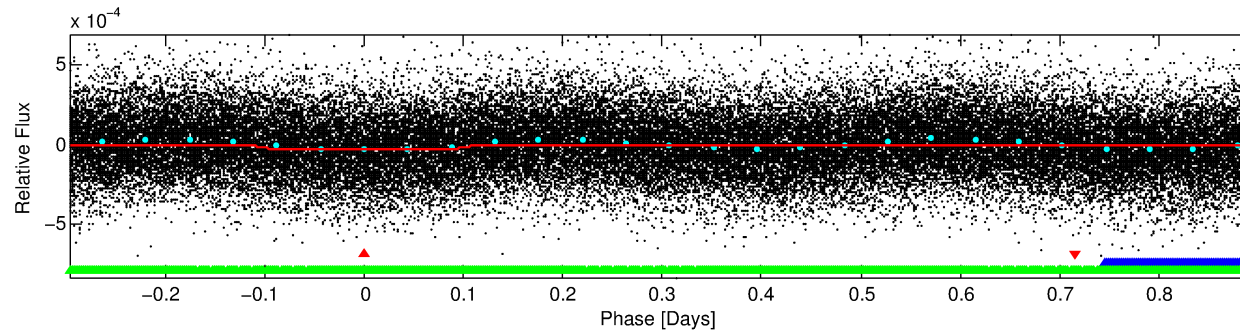
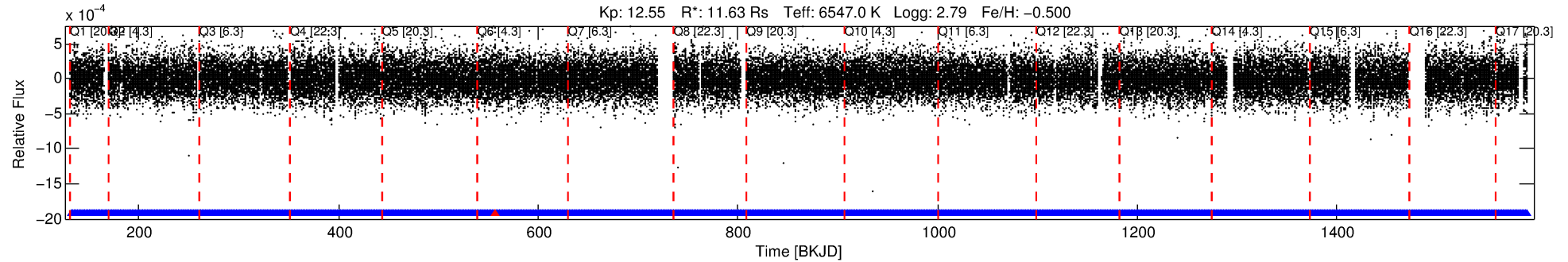
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

Ephemeris Match Information For 005566775-01

No Significant Match Found

# DV One-Page Summary

KIC: 5566775 Candidate: 1 of 3 Period: 1.186 d



## DV Fit Results:

Period = 1.18597 [0.00001] d  
Epoch = 132.1714 [0.0030] BKJD  
Rp/R\* = 0.0058 [0.0014]  
a/R\* = 1.23 [0.61]  
b = 0.89 [0.34]  
Seff = N/A  
Teq = N/A  
Rp = 7.34 [4.49] Re  
a = N/A  
Ag = N/A  
Teffp = N/A

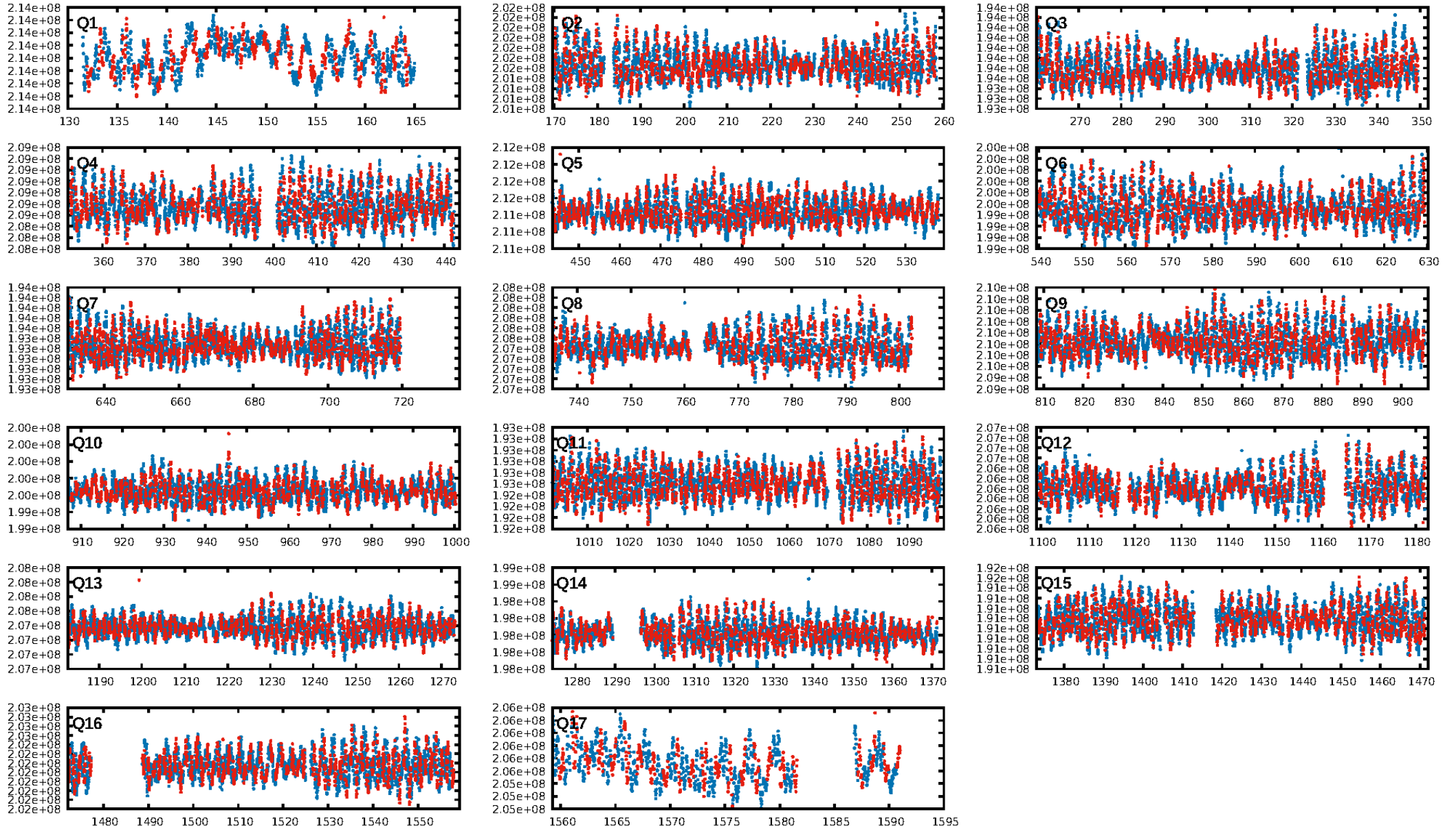
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: 0.0% [0.00σ]  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: N/A  
RollingBand-fgt: 1.00 [1088/1089]  
GhostDiagnostic-chr: -4.341  
Centroid-sig: 12.7%  
Centroid-so: 0.819 arcsec [1.26σ]  
OotOffset-rm: 1.386 arcsec [2.80σ]  
OotOffset-st: 3/3/2/4 [12]  
KicOffset-rm: 1.440 arcsec [3.04σ]  
KicOffset-st: 3/3/2/4 [12]  
DiffImageQuality-fgm: 0.75 [9/12]  
DiffImageOverlap-fno: 0.00 [0/17]

Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 14:02:39 Z

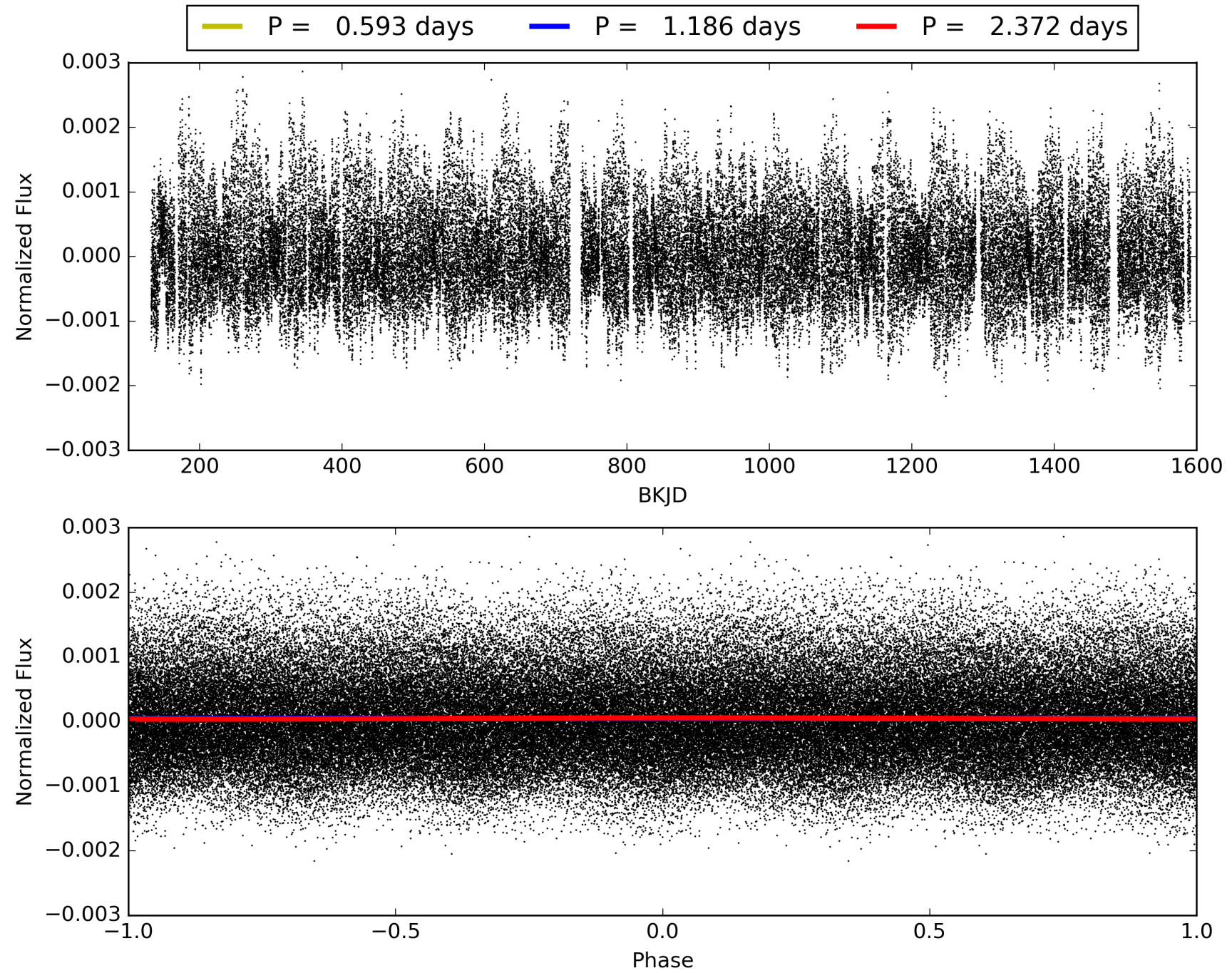
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

# TCE 005566775-01, PDC Light Curves





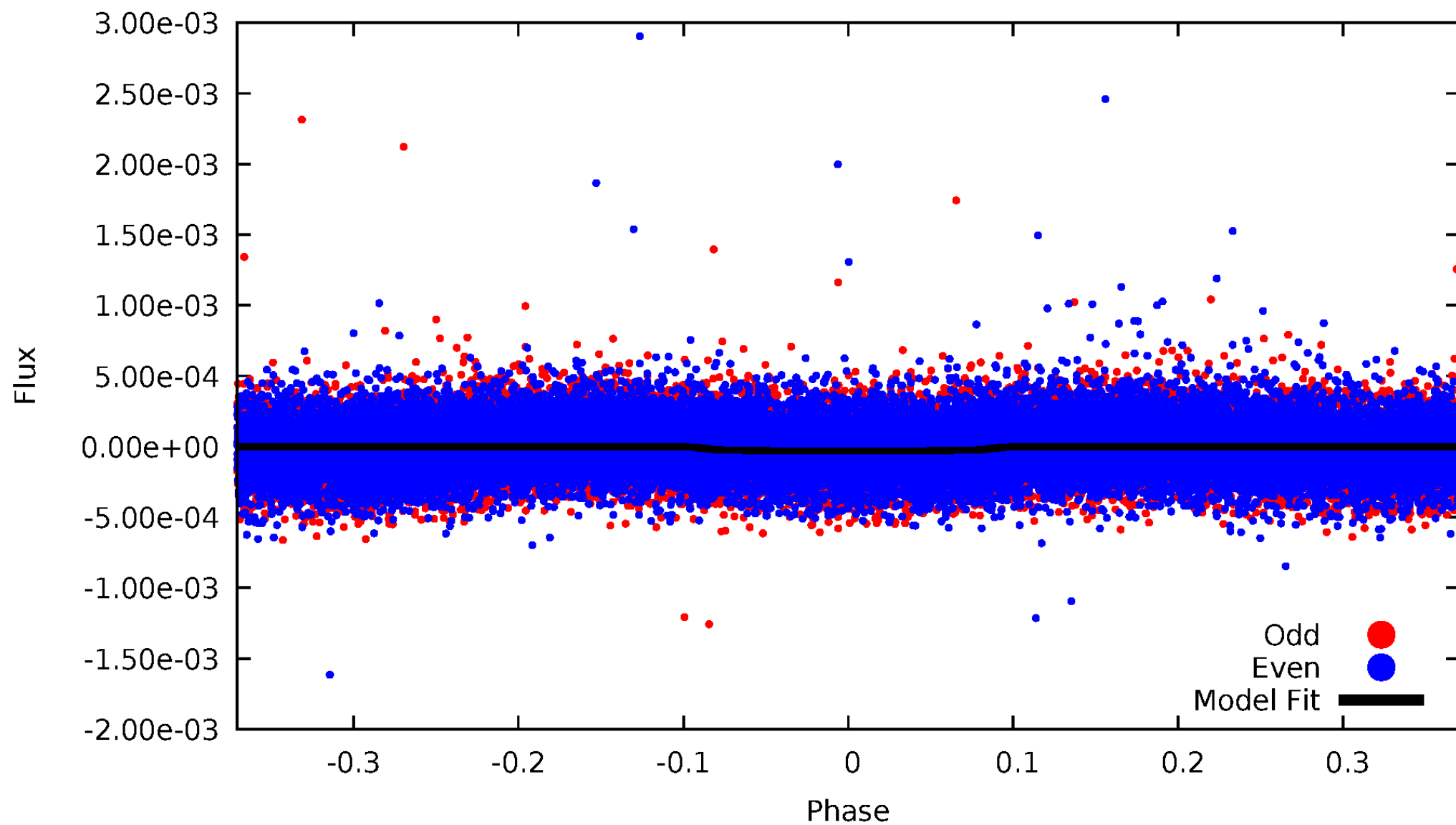
TCE 005566775-01





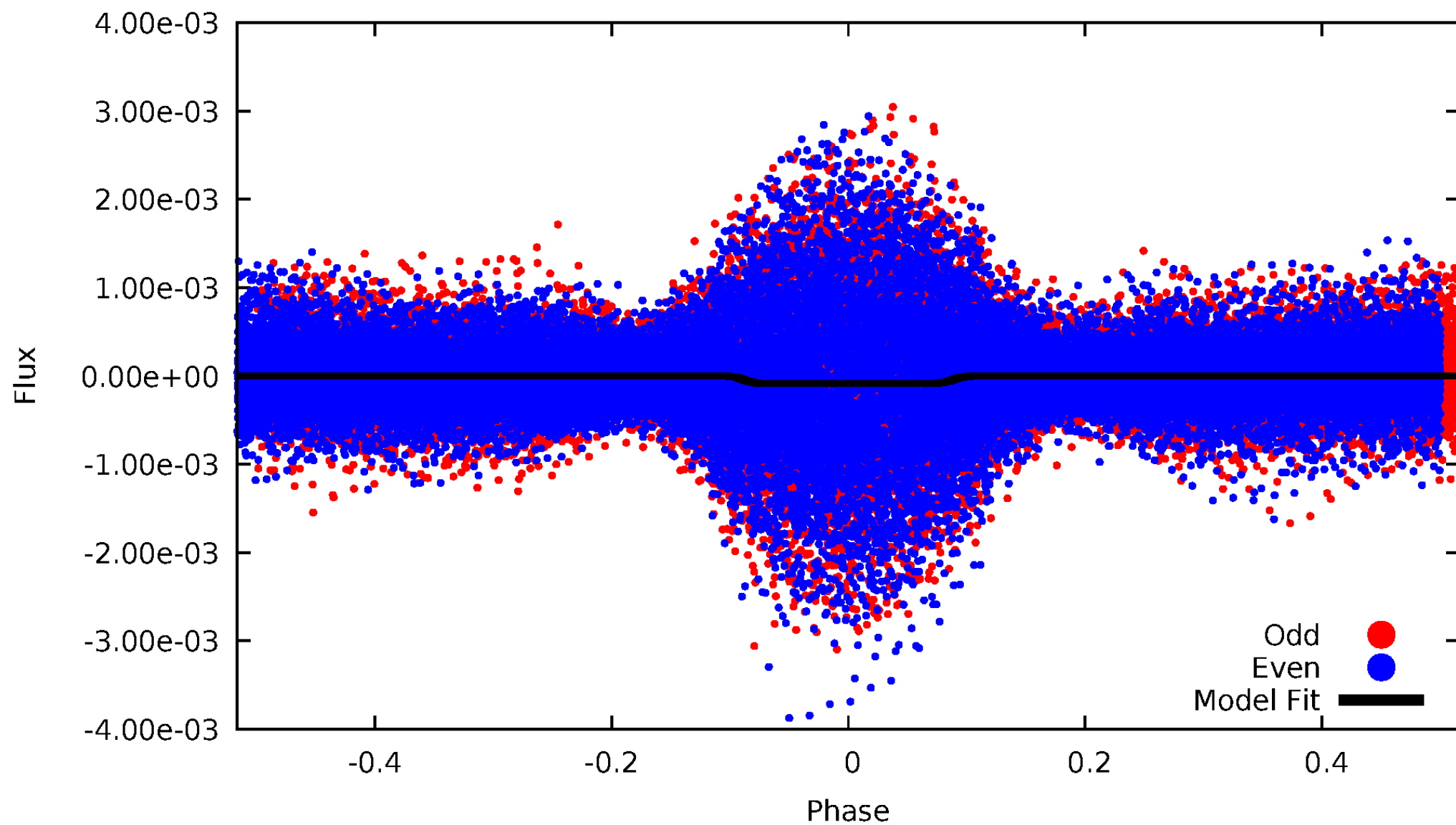
# DV Odd/Even

TCE 005566775-01



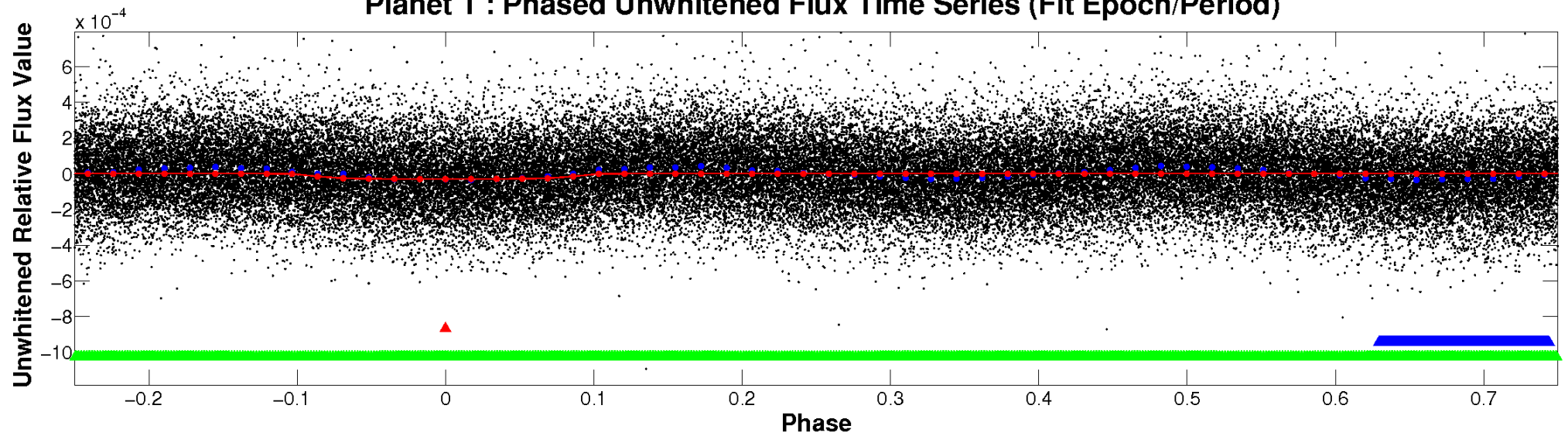
# ALT Odd/Even

TCE 005566775-01

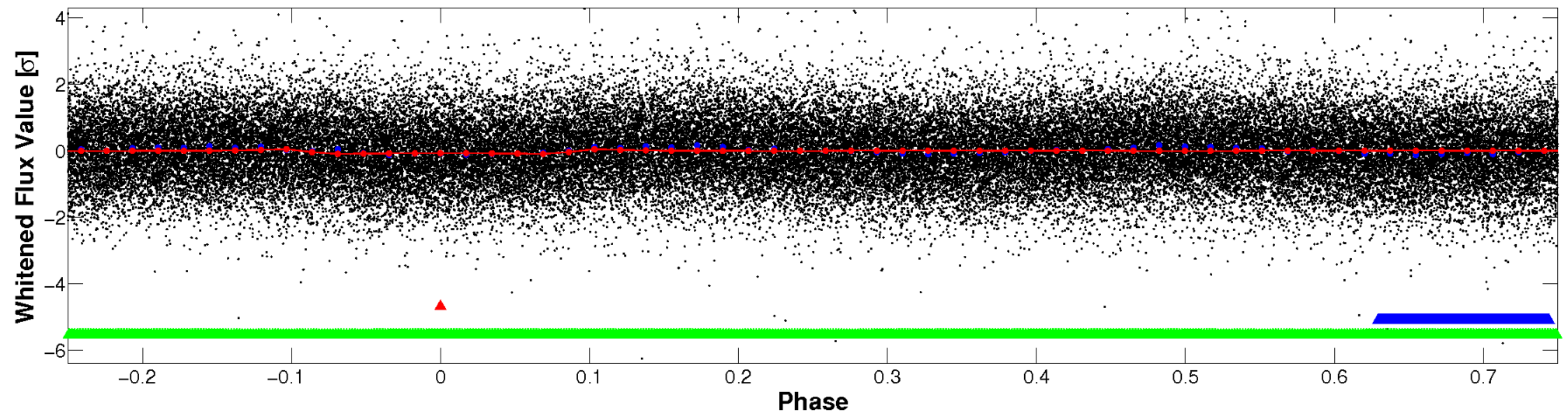


# Non-Whitened Vs. Whitened Light Curve

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



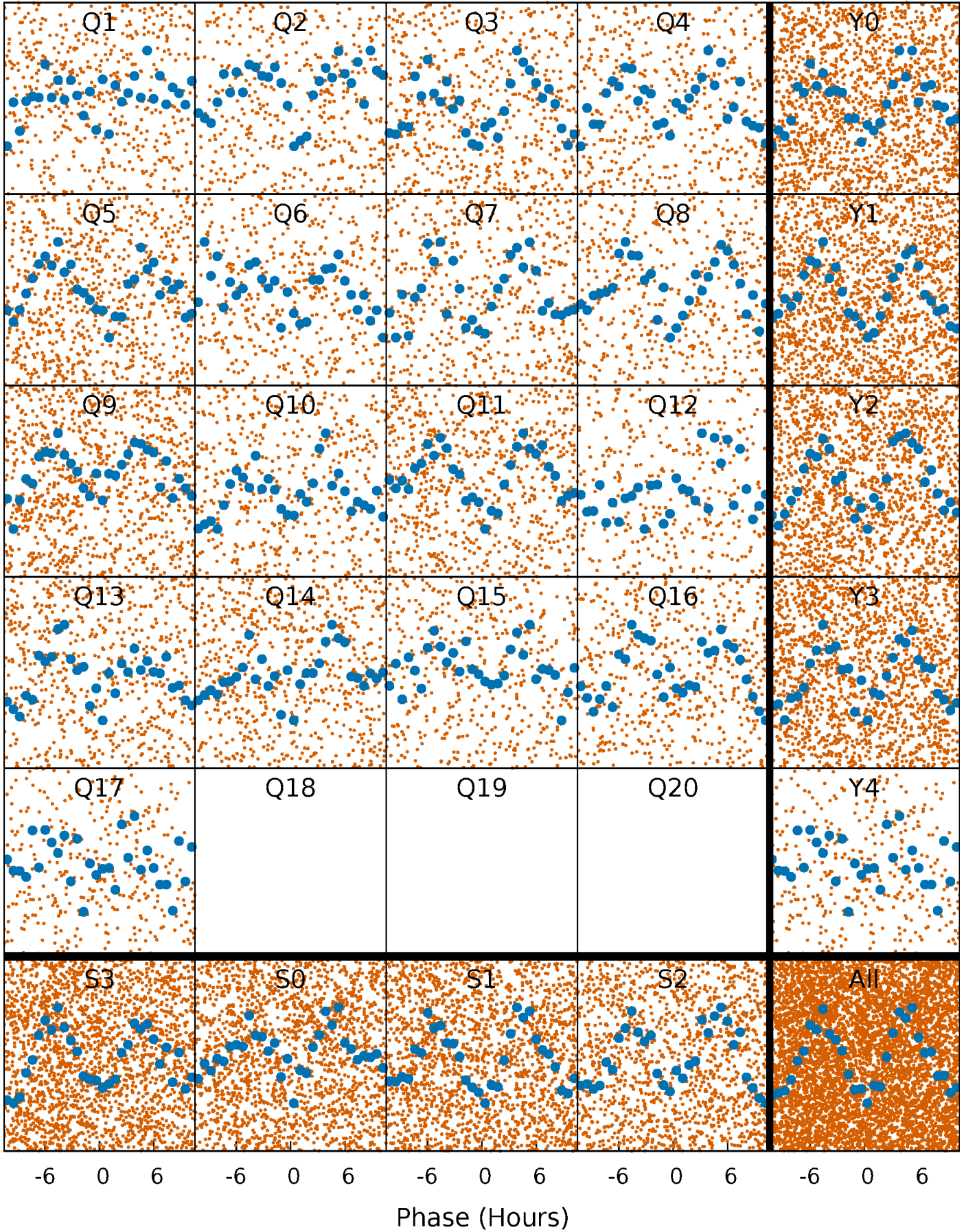
Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)





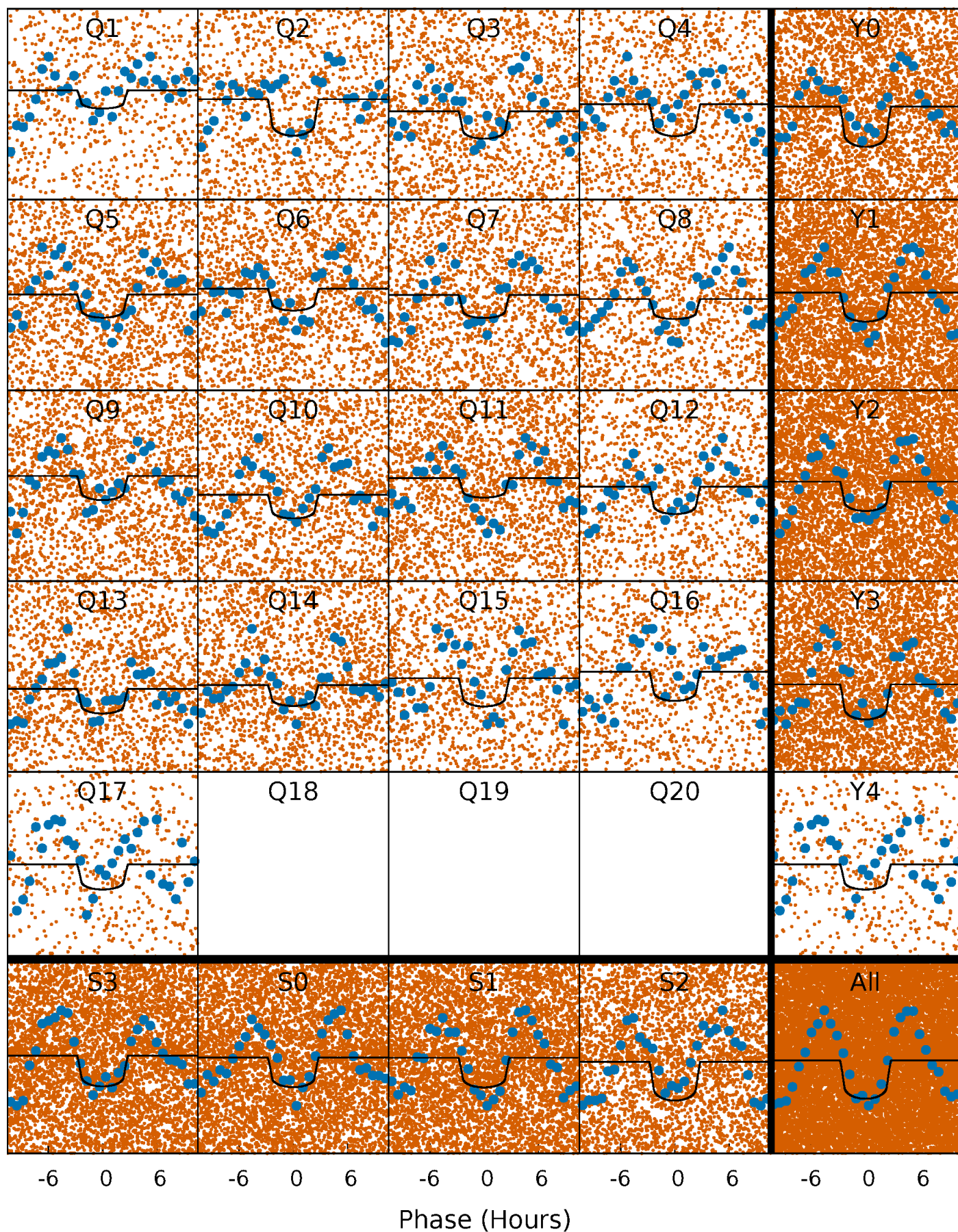
# PDC Quarter-Phased Transit Curves

TCE 005566775-01   P= 1.185965 Days    $T_0=132.171442$  (BKJD)



# DV Quarter-Phased Transit Curves

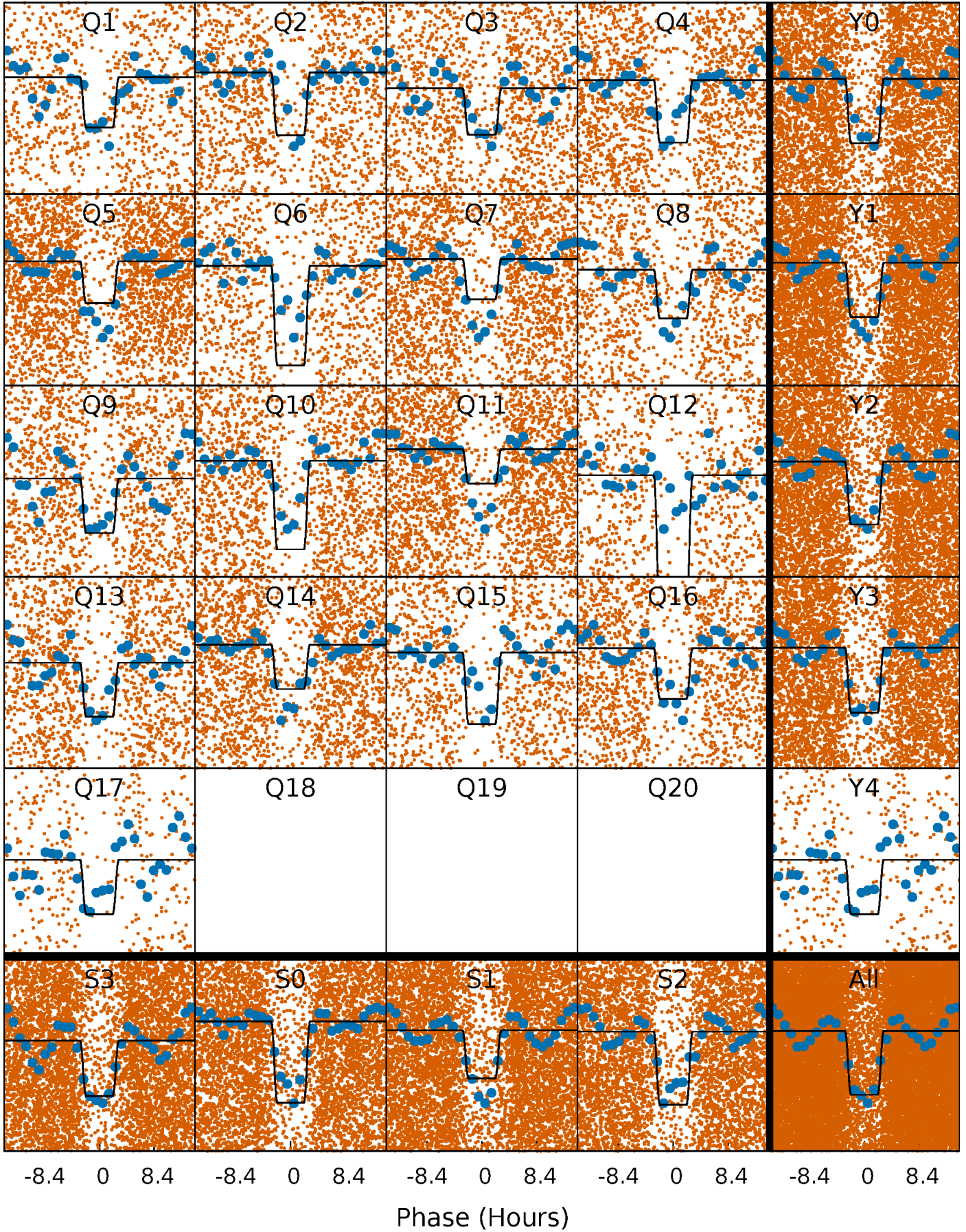
TCE 005566775-01 P= 1.185965 Days  $T_0=132.171442$  (BKJD)





# Alt. Detrend Quarter-Phased Transit Curves

TCE 005566775-01 P= 1.185985 Days  $T_0=132.162404$  (BKJD)

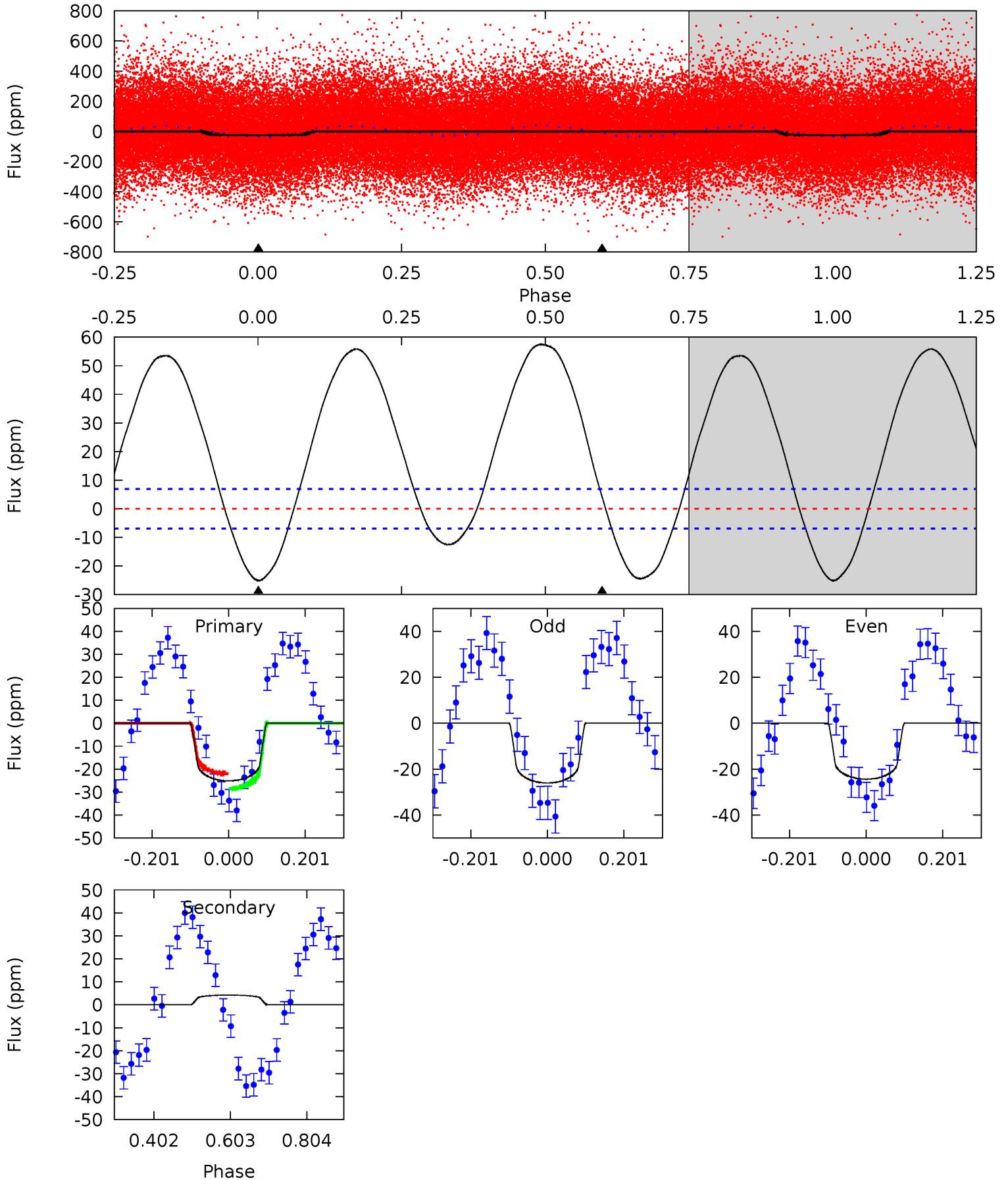




# DV Model-Shift Uniqueness Test

005566775-01, P = 1.185965 Days, E = 130.985477 Days

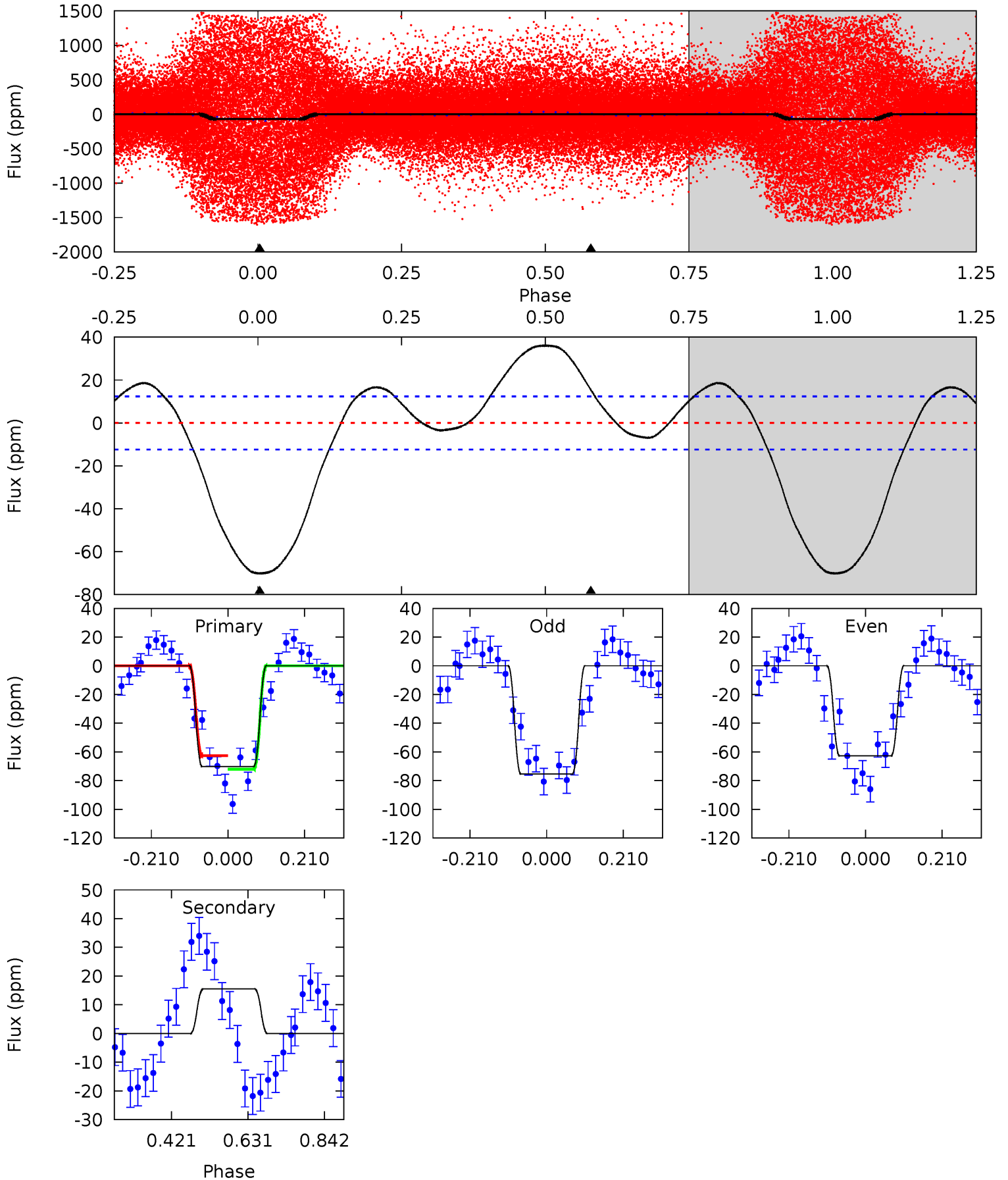
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
16.0	-2.68	0	0	4.42	1.28	12.1	16.0	16.0	-2.68	-2.68	0.53	0.96	0.70	2.07



# Alt Model-Shift Uniqueness Test

005566775-01, P = 1.185985 Days, E = 130.976419 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
25.0	-5.52	0	0	4.41	1.25	2.44	25.0	25.0	-5.52	-5.52	2.24	1.19	0.34	1.73



### Stellar Parameters For KIC 005566775

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M(M_{\odot})$	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$6547^{+196}_{-216}$	$2.786^{+0.501}_{-0.088}$	$-0.500^{+0.550}_{-0.150}$	$11.631^{+1.221}_{-6.513}$	$3.011^{+0.253}_{-1.138}$	$0.003^{+0.016}_{-0.001}$
	+3%/-3%	+18%/-3%	+110%/-30%	+10%/-56%	+8%/-38%	+589%/-28%
Source	PHO1	FLK73	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 005566775-01 / KOI

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{max}$ (K)	$T_{obs}$ (K)	$A_{obs}$
DV	$4\pm2$	$6.57^{+2.28}_{-2.29}$	$7568^{+468}_{-1018}$	$-6463^{+741}_{-415}$	$-0.052^{+0.027}_{-0.068}$
Alt.	$15\pm3$	$11.01^{+2.59}_{-3.06}$	$7561^{+457}_{-907}$	$-6508^{+570}_{-413}$	$-0.070^{+0.025}_{-0.061}$

$T_{max}$  = 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

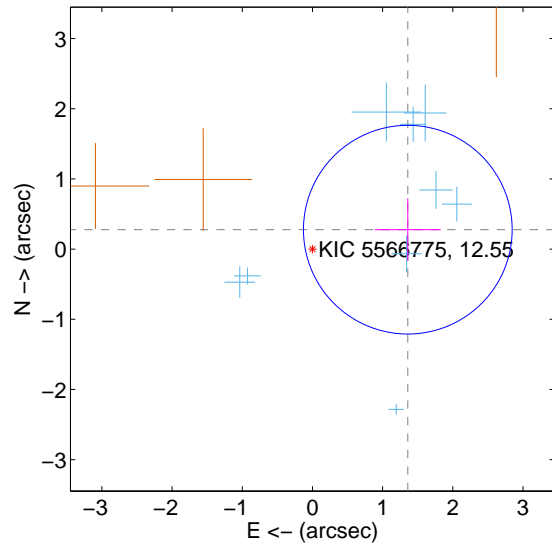
Supplemental centroid analysis for 005566775-01. Kepler magnitude: 12.55. Transit SNR 9.04

There are 9 quarters with good PRF difference image offsets

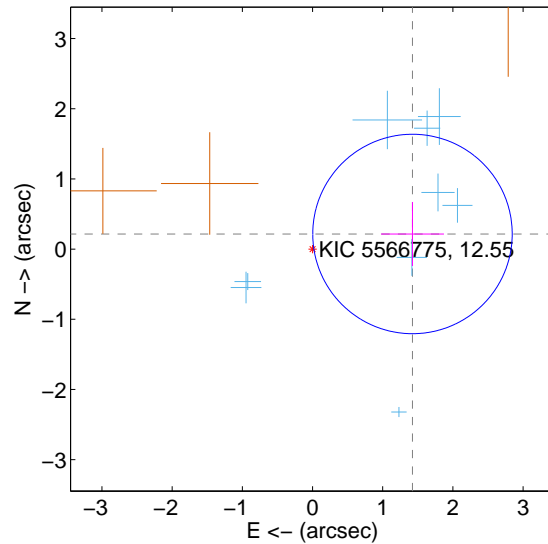
The direct PRF centroid is offset from the target star catalog position by about 0.13 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$1.386 \pm 0.496$	2.80	$-1.359 \pm 0.470$	$0.277 \pm 0.447$
PRF-fit source offset from KIC position	$1.440 \pm 0.474$	3.04	$-1.424 \pm 0.448$	$0.215 \pm 0.456$
photometric centroid source offset	$0.82 \pm 0.65$	1.26	$0.24 \pm 0.71$	$-0.78 \pm 0.64$

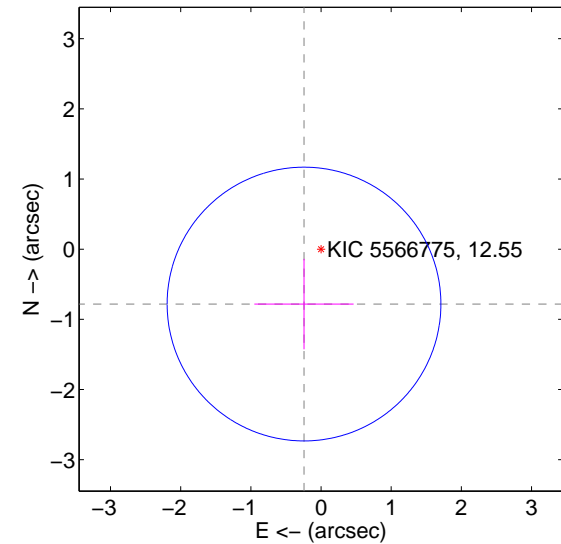
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

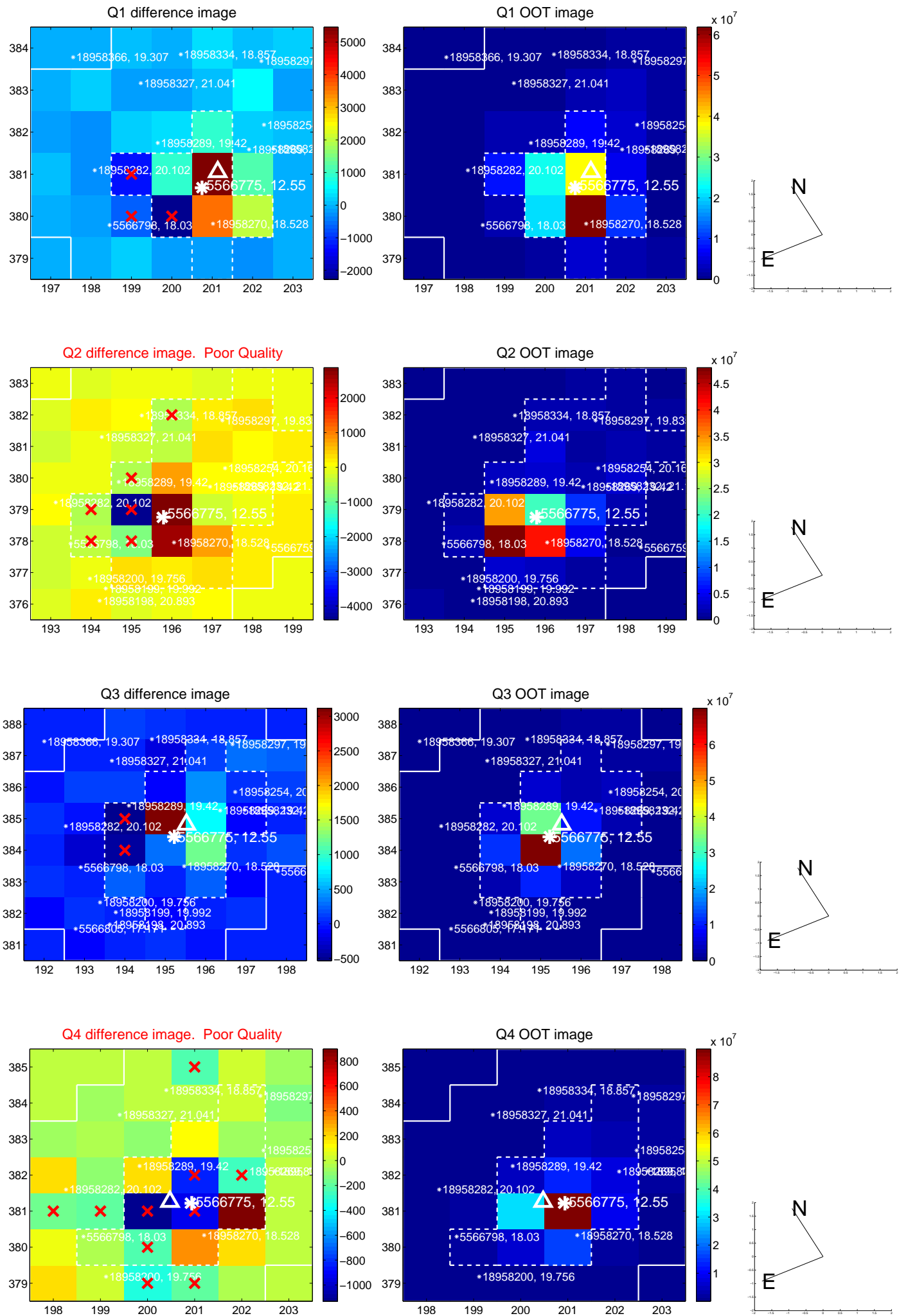


offset from photometric centroids

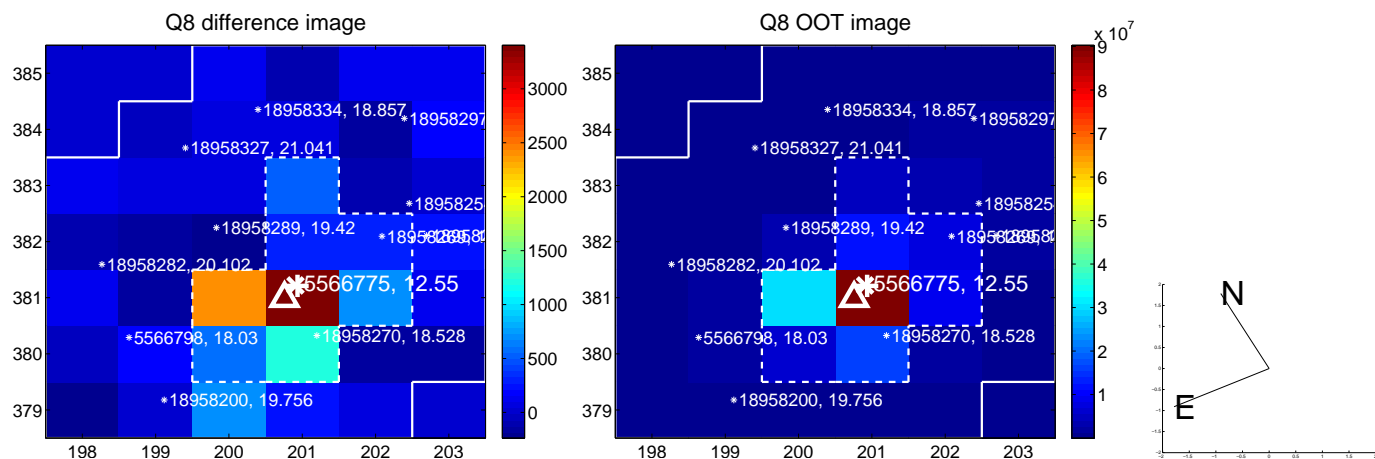
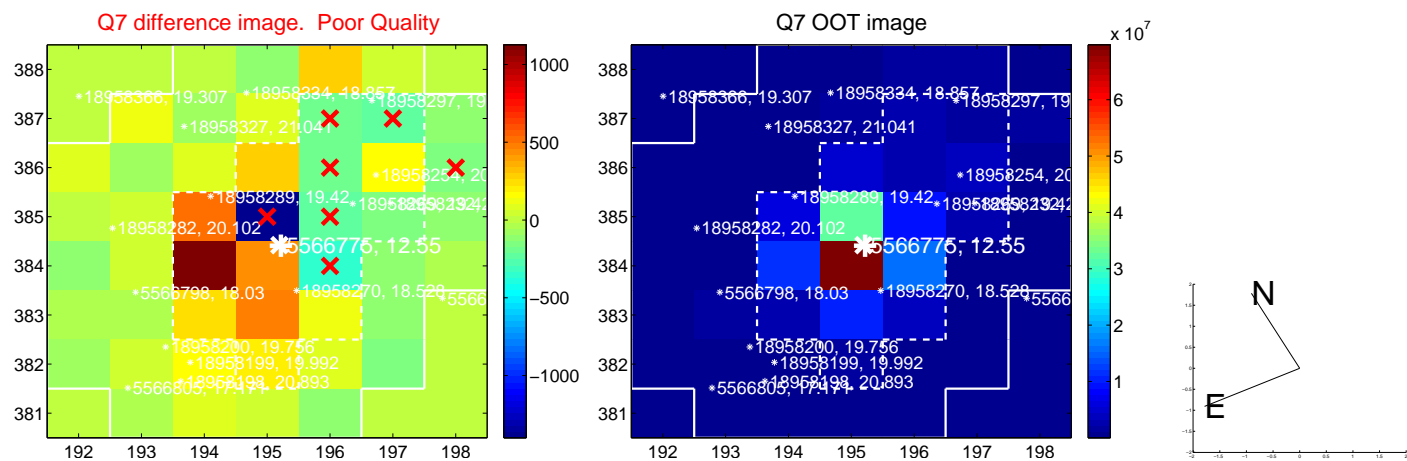
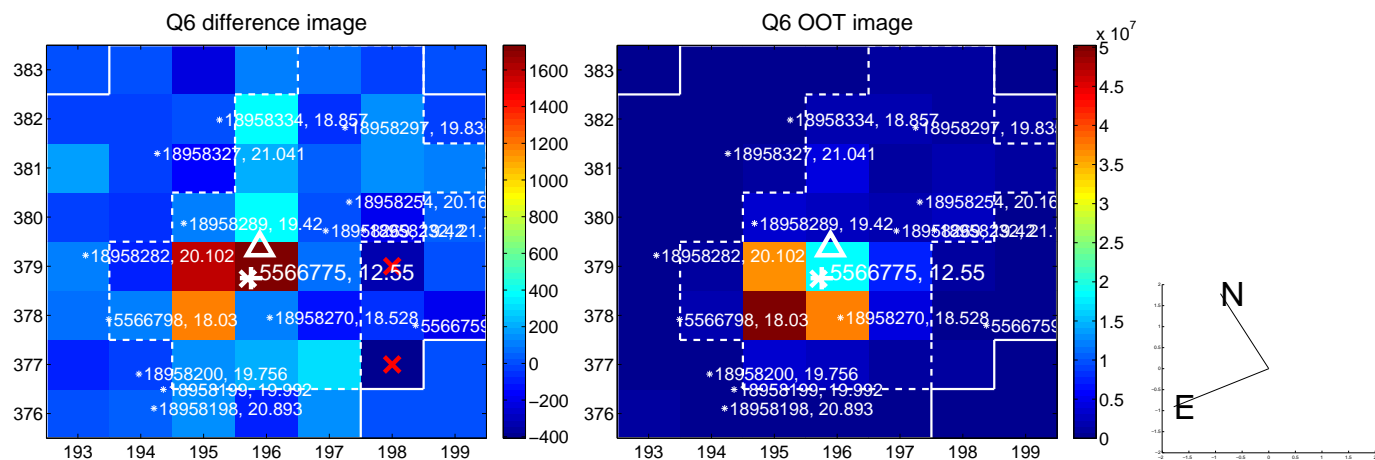
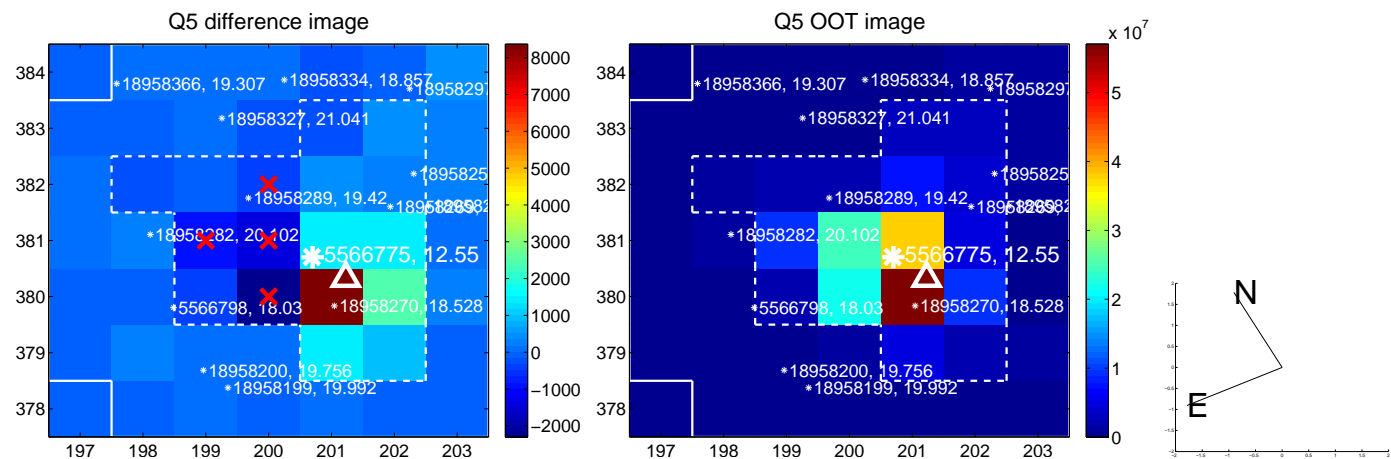


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

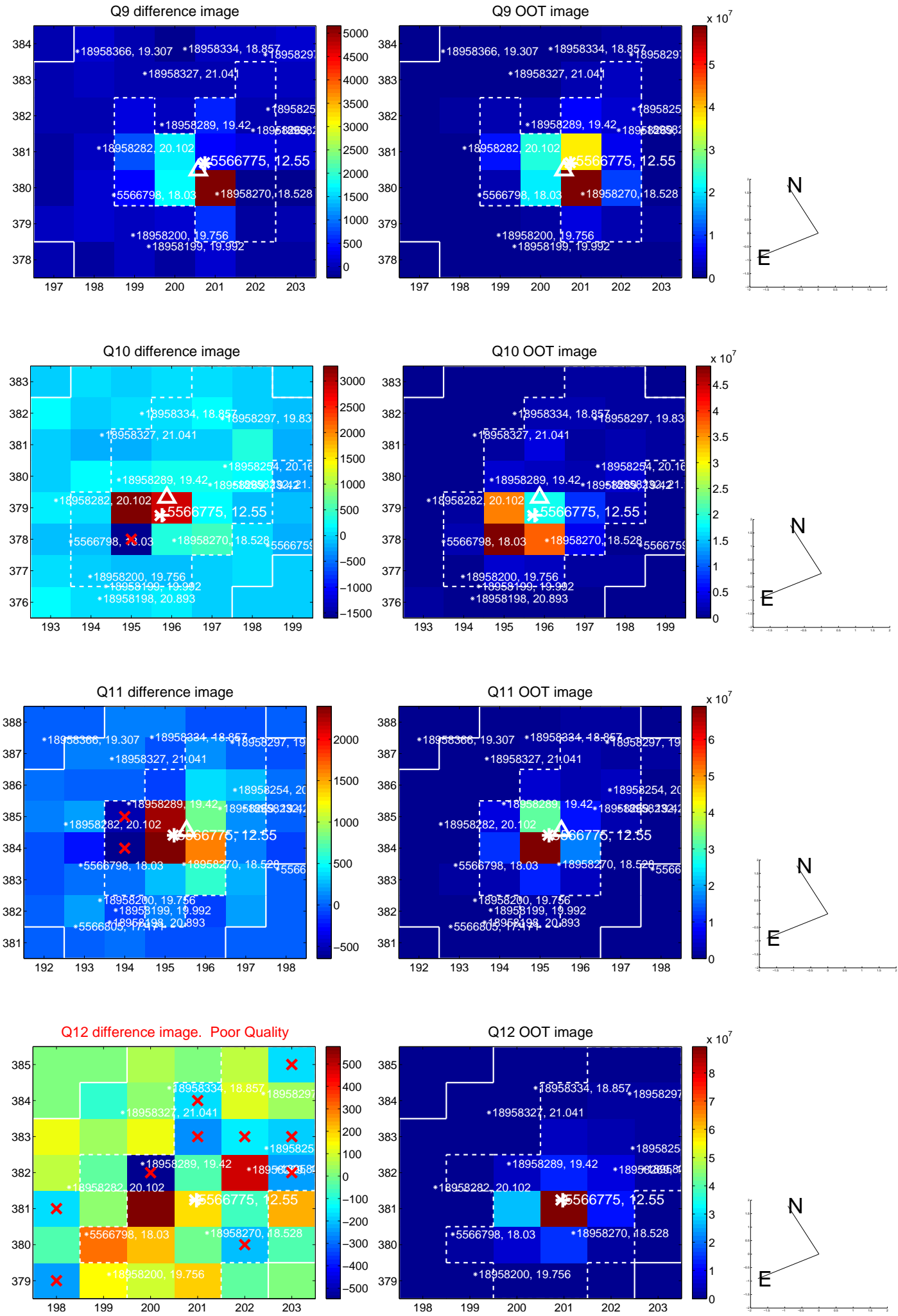


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

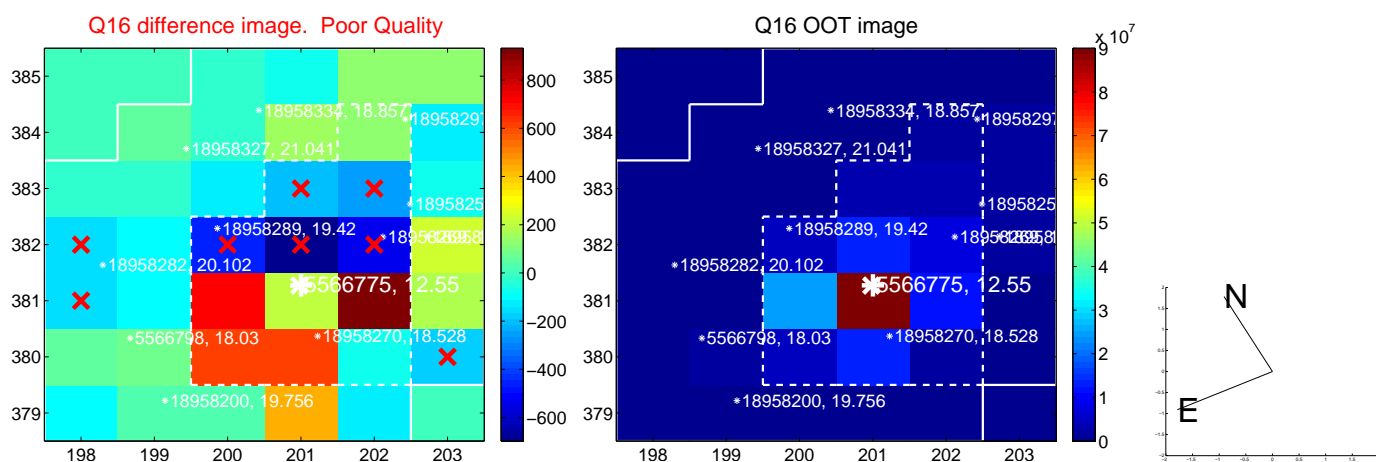
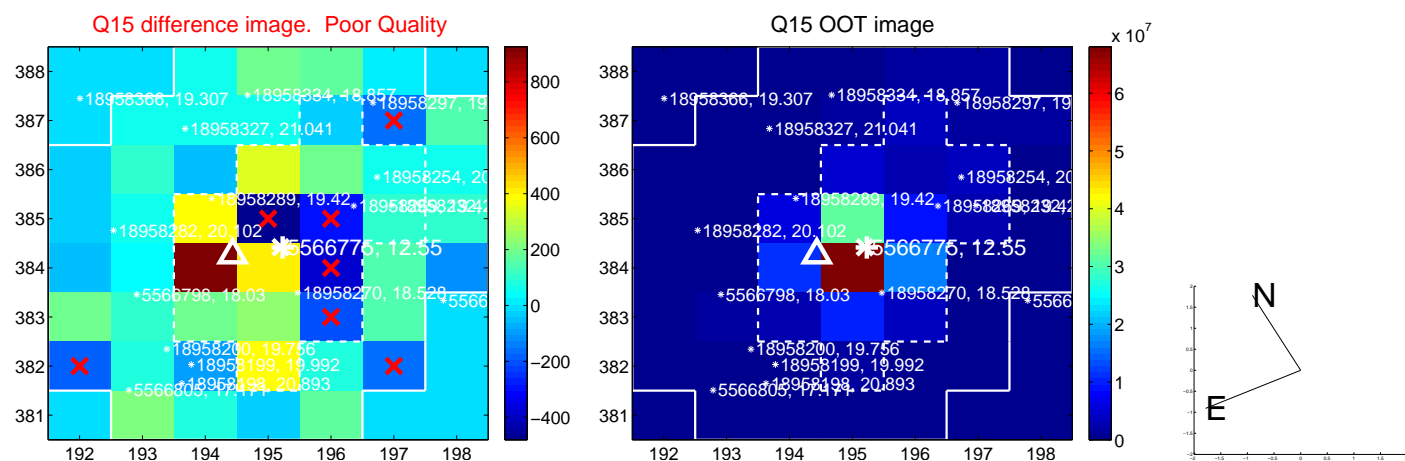
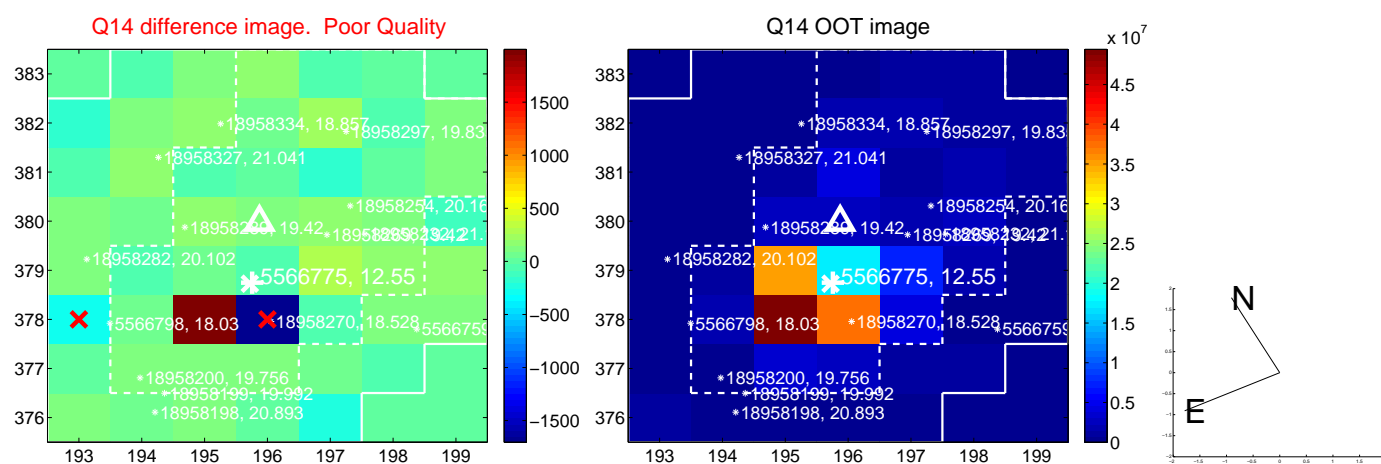
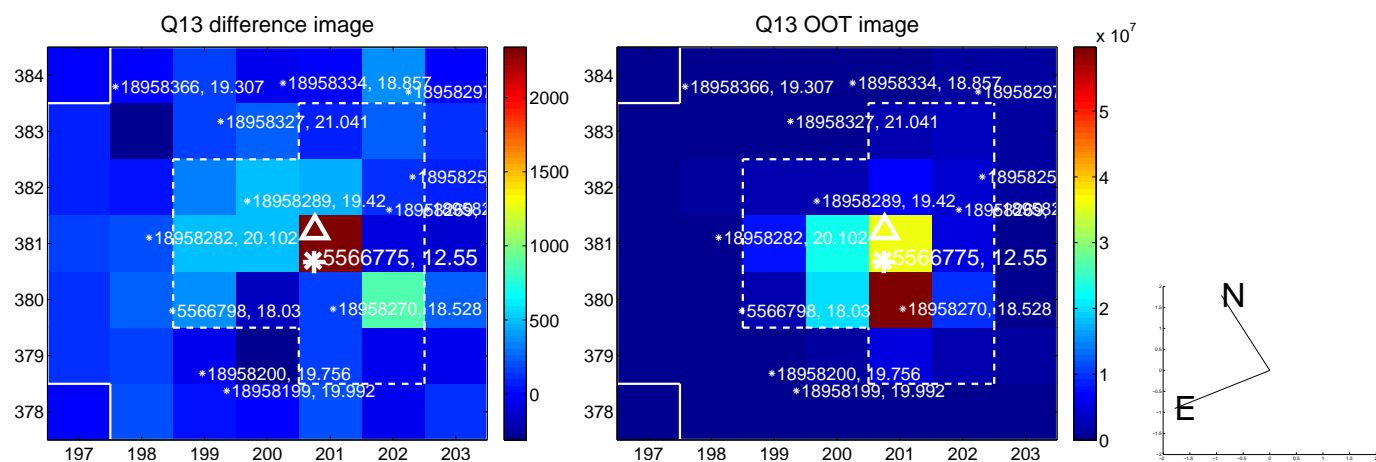




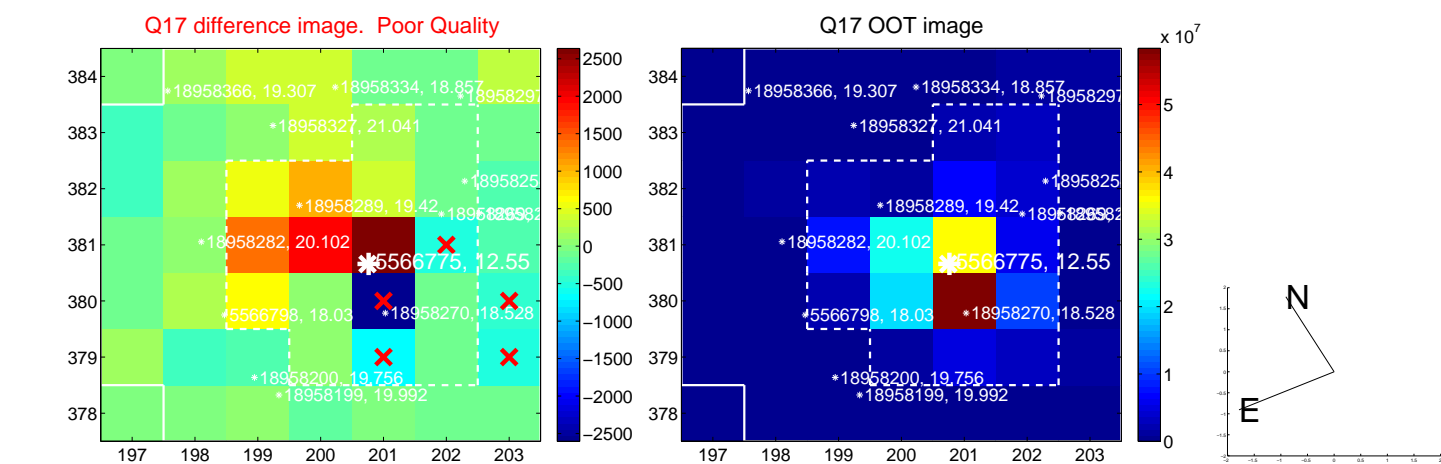
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



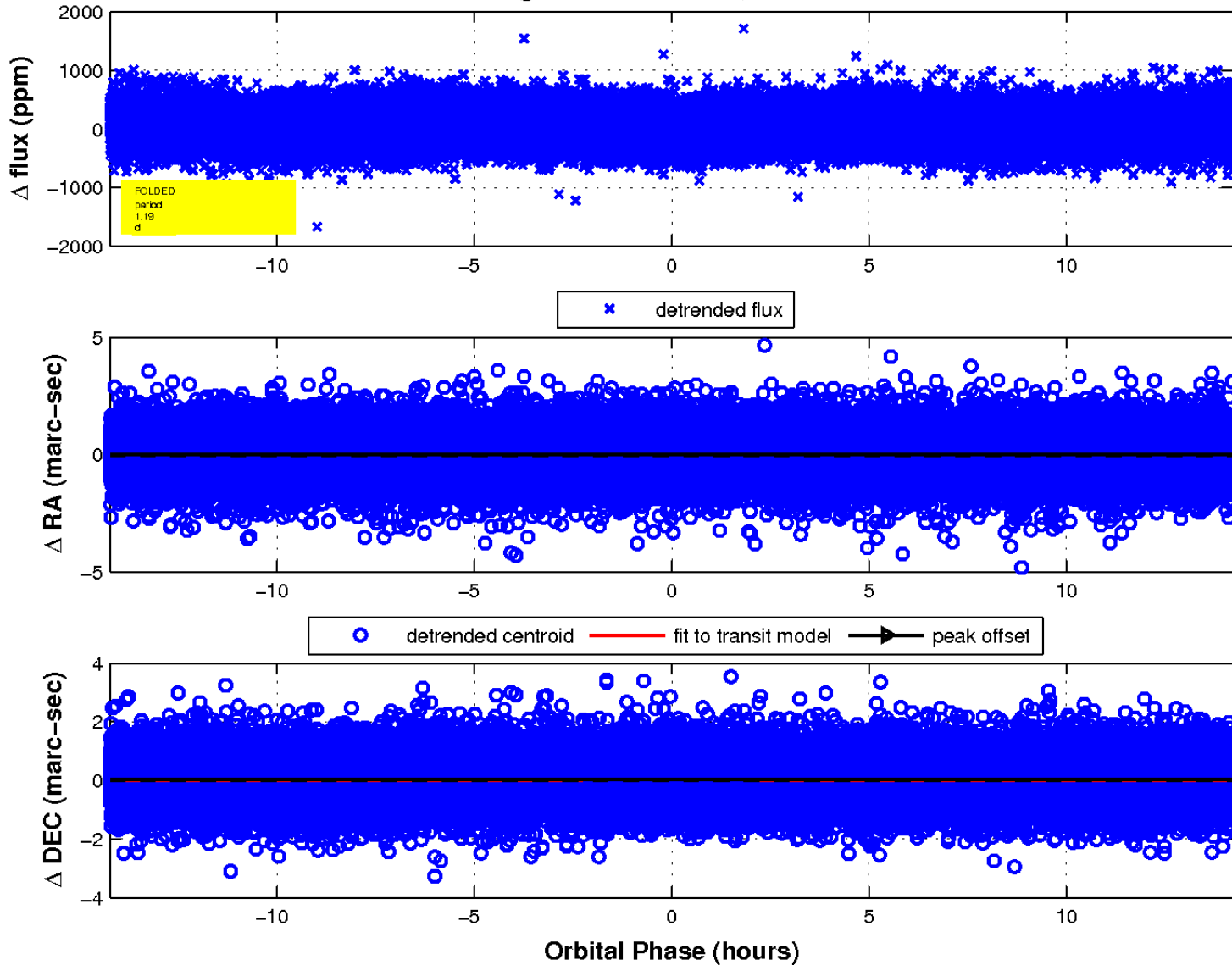
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

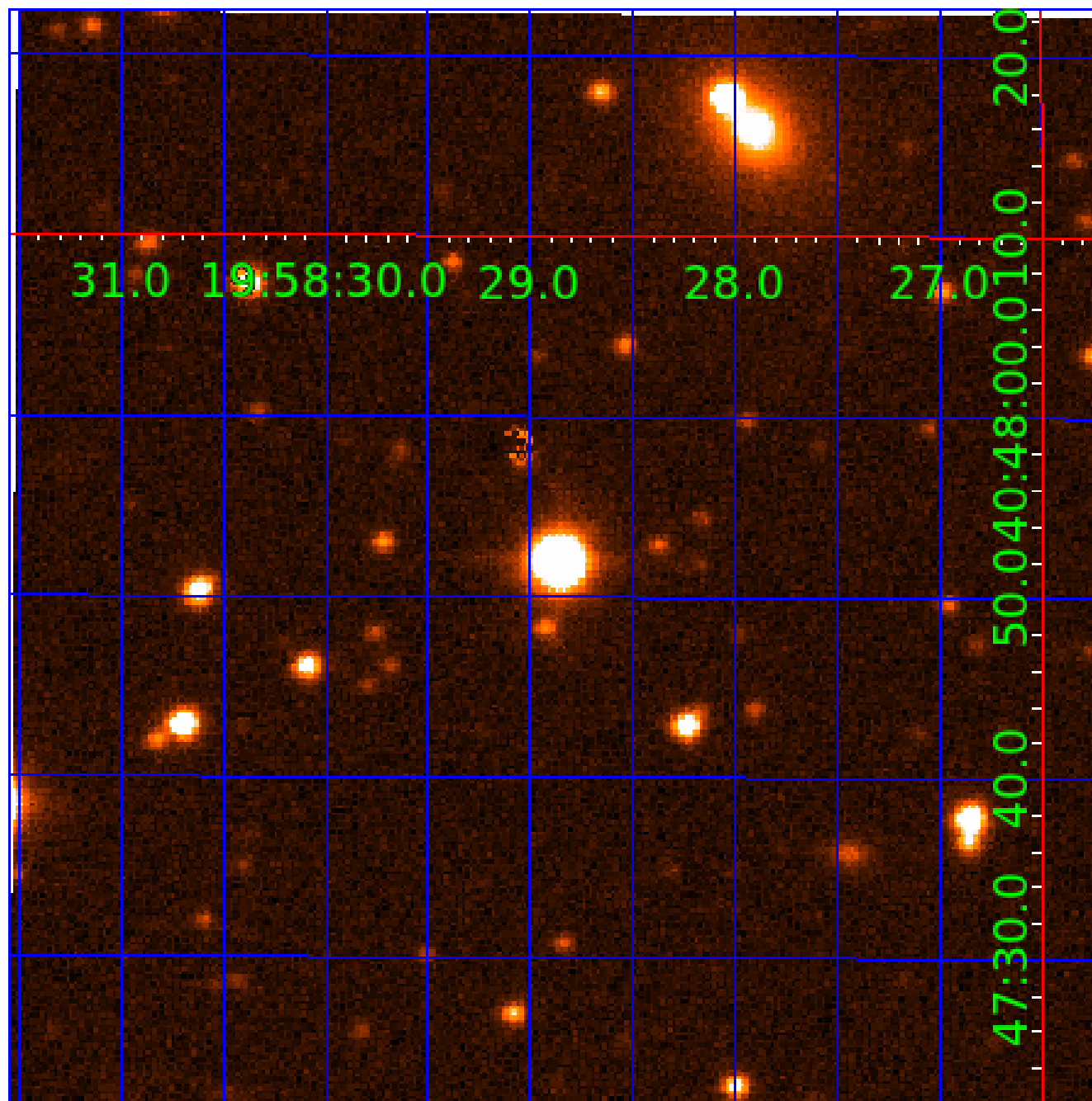


fluxWeightedCentroids, Planet 1 of 3



UKIRT Image

Declination





# KIC 005566775

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
005566775-01	OBS	No	1.185965	132.171442	29.7	5.273	9.2	9.0	11.63	6547	7.34	0.00
005566775-02	OBS	No	1.186076	131.731775	37.7	4.679	10.5	10.9	11.63	6547	8.16	0.00
005566775-03	OBS	No	1.582016	132.908883	124.4	11.973	12.6	15.5	11.63	6547	17.45	0.00

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005566775-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV
005566775-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD
005566775-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—CENT_FEW_DIFFS

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

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

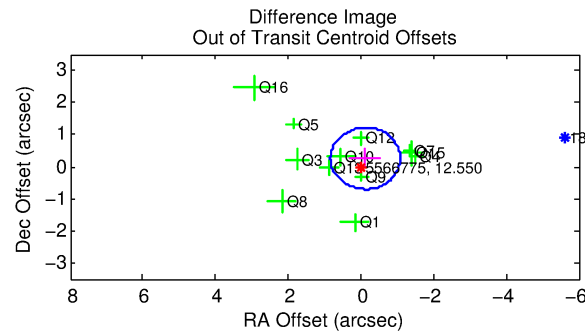
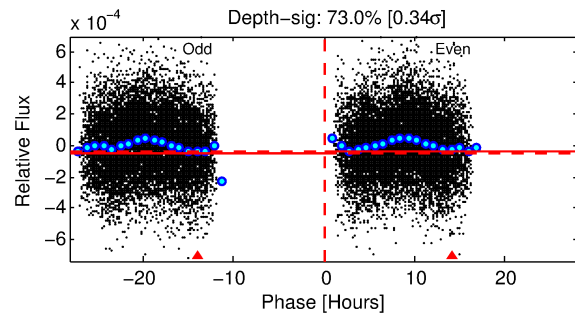
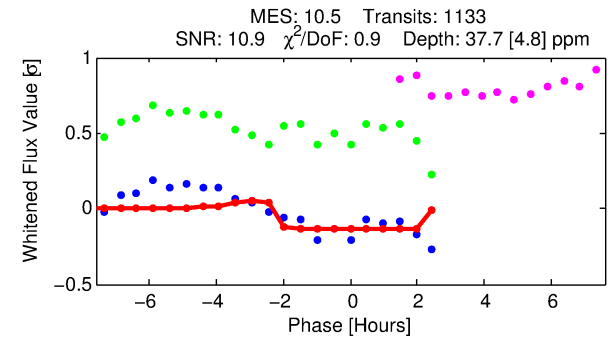
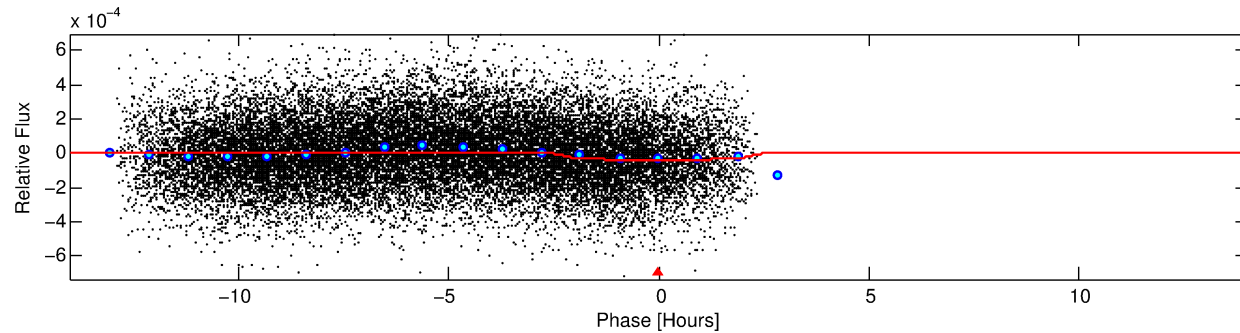
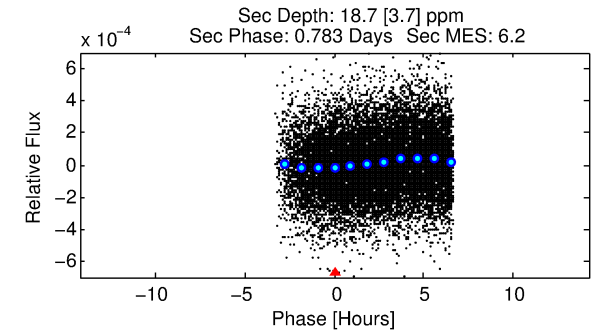
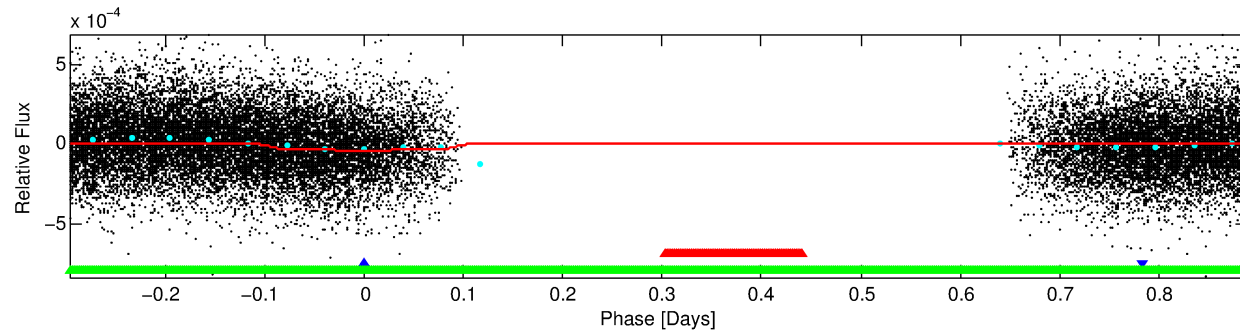
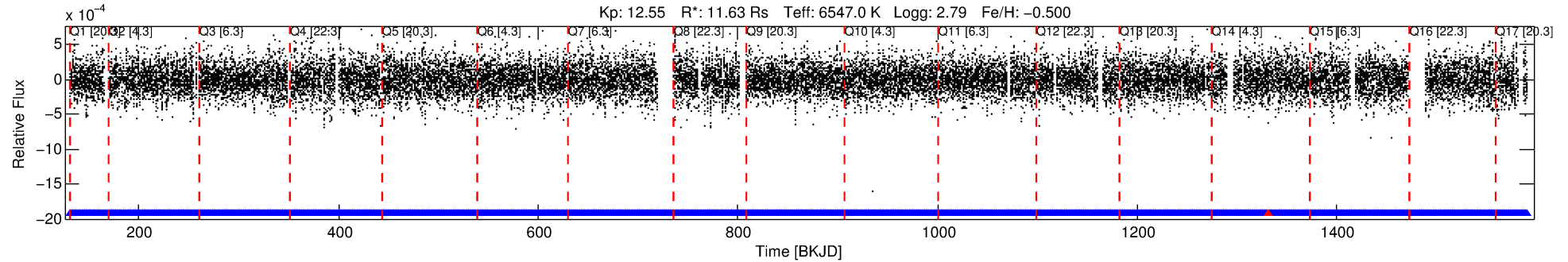
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 005566775-02

No Significant Match Found

# DV One-Page Summary

KIC: 5566775 Candidate: 2 of 3 Period: 1.186 d



## DV Fit Results:

Period = 1.18608 [0.00002] d  
Epoch = 131.7318 [0.0067] BKJD  
Rp/R\* = 0.0064 [0.0019]  
b = 0.87 [0.47]  
Seff = N/A  
Teq = N/A  
Rp = 8.16 [5.14] Re  
a = N/A  
Ag = N/A  
Teffp = N/A

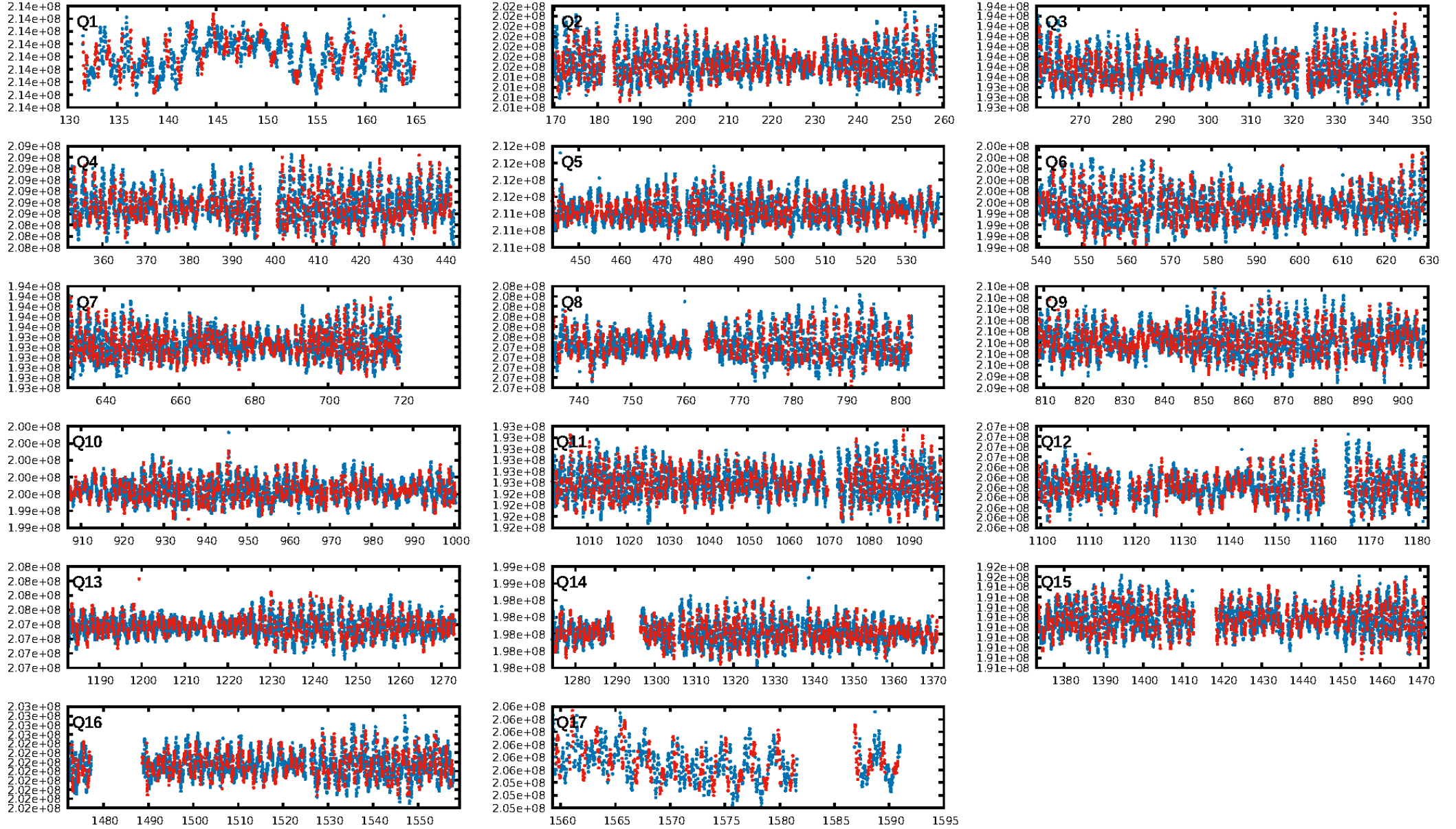
## DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00σ]  
LongPeriod-sig: 54.0% [0.74σ]  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: N/A  
RollingBand-fgt: 1.00 [1081/1082]  
GhostDiagnostic-chr: 3.821  
Centroid-sig: 1.5%  
Centroid-so: 0.959 arcsec [1.77σ]  
OotOffset-rm: 0.282 arcsec [0.88σ]  
KicOffset-rm: 0.253 arcsec [0.69σ]  
OotOffset-st: 1/3/4/4 [12]  
KicOffset-st: 1/3/4/4 [12]  
DiffImageQuality-fgm: 0.92 [11/12]  
DiffImageOverlap-fno: 0.00 [0/17]

Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 14:02:51 Z

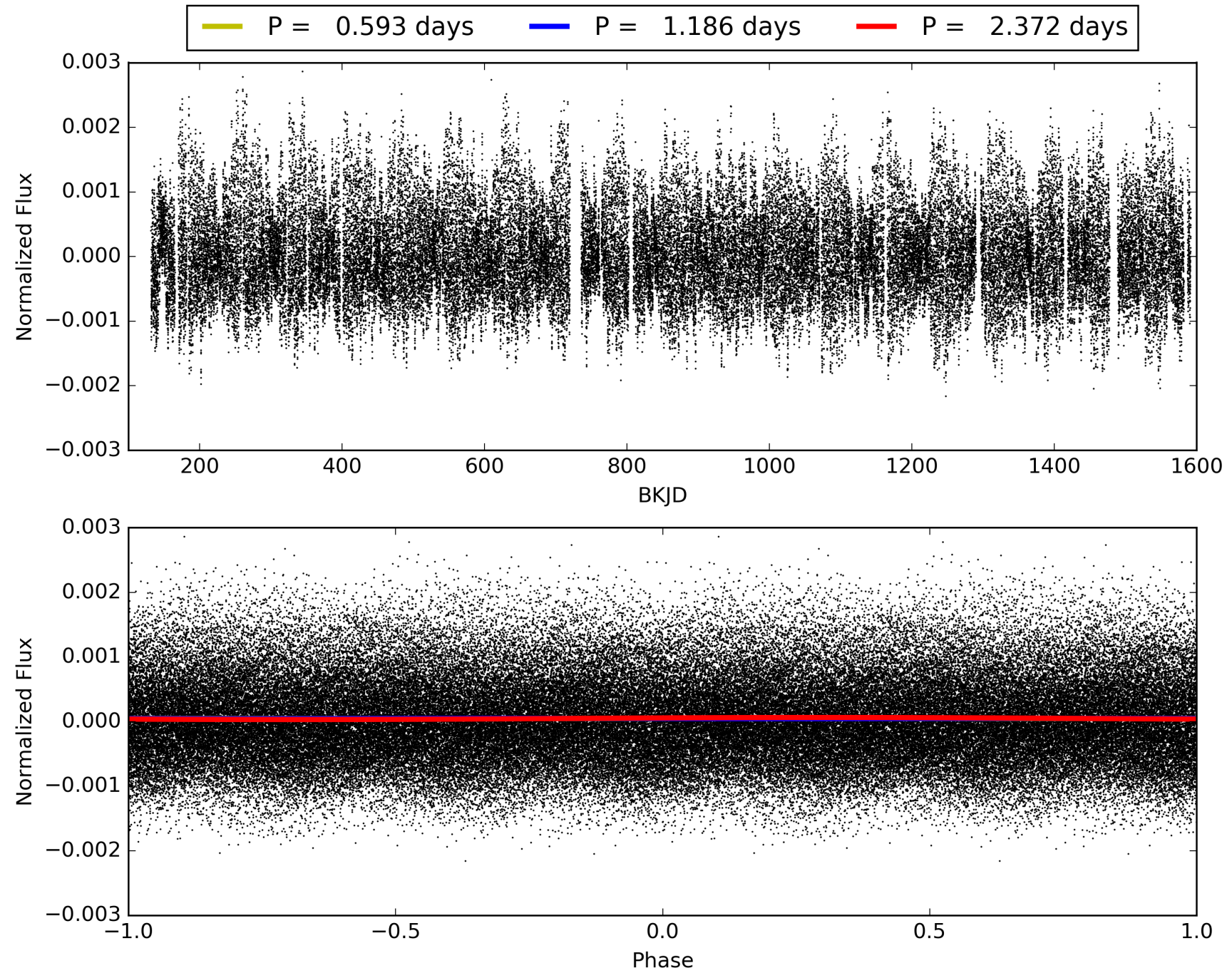
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

# TCE 005566775-02, PDC Light Curves





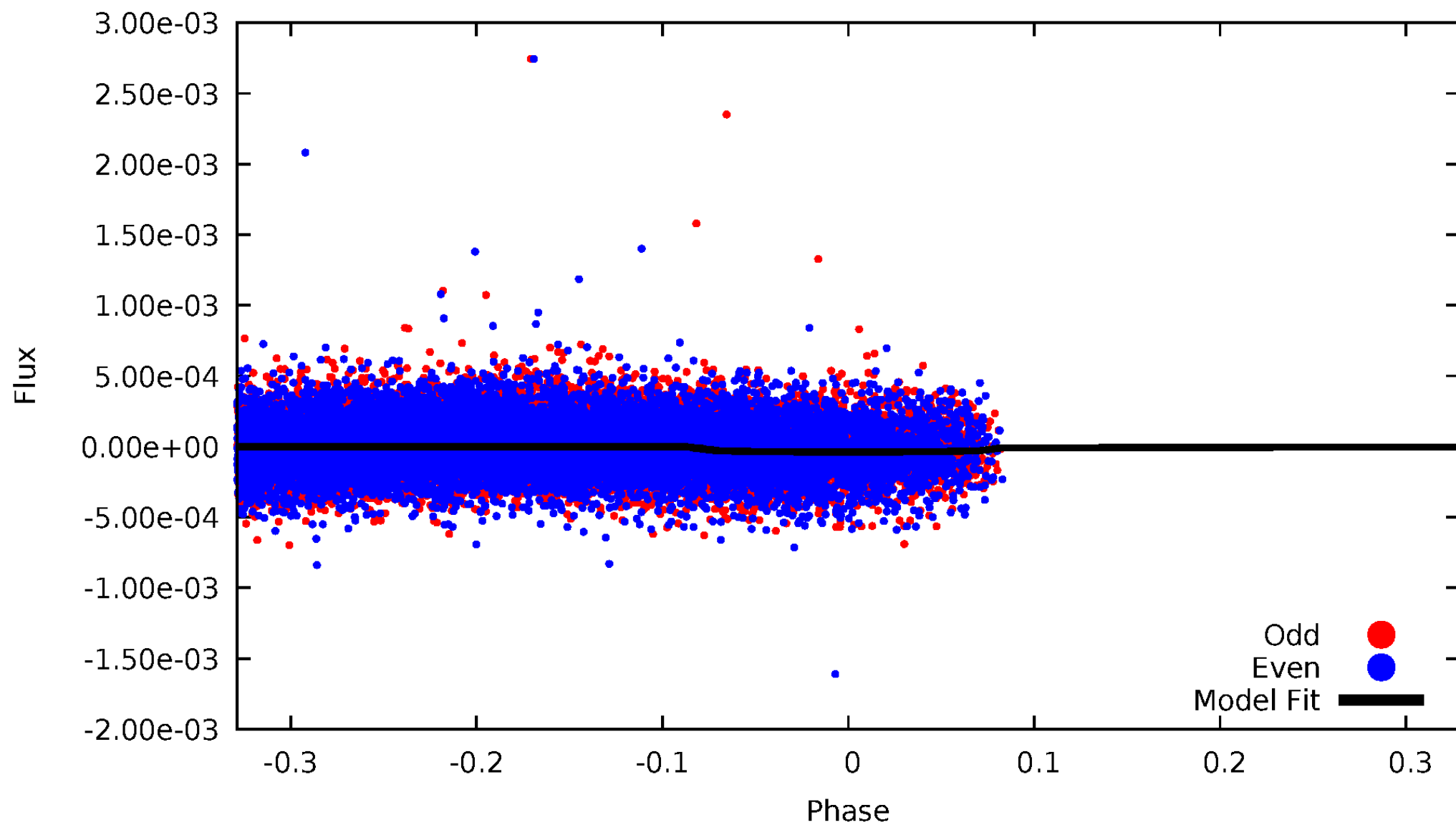
TCE 005566775-02





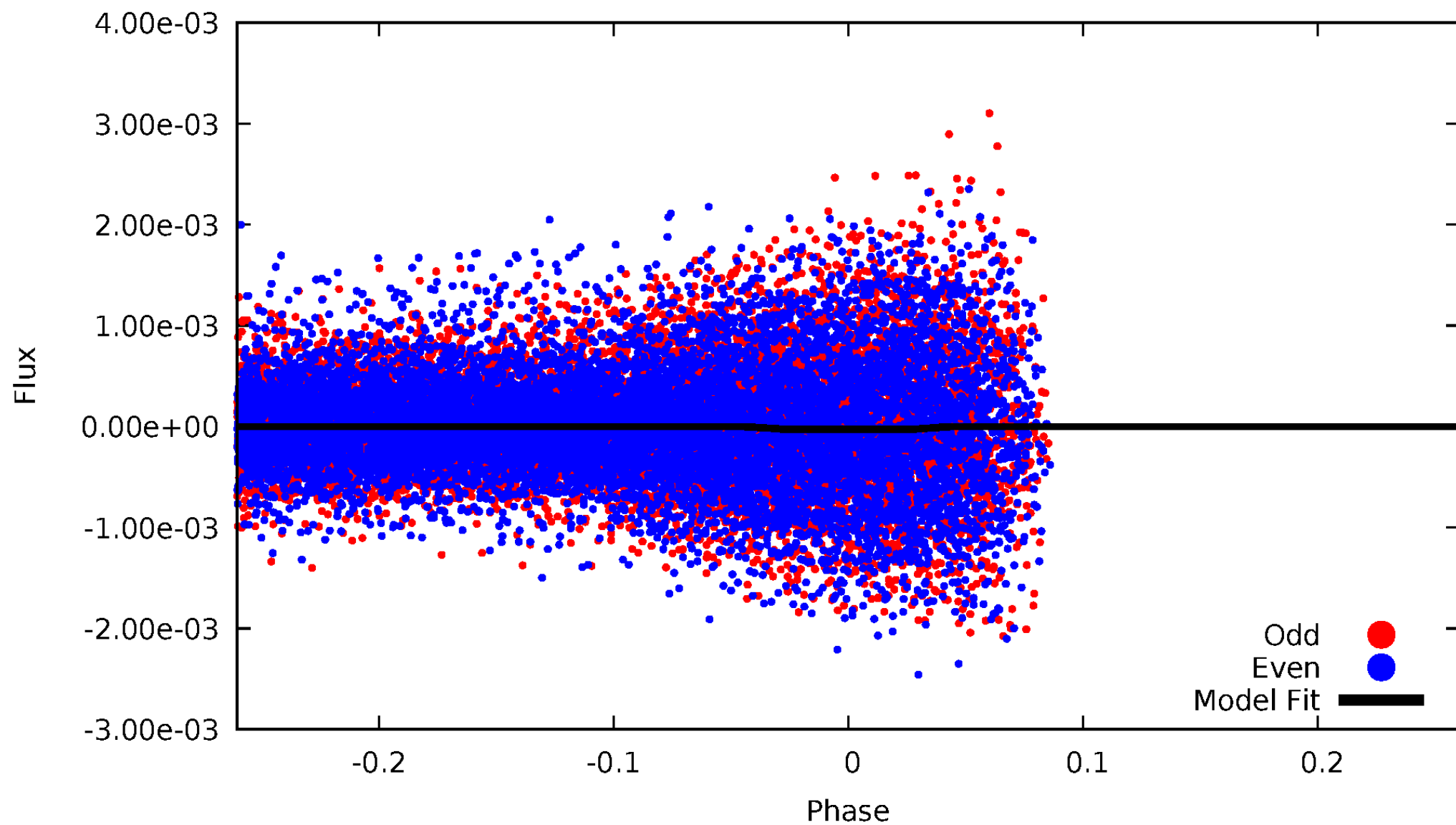
# DV Odd/Even

TCE 005566775-02



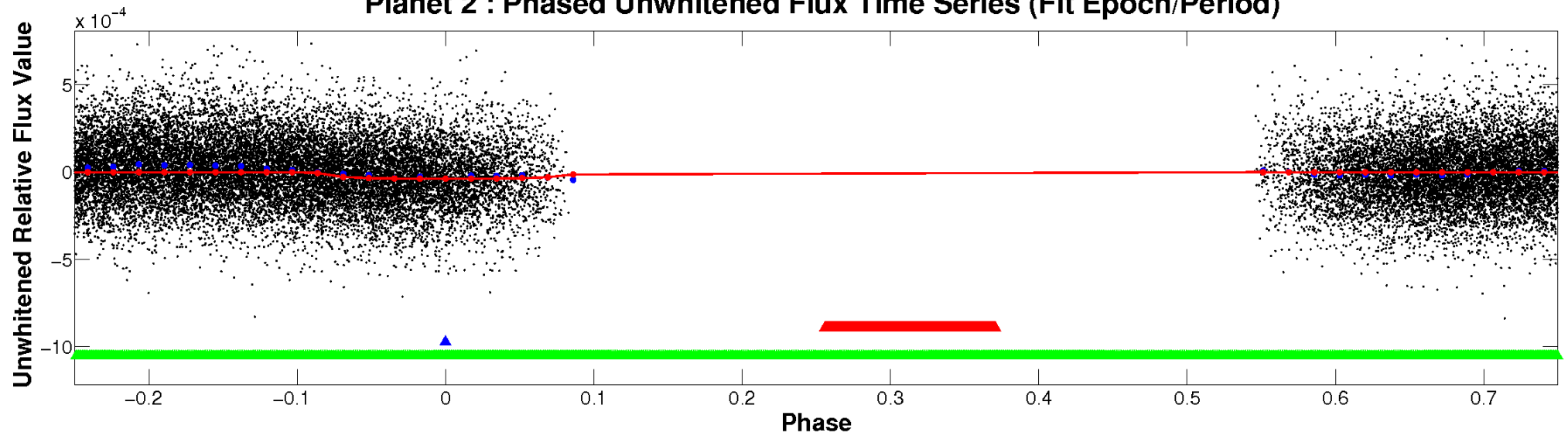
# ALT Odd/Even

TCE 005566775-02

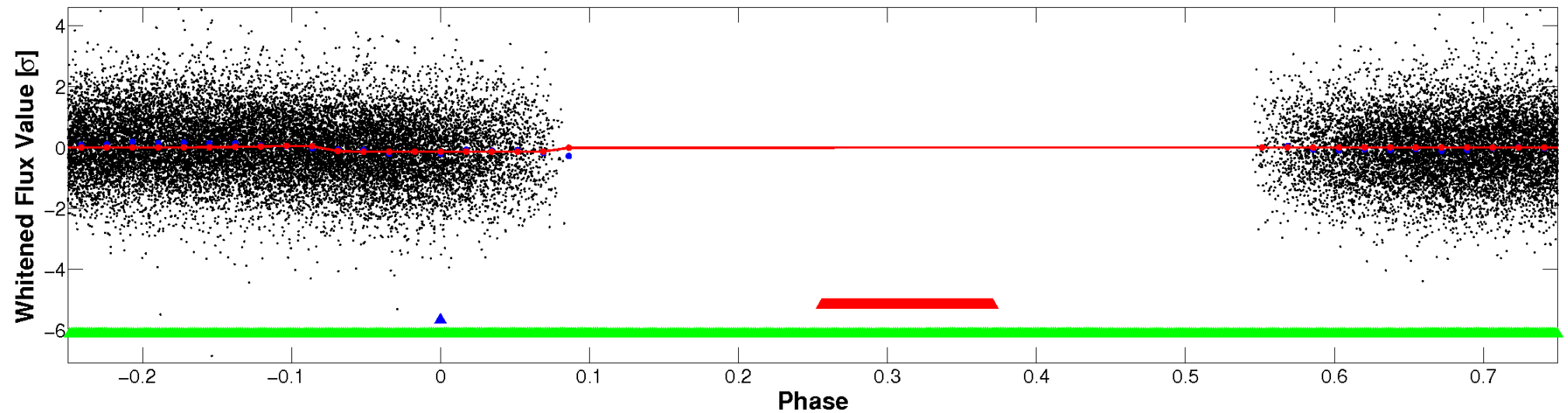


# Non-Whitened Vs. Whitened Light Curve

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

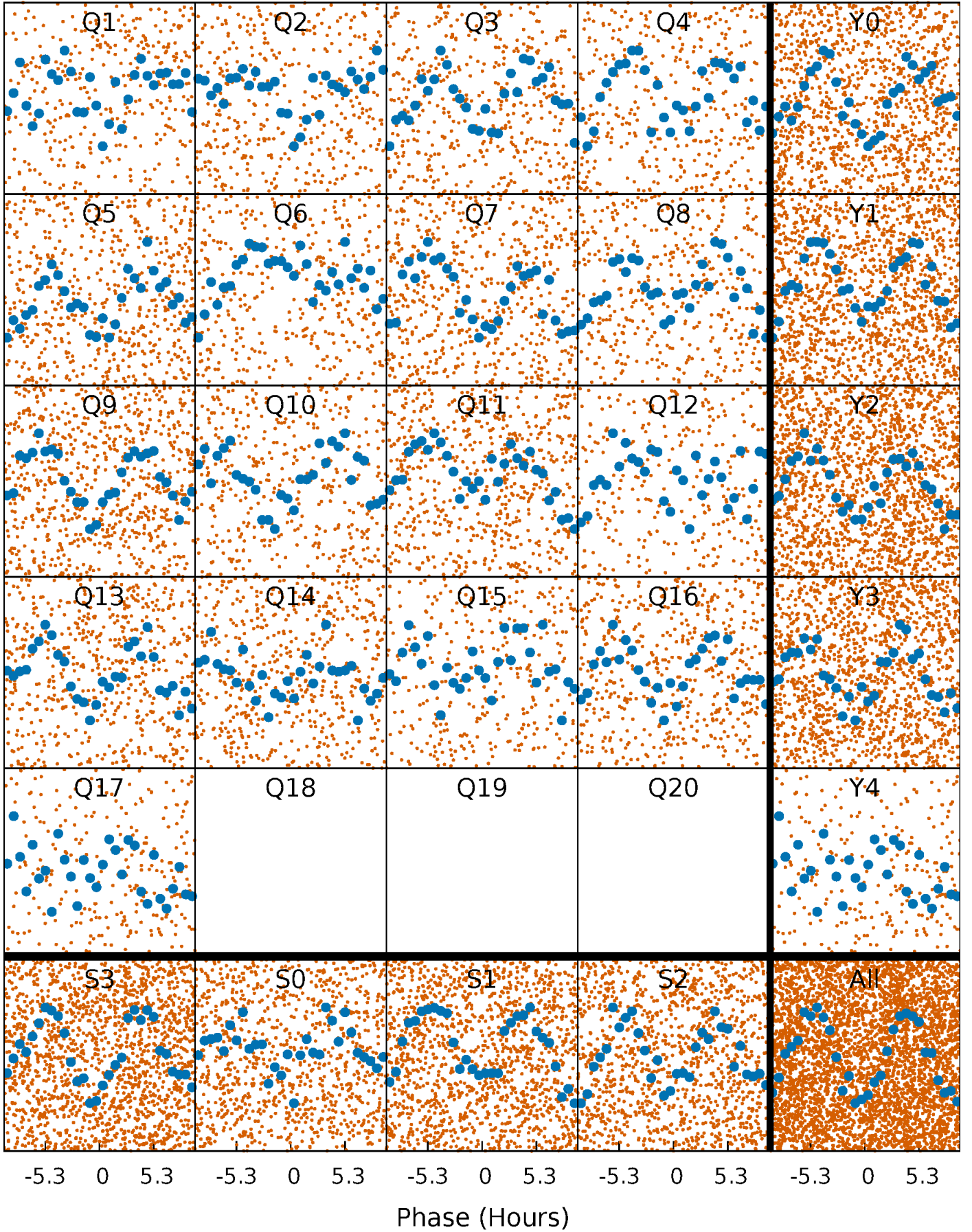


## Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



# PDC Quarter-Phased Transit Curves

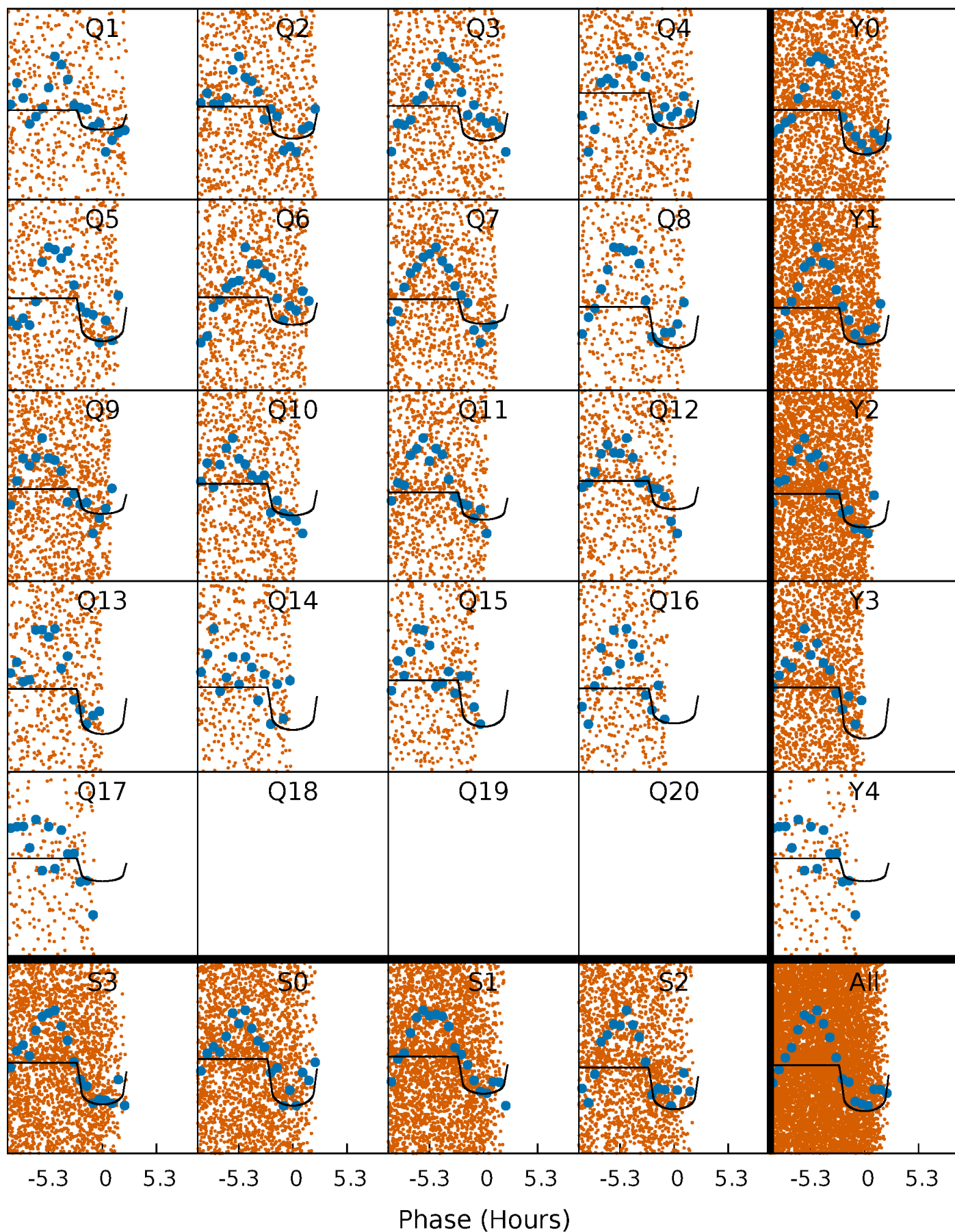
TCE 005566775-02   P= 1.186076 Days    $T_0=131.731775$  (BKJD)





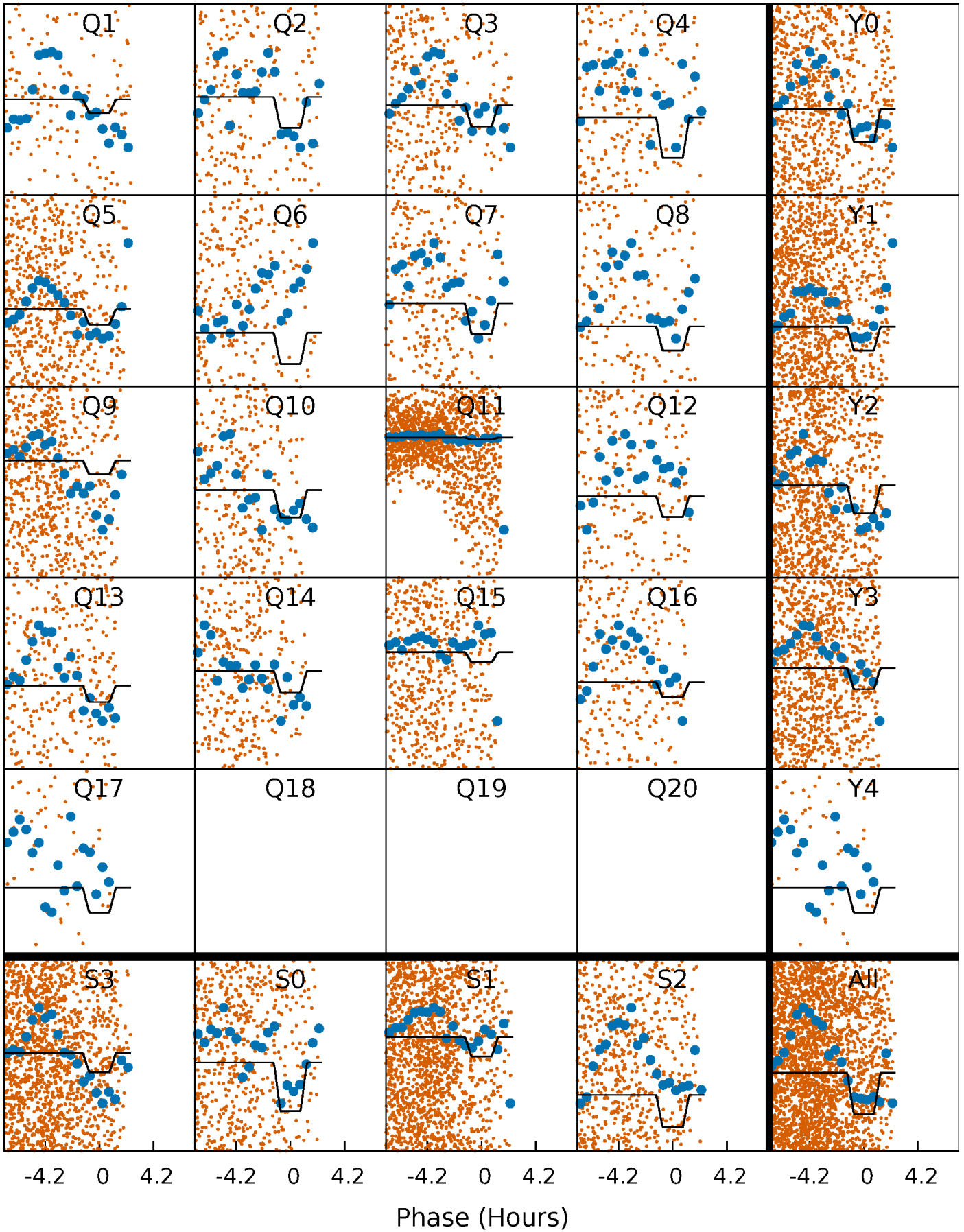
# DV Quarter-Phased Transit Curves

TCE 005566775-02 P= 1.186076 Days  $T_0=131.731775$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

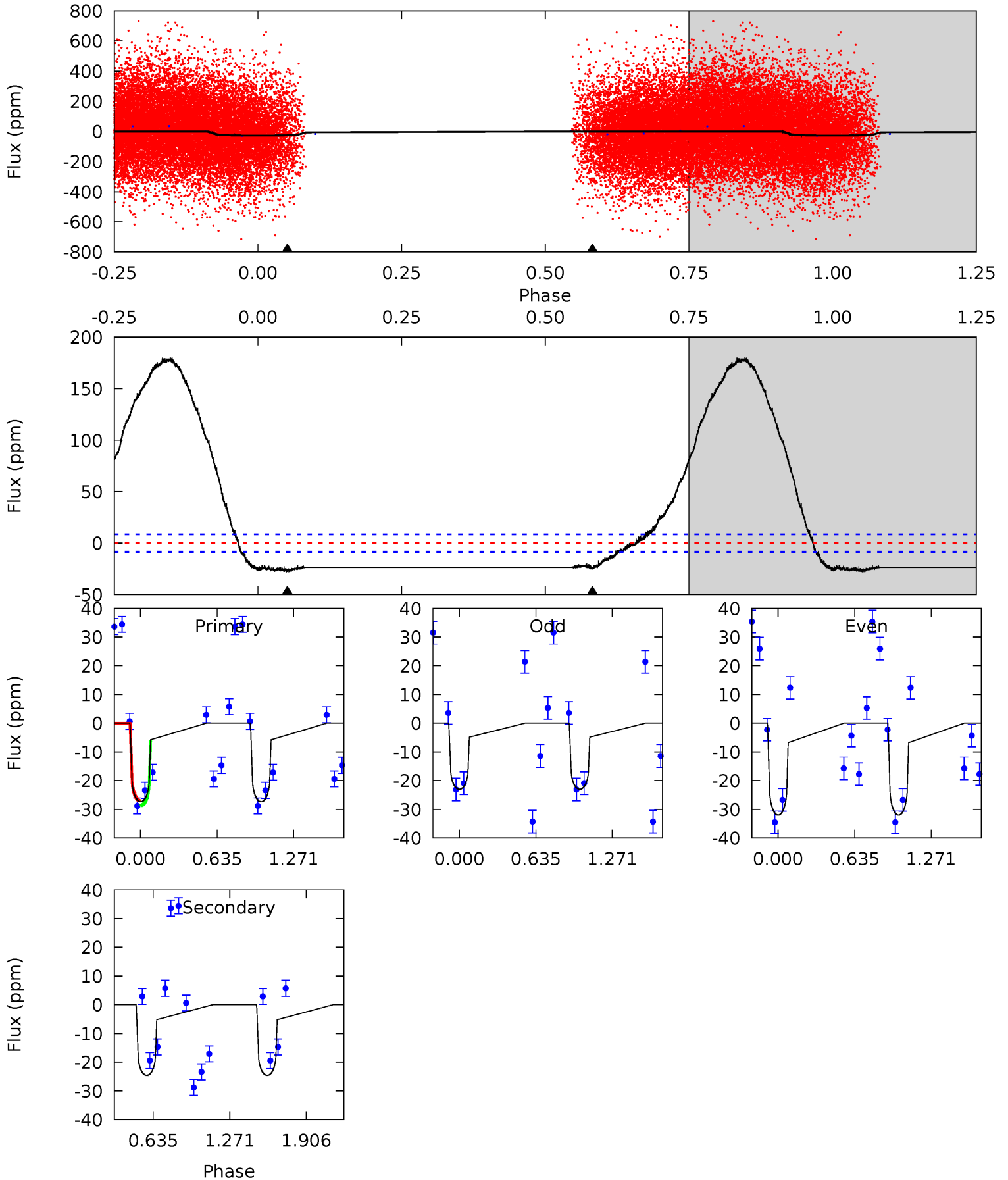
TCE 005566775-02 P= 1.186018 Days  $T_0=131.728881$  (BKJD)



# DV Model-Shift Uniqueness Test

005566775-02, P = 1.186076 Days, E = 130.545699 Days

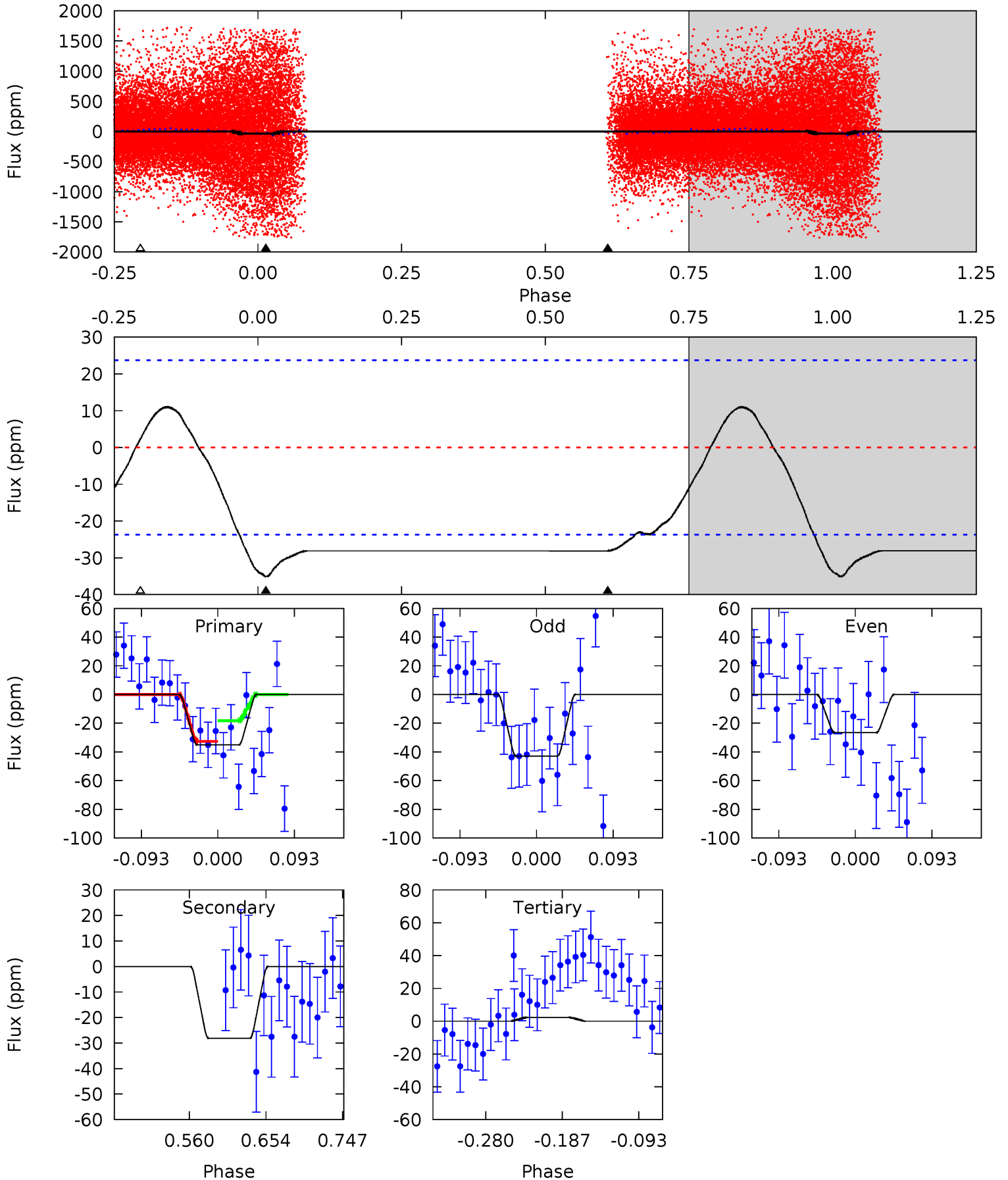
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.5	12.2	0	0	4.16	0.47	9.37	13.5	13.5	12.2	12.2	2.21	0.94	0.87	0.34



# Alt Model-Shift Uniqueness Test

005566775-02, P = 1.186018 Days, E = 130.542863 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
6.79	5.44	-0.44	0	4.58	1.68	1.94	7.23	6.79	5.88	5.44	1.58	0.91	0.24	0.95





### Stellar Parameters For KIC 005566775

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$6547^{+196}_{-216}$	$2.786^{+0.501}_{-0.088}$	$-0.500^{+0.550}_{-0.150}$	$11.631^{+1.221}_{-6.513}$	$3.011^{+0.253}_{-1.138}$	$0.003^{+0.016}_{-0.001}$
	+3%/-3%	+18%/-3%	+110%/-30%	+10%/-56%	+8%/-38%	+589%/-28%
Source	PHO1	FLK73	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 005566775-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$-25 \pm 2$	$7.41^{+2.62}_{-2.75}$	$7594^{+423}_{-936}$	$-4185^{+9732}_{-1317}$	$0.249^{+0.331}_{-0.113}$
Alt.	$-28 \pm 5$	$5.89^{+2.56}_{-2.53}$	$7507^{+525}_{-936}$	$4978^{+2673}_{-9739}$	$0.438^{+0.799}_{-0.226}$

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

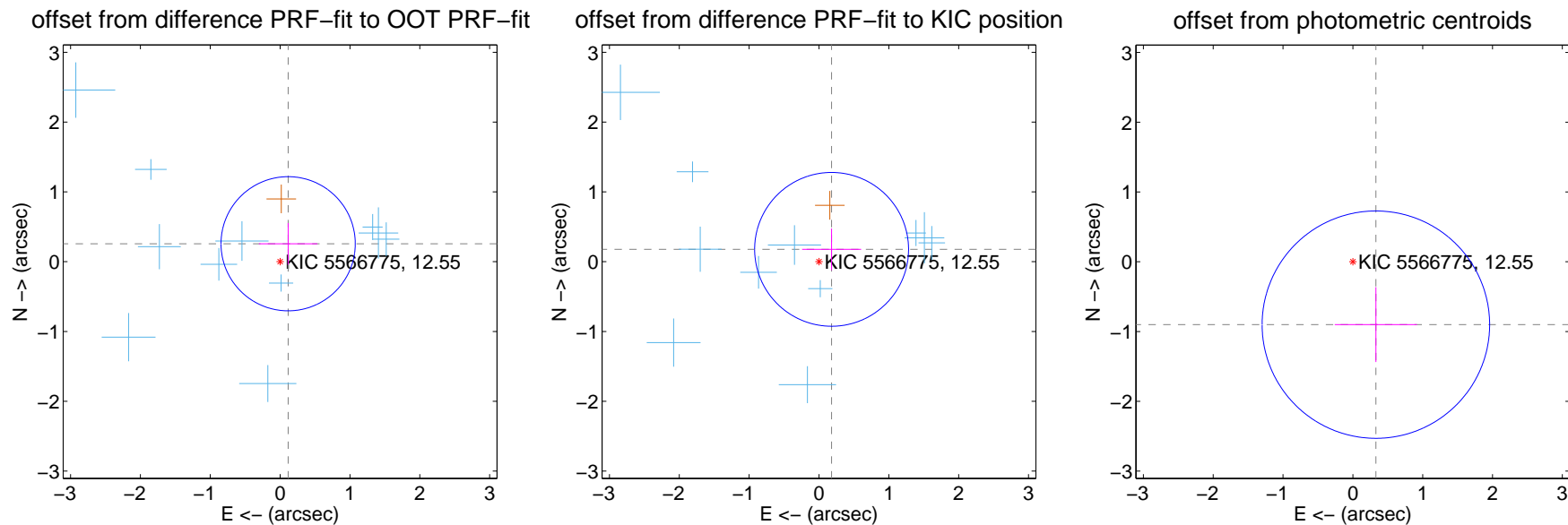
## DV Centroid Data

Supplemental centroid analysis for 005566775-02. Kepler magnitude: 12.55. Transit SNR 10.92

There are 11 quarters with good PRF difference image offsets

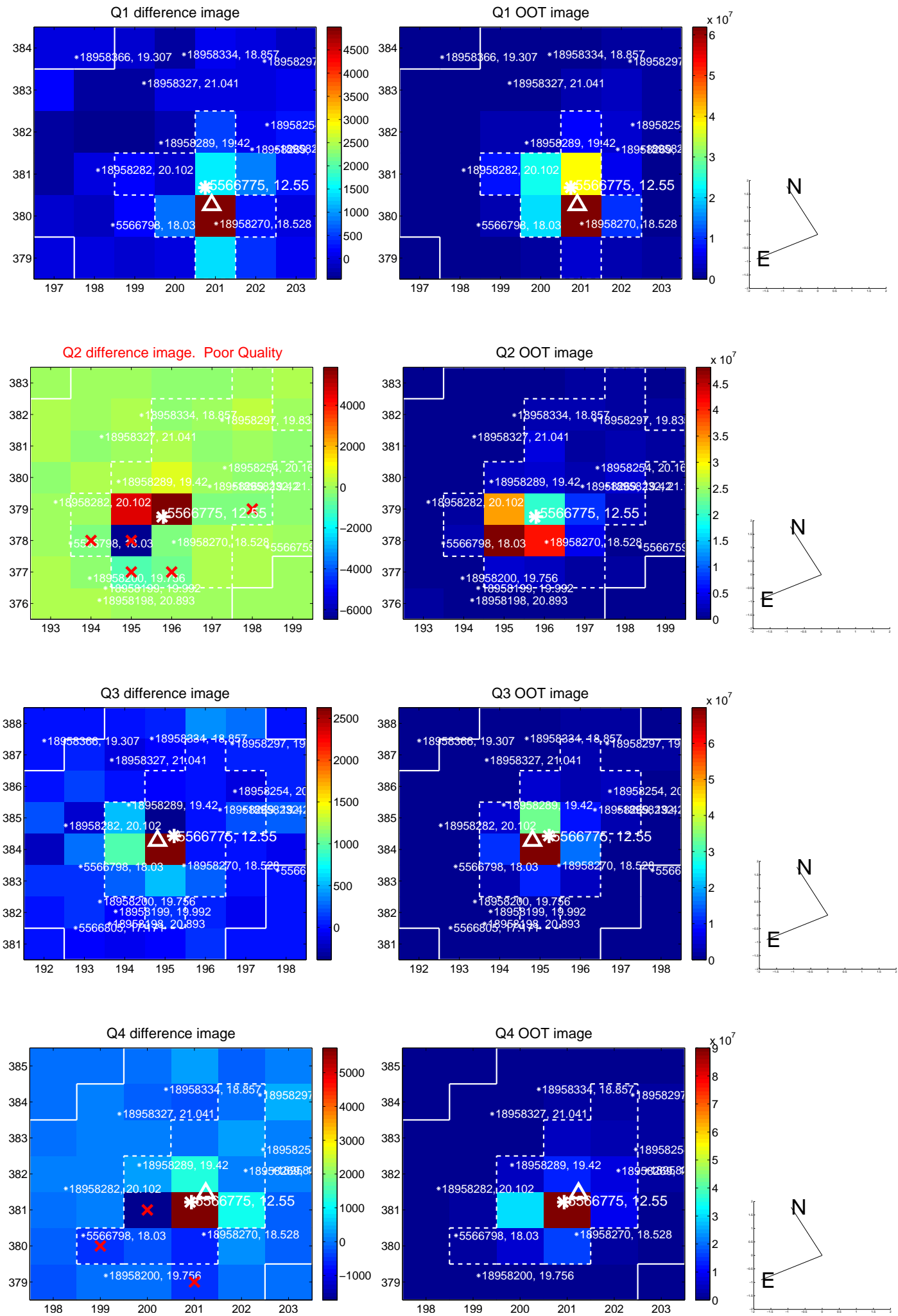
The direct PRF centroid is offset from the target star catalog position by about 0.09 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.282 \pm 0.320$	0.88	$-0.115 \pm 0.418$	$0.257 \pm 0.297$
PRF-fit source offset from KIC position	$0.253 \pm 0.367$	0.69	$-0.181 \pm 0.423$	$0.177 \pm 0.298$
photometric centroid source offset	$0.96 \pm 0.54$	1.77	$-0.33 \pm 0.59$	$-0.90 \pm 0.54$

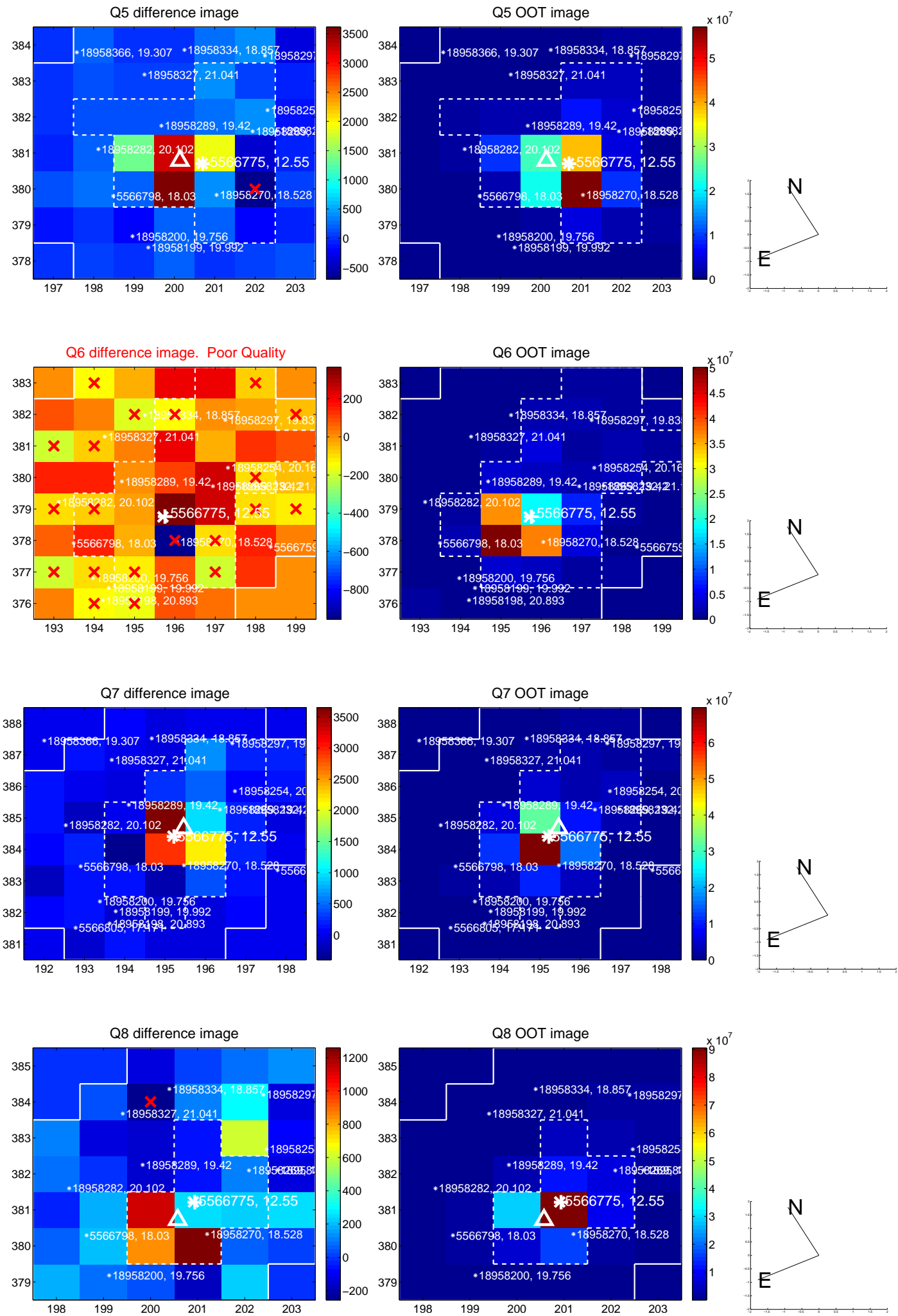


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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



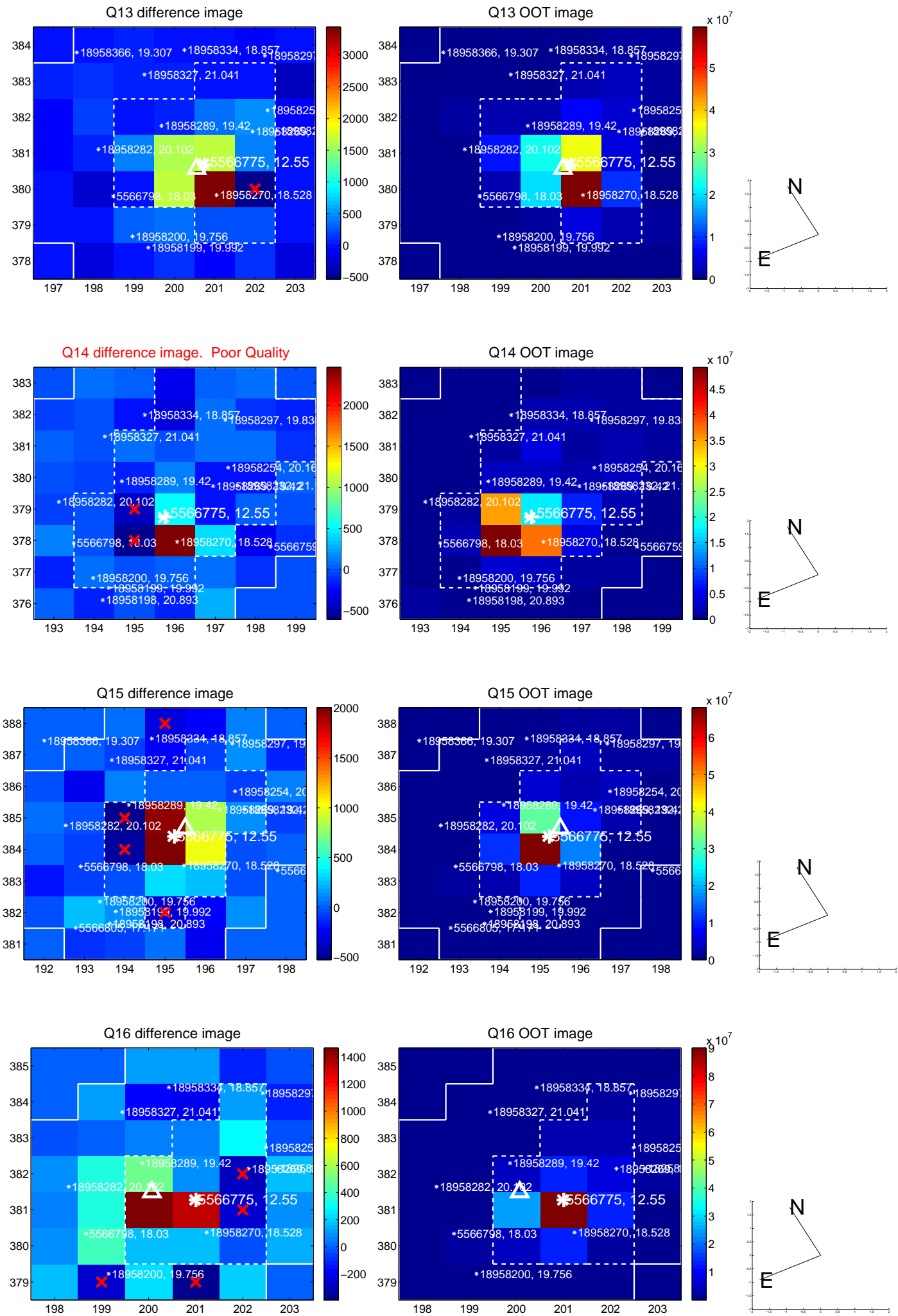
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



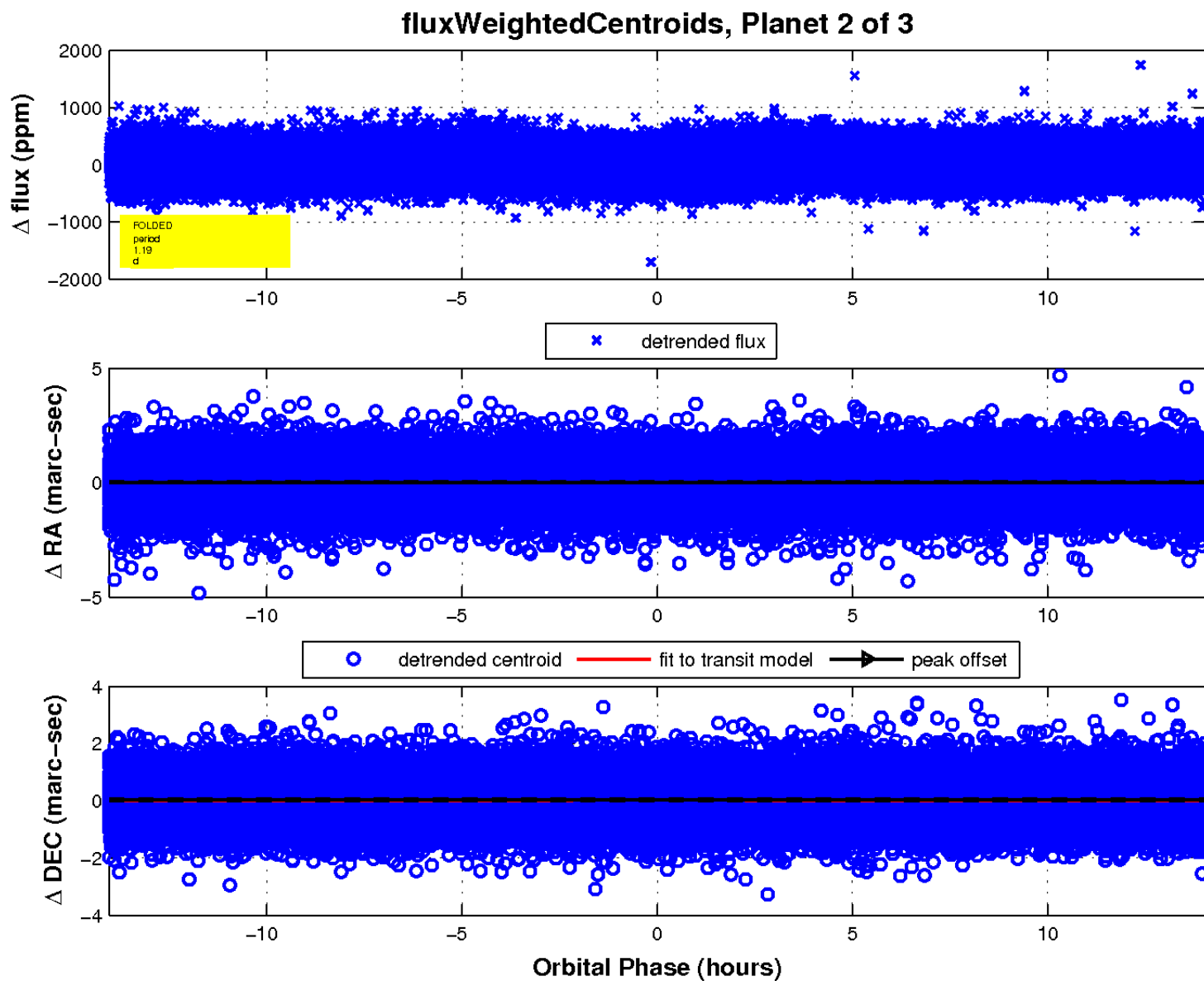
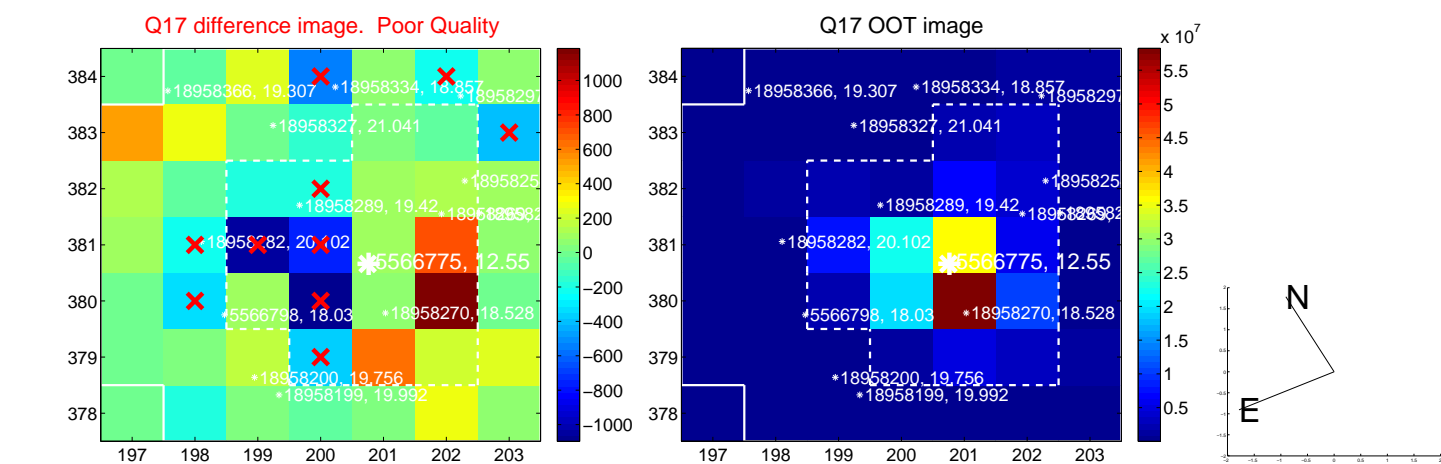




white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

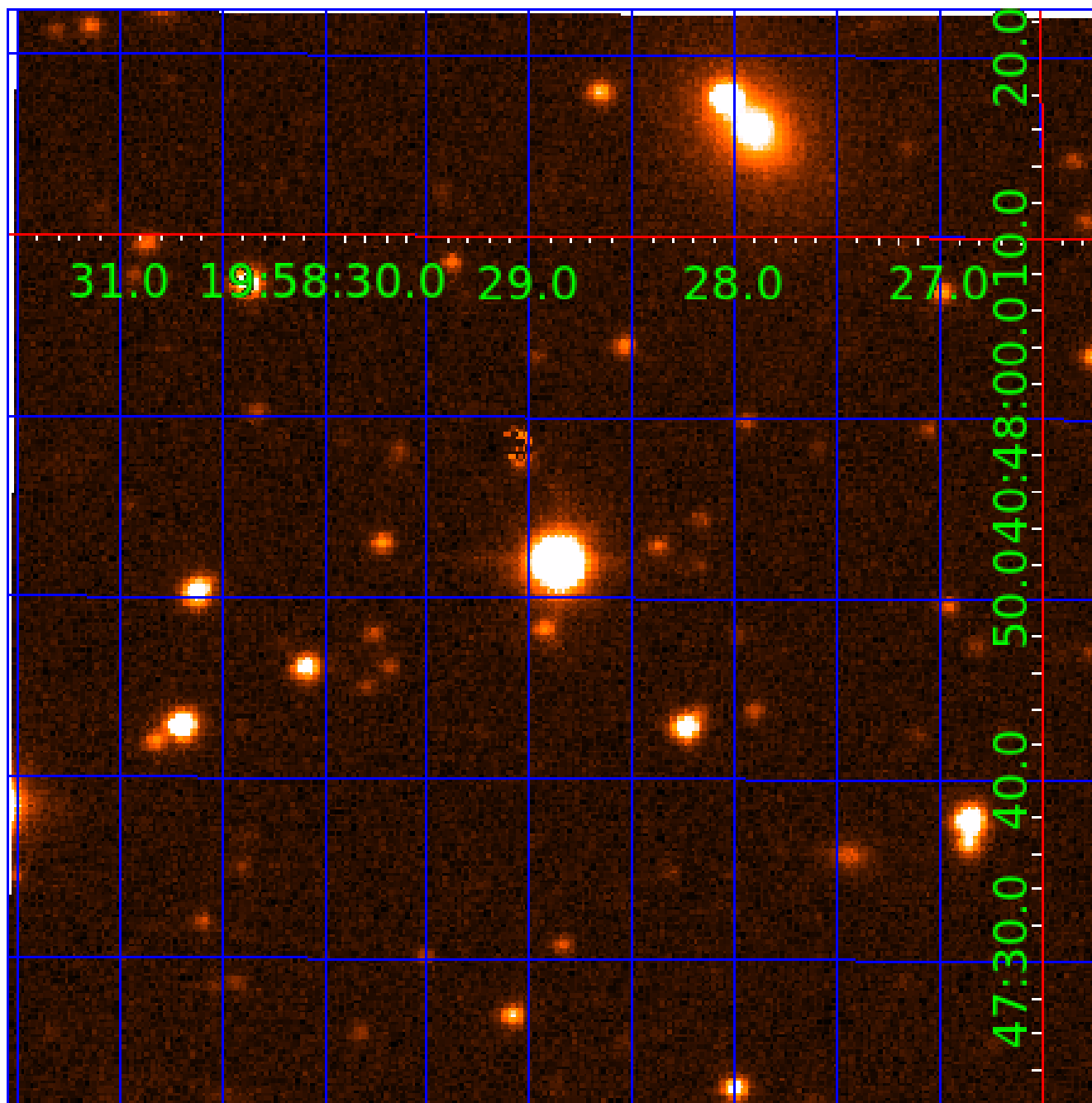


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



UKIRT Image

Declination



# KIC 005566775

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
005566775-01	OBS	No	1.185965	132.171442	29.7	5.273	9.2	9.0	11.63	6547	7.34	0.00
005566775-02	OBS	No	1.186076	131.731775	37.7	4.679	10.5	10.9	11.63	6547	8.16	0.00
005566775-03	OBS	No	1.582016	132.908883	124.4	11.973	12.6	15.5	11.63	6547	17.45	0.00

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005566775-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV
005566775-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD
005566775-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—CENT_FEW_DIFFS

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

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

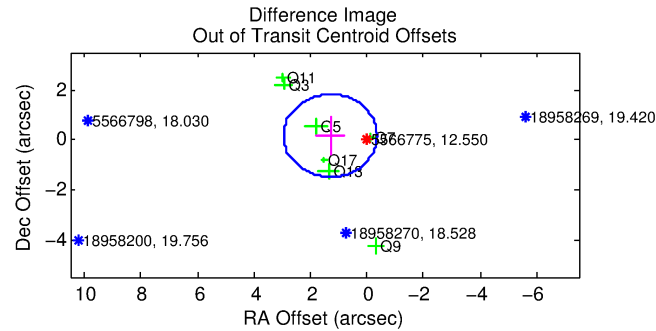
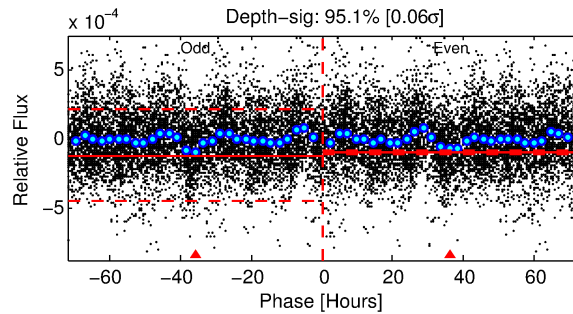
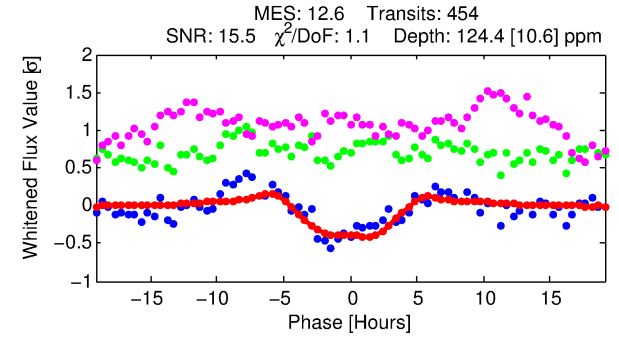
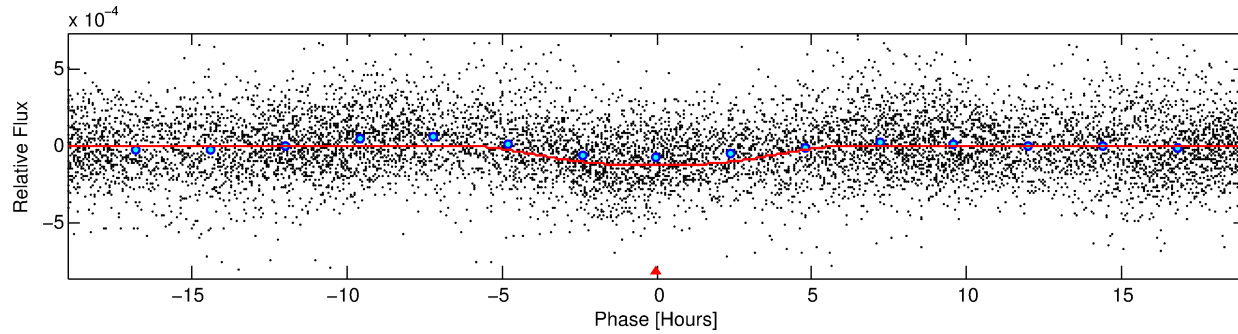
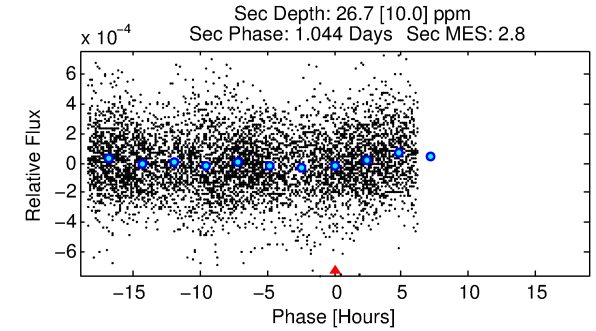
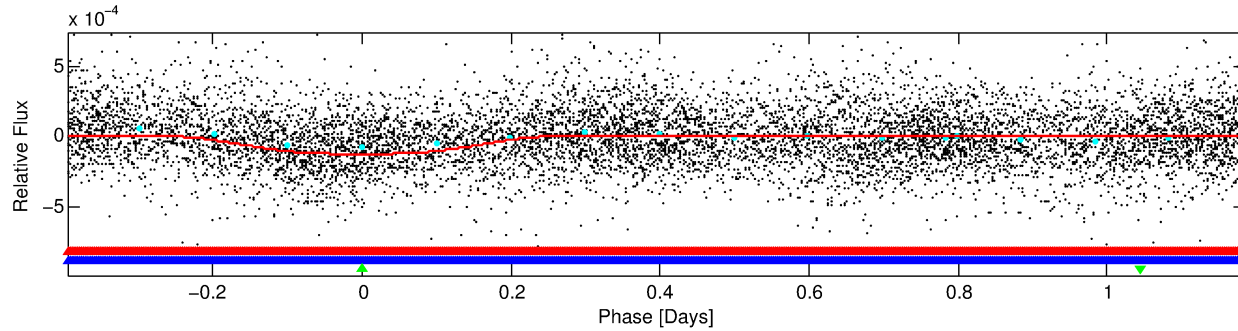
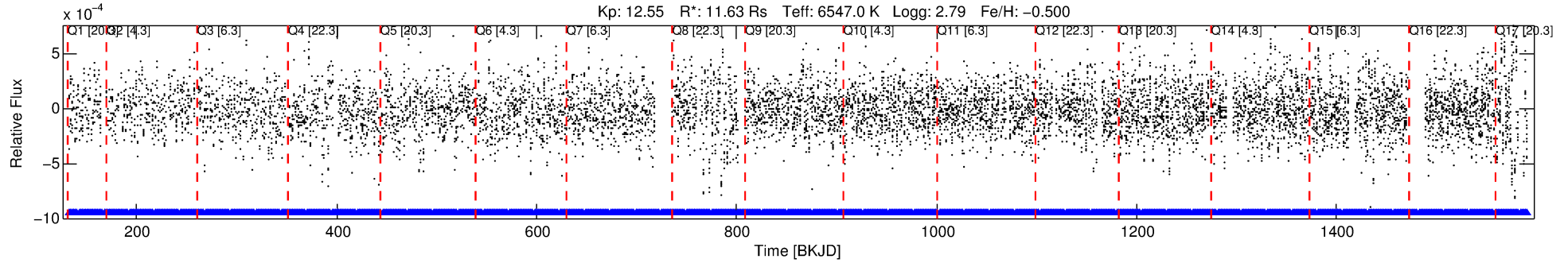
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 005566775-03

No Significant Match Found

# DV One-Page Summary

KIC: 5566775 Candidate: 3 of 3 Period: 1.582 d



## DV Fit Results:

Period = 1.58202 [0.00003] d  
Epoch = 132.9089 [0.0150] BKJD  
Rp/R\* = 0.0138 [0.0007]  
a/R\* = 1.03 [0.00]  
b = 0.98 [0.00]  
Seff = N/A  
Teq = N/A  
Rp = 17.45 [9.81] Re  
a = N/A  
Ag = N/A  
Teffp = N/A

## DV Diagnostic Results:

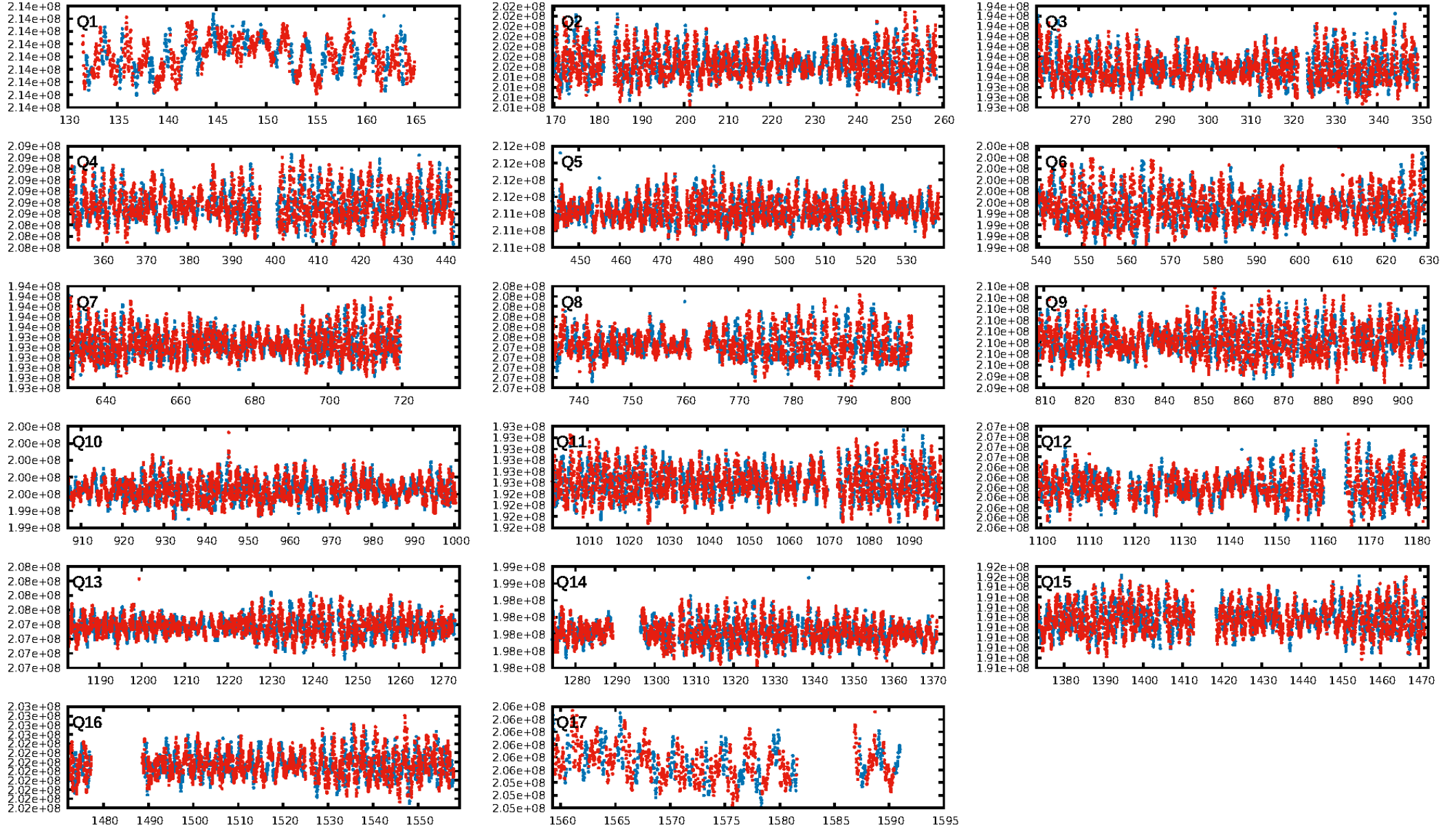
ShortPeriod-sig: 54.0% [0.74σ]  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: N/A  
RollingBand-fgt: 1.00 [437/437]  
GhostDiagnostic-chr: 0.3978  
Centroid-sig: 0.0%  
Centroid-so: 0.452 arcsec [2.81σ]  
OotOffset-rm: 1.310 arcsec [2.37σ]  
KicOffset-rm: 1.248 arcsec [2.62σ]  
OotOffset-st: 0/3/0/4 [7]  
KicOffset-st: 0/3/0/4 [7]  
DiffImageQuality-fgm: 0.43 [3/7]  
DiffImageOverlap-fno: 0.00 [0/17]

Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 14:03:01 Z

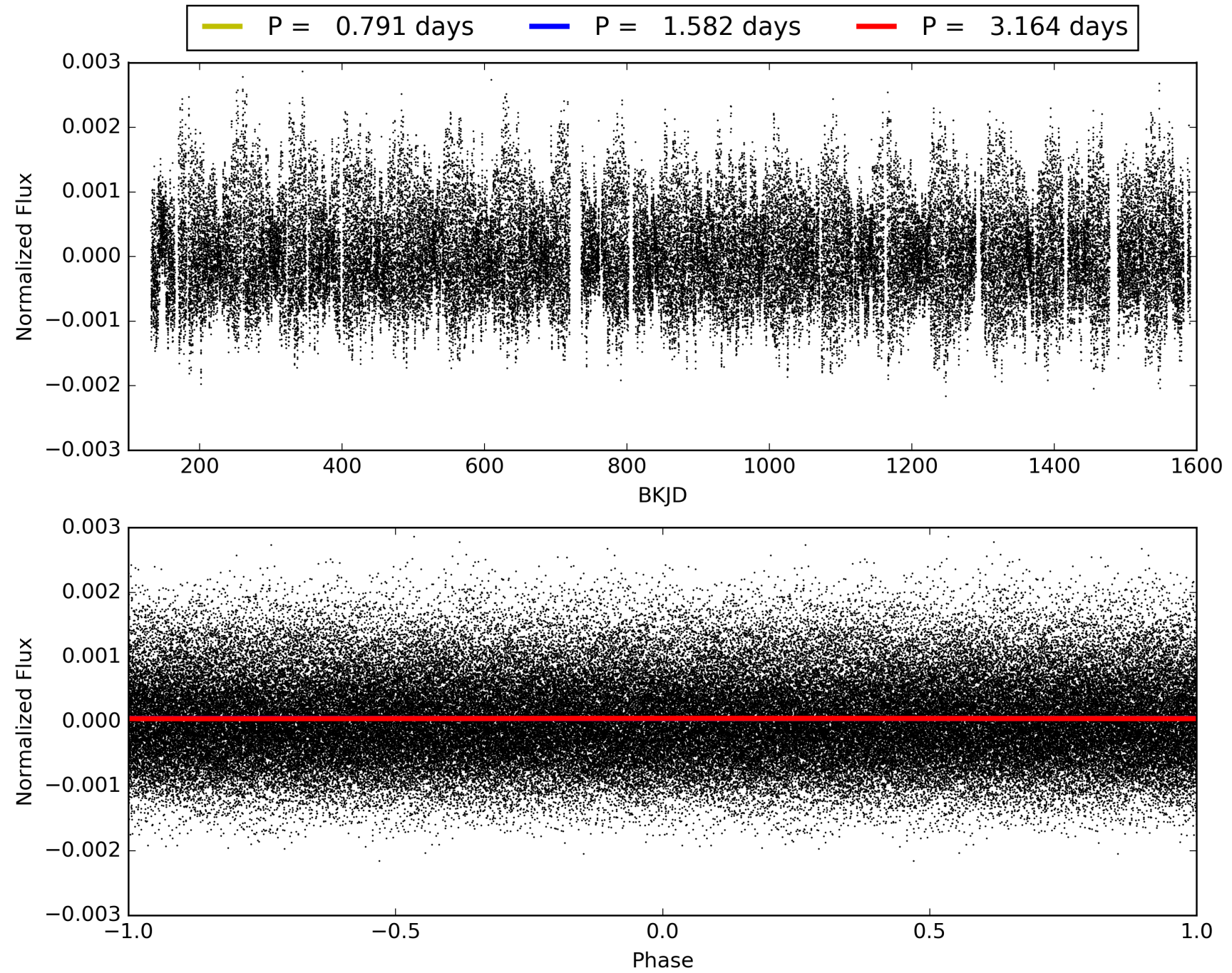
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center



# TCE 005566775-03, PDC Light Curves

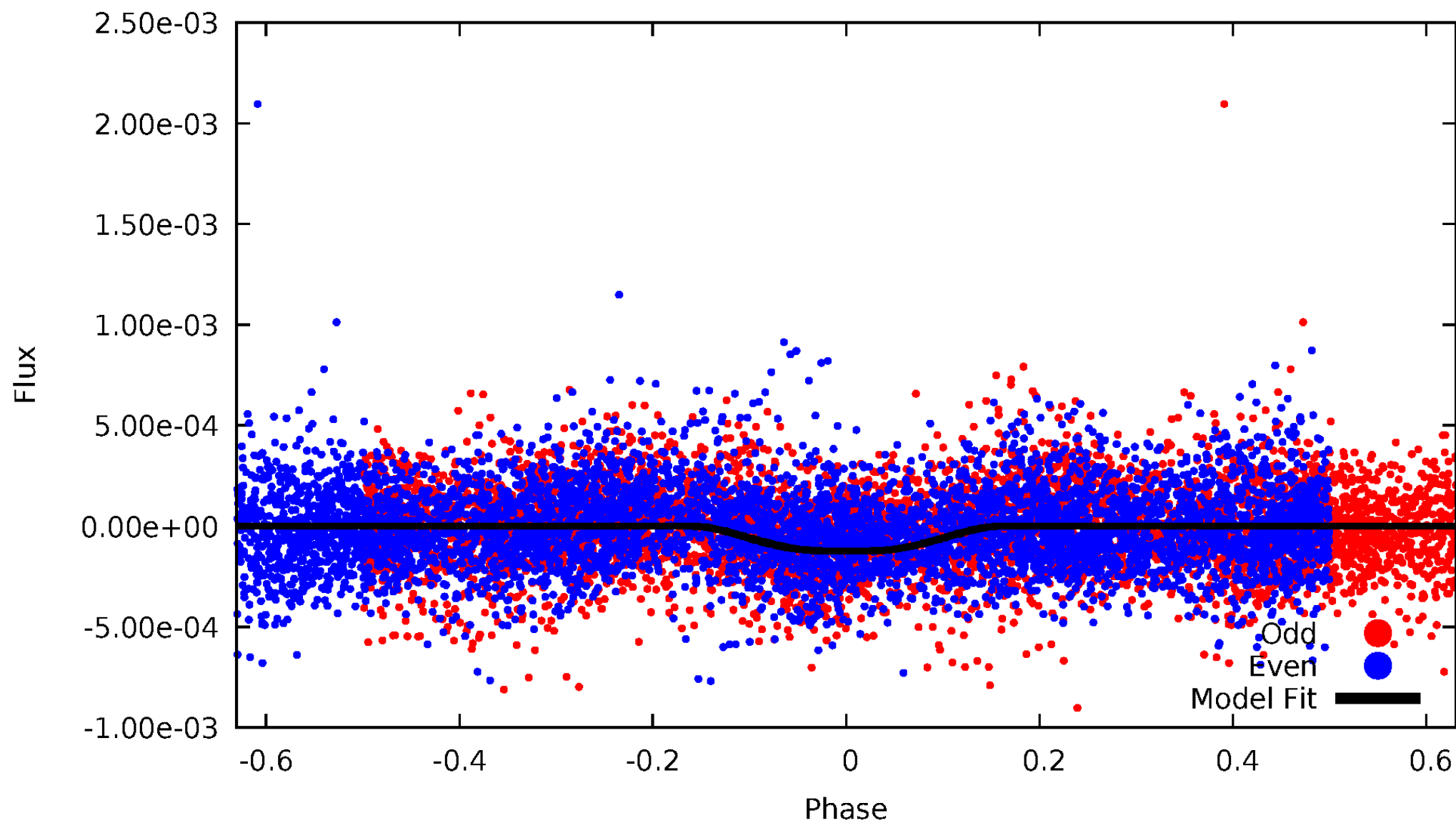


TCE 005566775-03



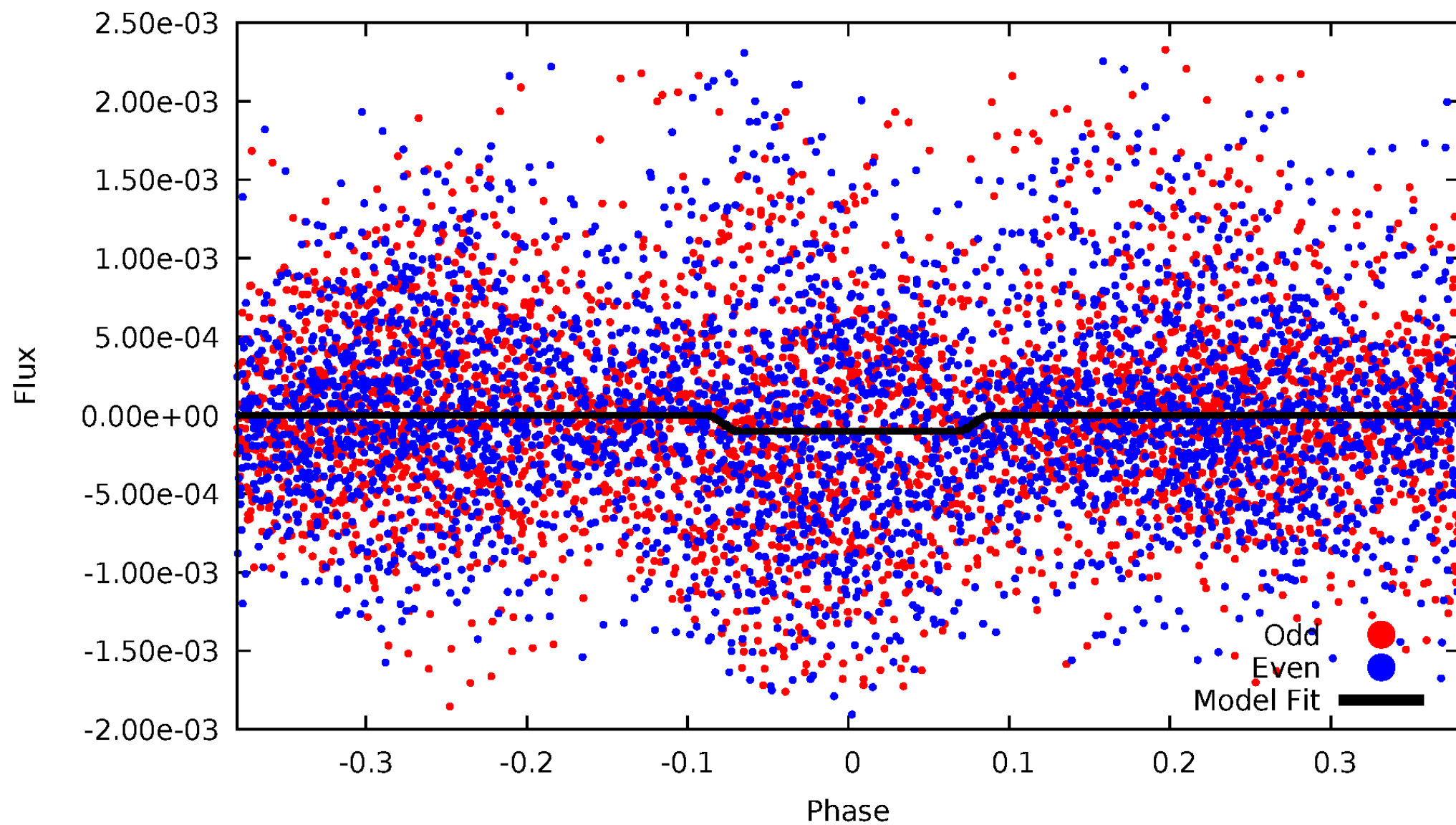
DV Odd/Even

TCE 005566775-03



# ALT Odd/Even

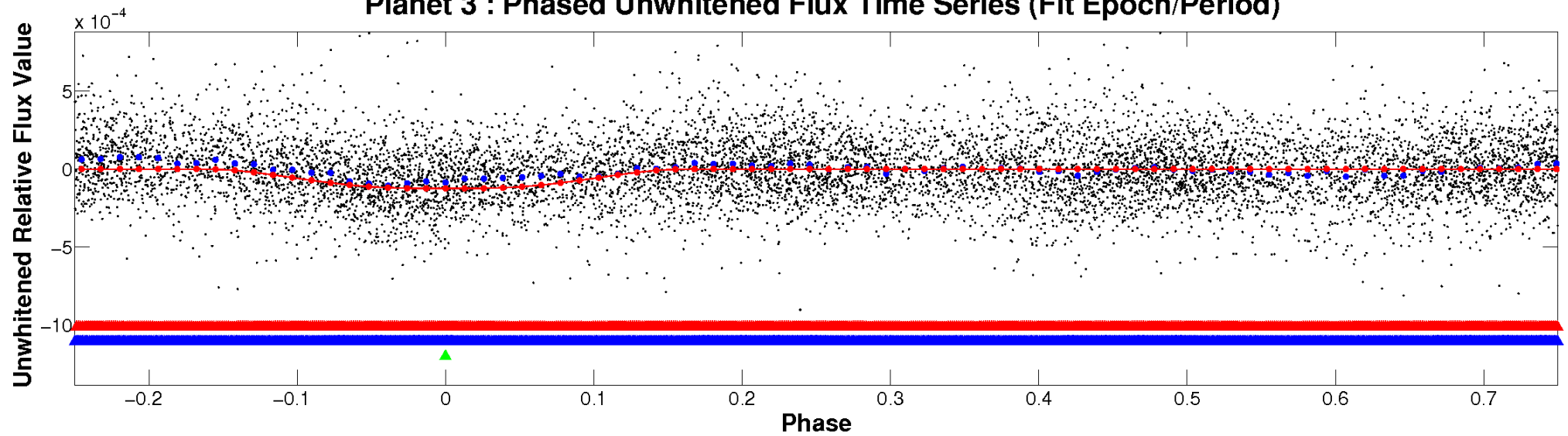
TCE 005566775-03



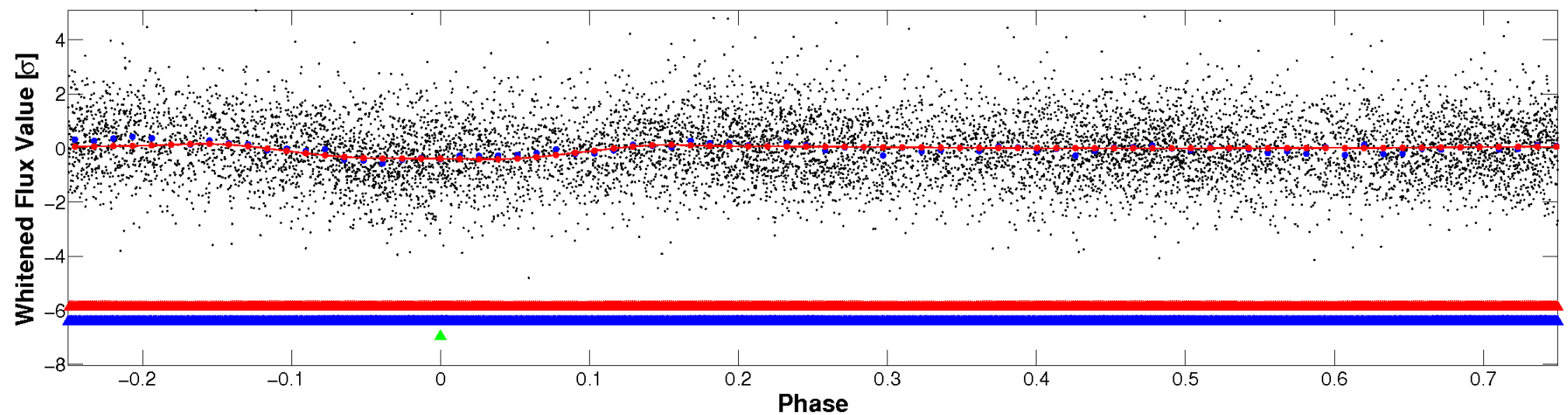


# Non-Whitened Vs. Whitened Light Curve

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



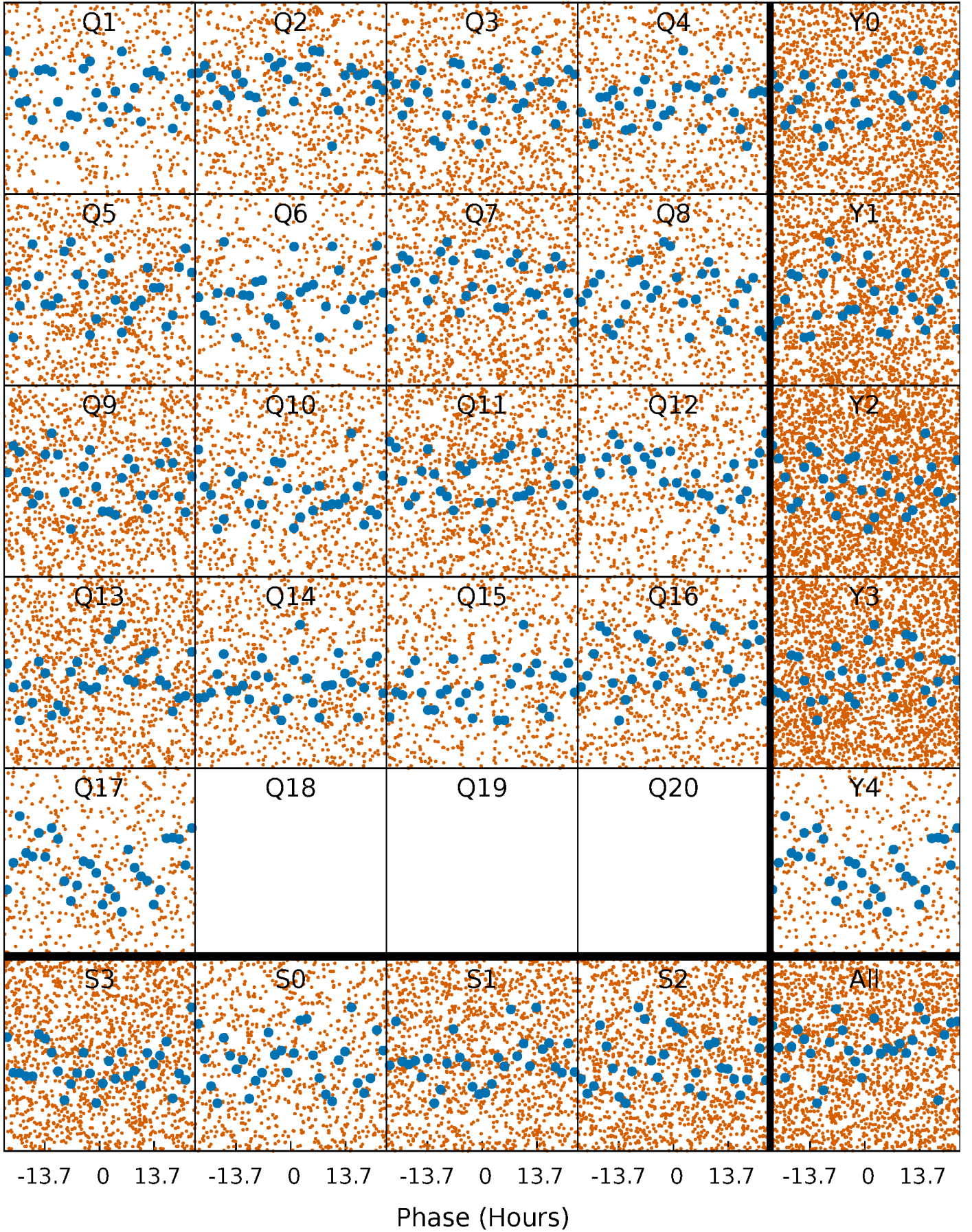
## Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)





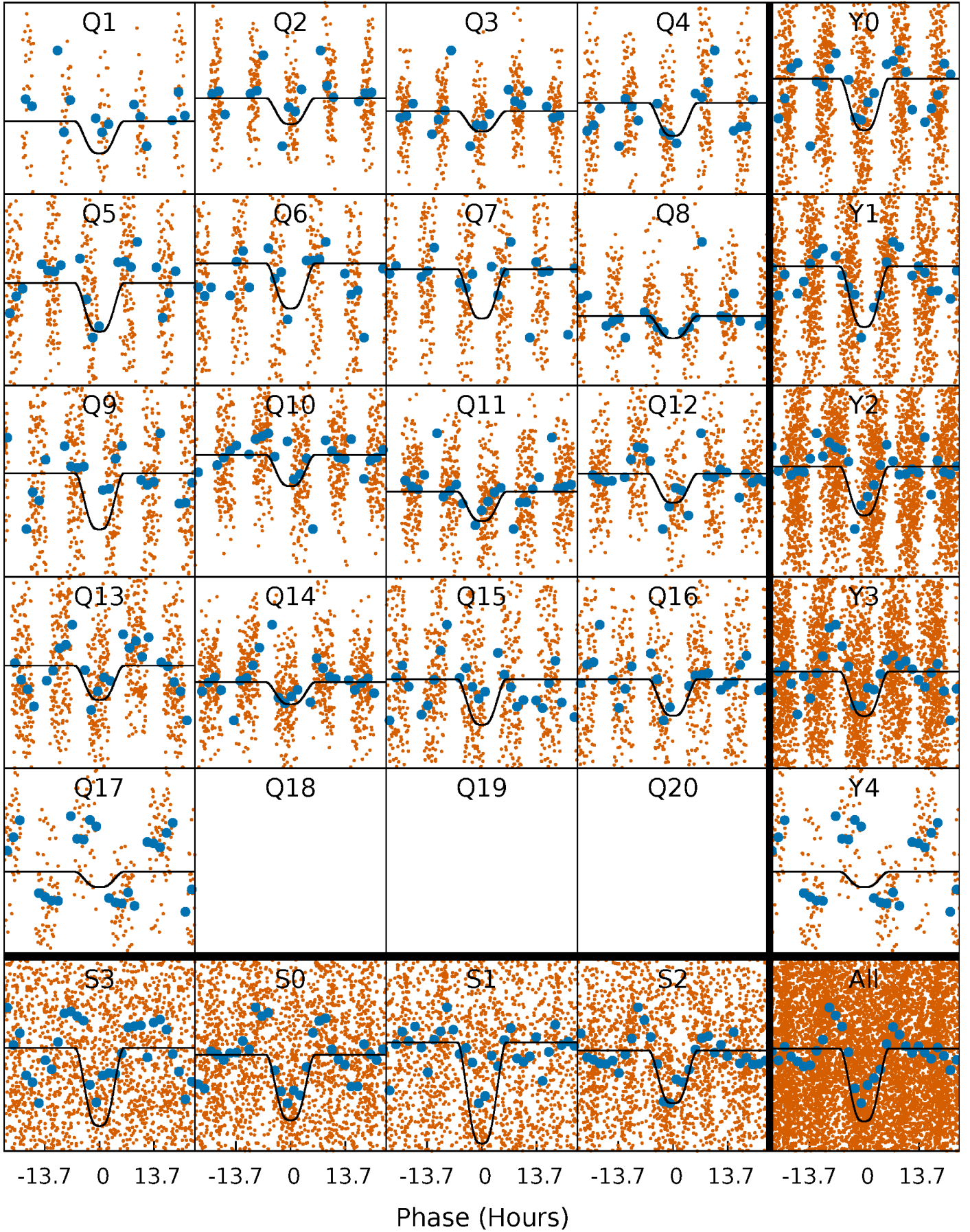
# PDC Quarter-Phased Transit Curves

TCE 005566775-03 P= 1.582016 Days  $T_0=132.908883$  (BKJD)



# DV Quarter-Phased Transit Curves

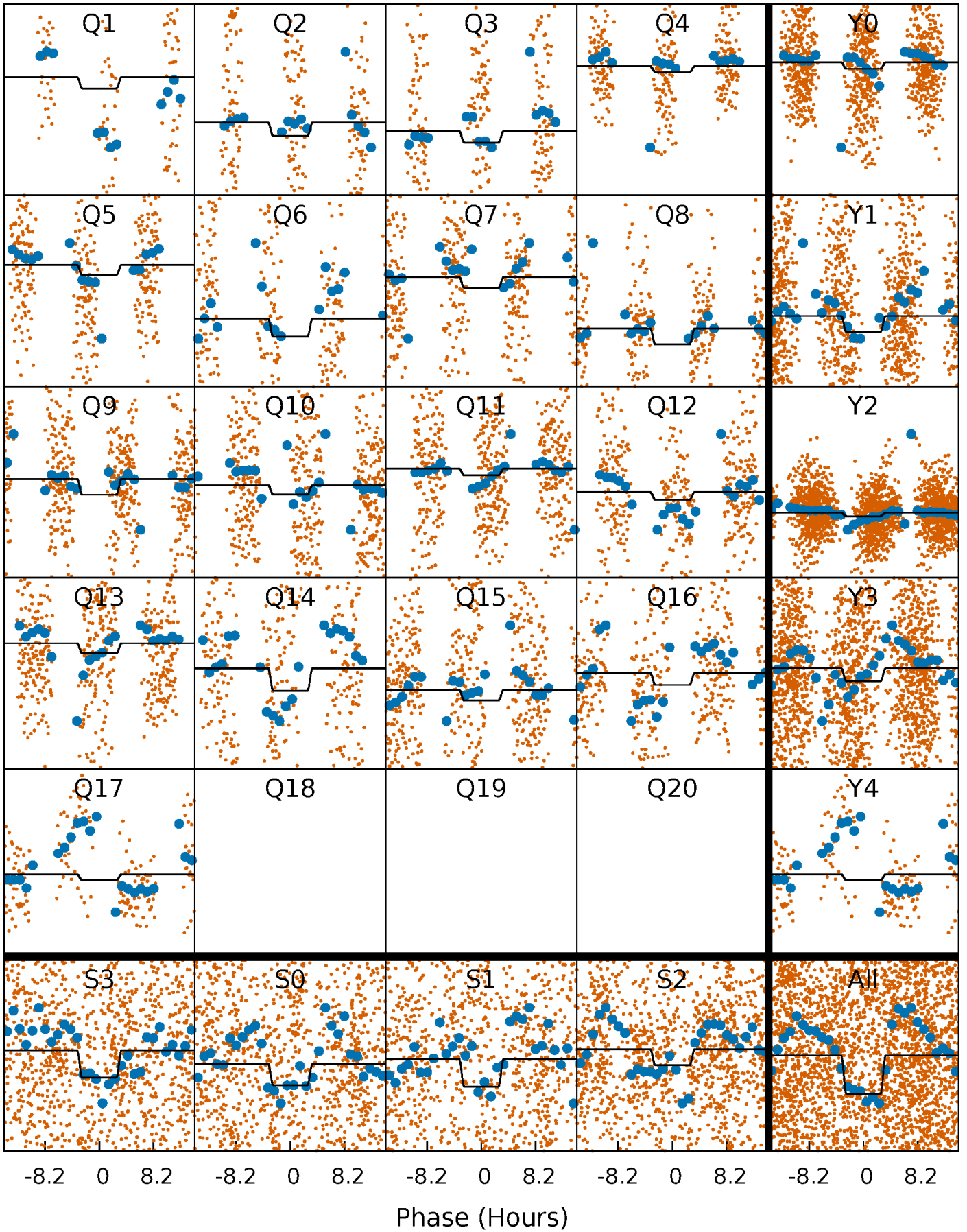
TCE 005566775-03 P= 1.582016 Days  $T_0=132.908883$  (BKJD)





# Alt. Detrend Quarter-Phased Transit Curves

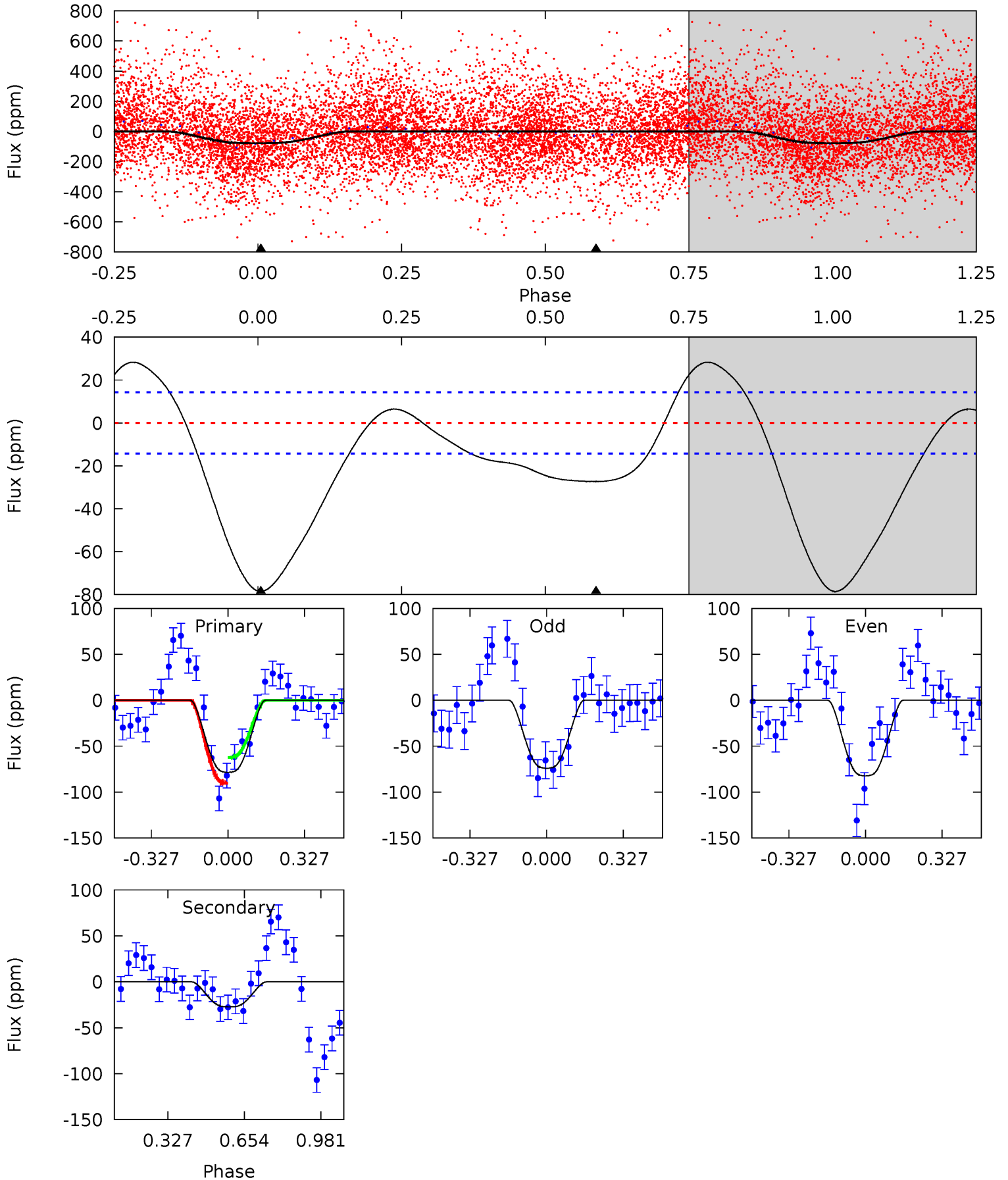
TCE 005566775-03     $P = 1.582042$  Days     $T_0 = 132.893005$  (BKJD)



# DV Model-Shift Uniqueness Test

005566775-03, P = 1.582016 Days, E = 131.326867 Days

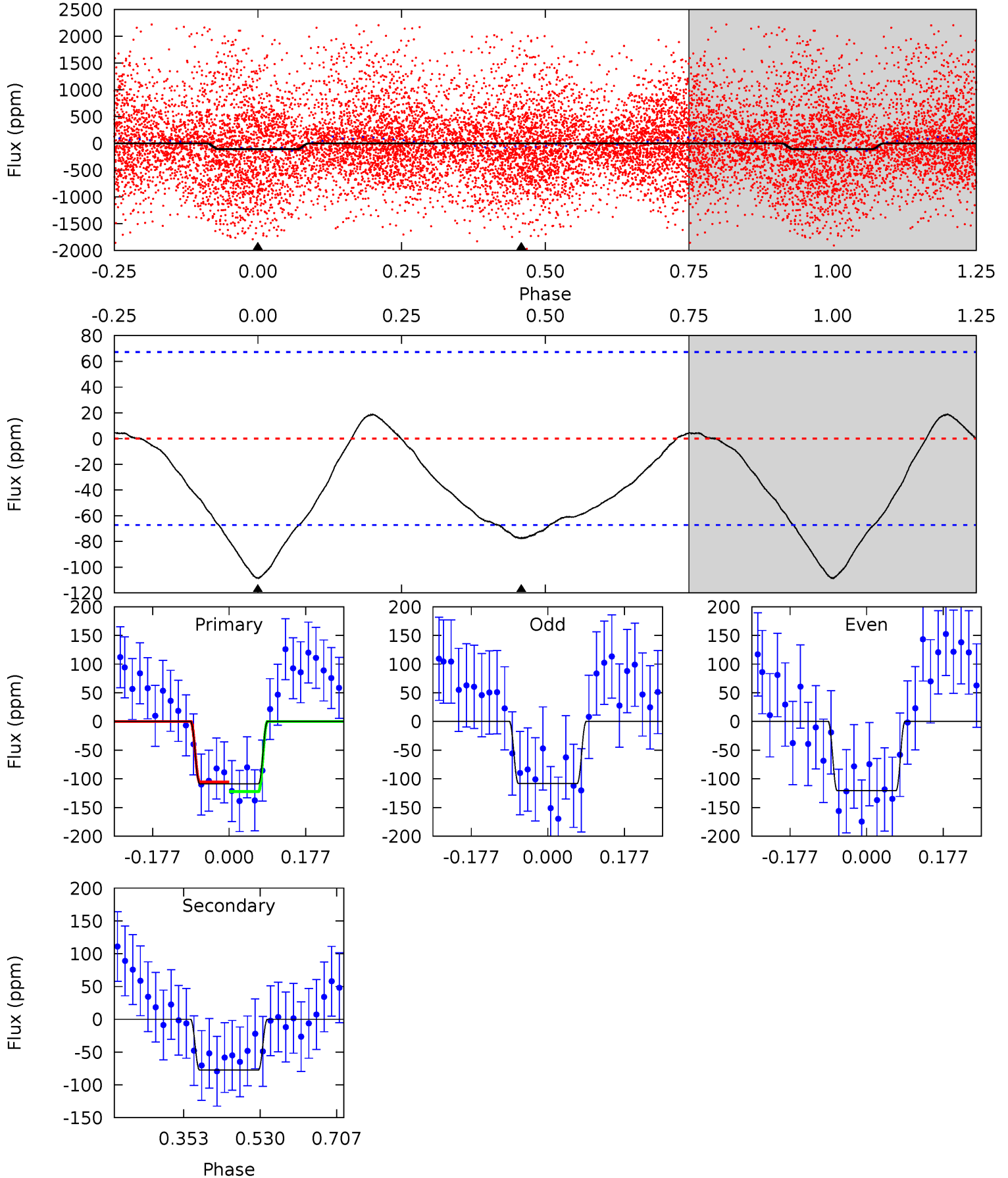
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
23.7	8.24	0	0	4.31	0.98	1.70	23.7	23.7	8.24	8.24	1.22	-0.21	0.27	3.81



# Alt Model-Shift Uniqueness Test

005566775-03, P = 1.582042 Days, E = 131.310963 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
7.18	5.12	0	0	4.44	1.35	0.97	7.18	7.18	5.12	5.12	0.42	1.12	0.15	0.55





### Stellar Parameters For KIC 005566775

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M(M_{\odot})$	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$6547^{+196}_{-216}$	$2.786^{+0.501}_{-0.088}$	$-0.500^{+0.550}_{-0.150}$	$11.631^{+1.221}_{-6.513}$	$3.011^{+0.253}_{-1.138}$	$0.003^{+0.016}_{-0.001}$
	+3%/-3%	+18%/-3%	+110%/-30%	+10%/-56%	+8%/-38%	+589%/-28%
Source	PHO1	FLK73	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 005566775-03 / KOI

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{\text{max}}$ (K)	$T_{\text{obs}}$ (K)	$A_{\text{obs}}$
DV	$-27 \pm 3$	$16.81^{+2.13}_{-4.83}$	$6885^{+407}_{-907}$	$-5268^{+865}_{-352}$	$0.079^{+0.057}_{-0.018}$
Alt.	$-77 \pm 15$	$12.15^{+1.77}_{-3.43}$	$6837^{+437}_{-862}$	$4719^{+853}_{-1360}$	$0.435^{+0.294}_{-0.118}$

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

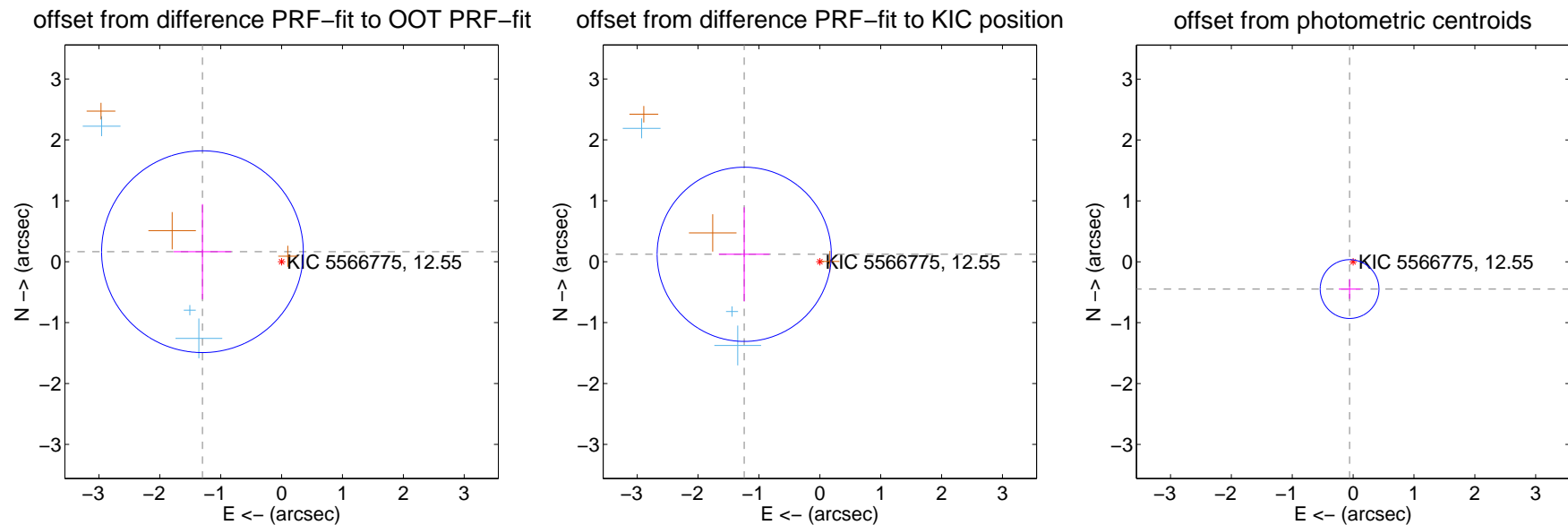
## DV Centroid Data

Supplemental centroid analysis for 005566775-03. Kepler magnitude: 12.55. Transit SNR 15.49

There are 3 quarters with good PRF difference image offsets

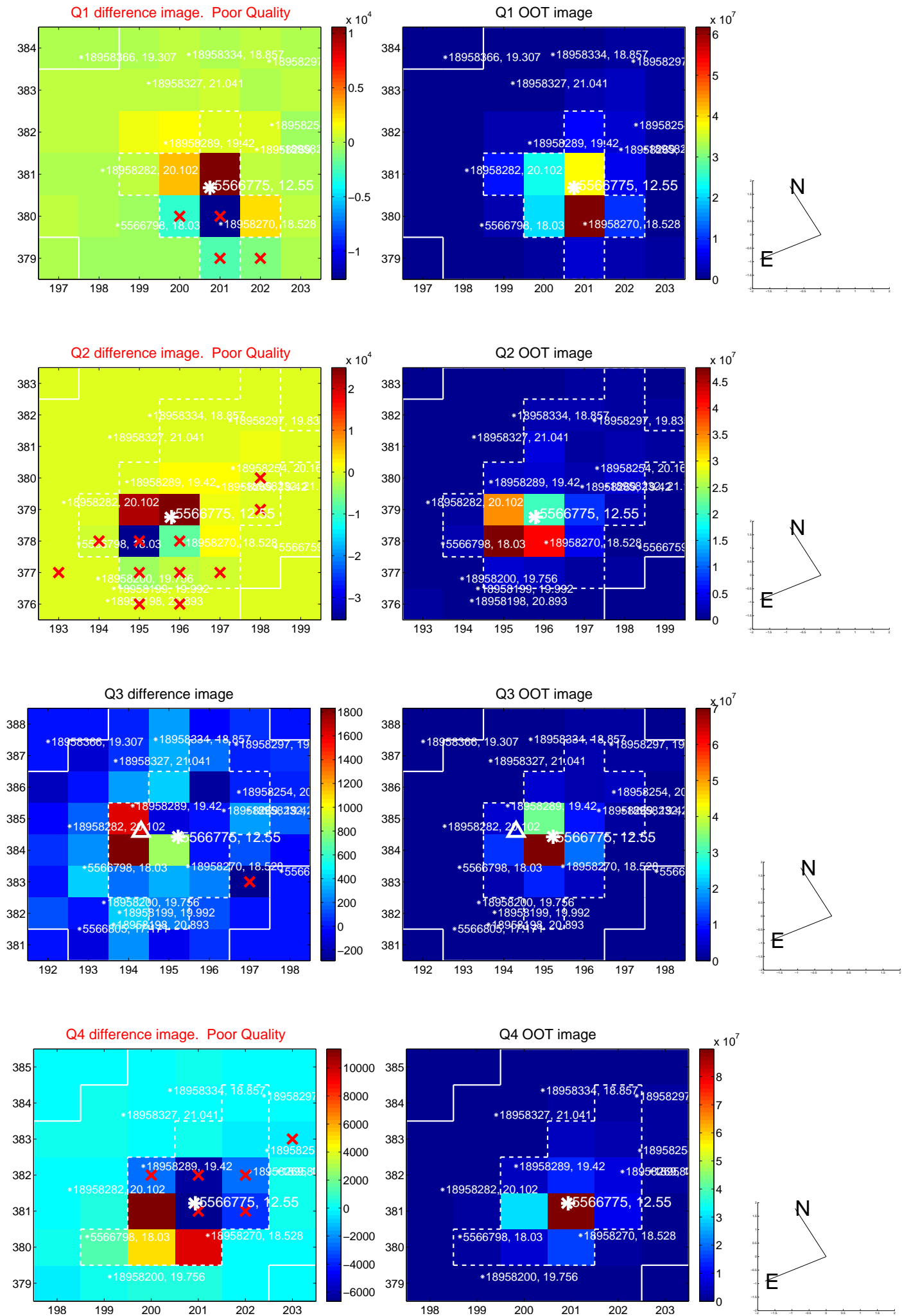
The direct PRF centroid is offset from the target star catalog position by about 0.07 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$1.310 \pm 0.552$	2.37	$1.300 \pm 0.473$	$0.164 \pm 0.781$
PRF-fit source offset from KIC position	$1.248 \pm 0.477$	2.62	$1.242 \pm 0.416$	$0.121 \pm 0.772$
photometric centroid source offset	$0.45 \pm 0.16$	2.81	$0.06 \pm 0.18$	$-0.45 \pm 0.16$

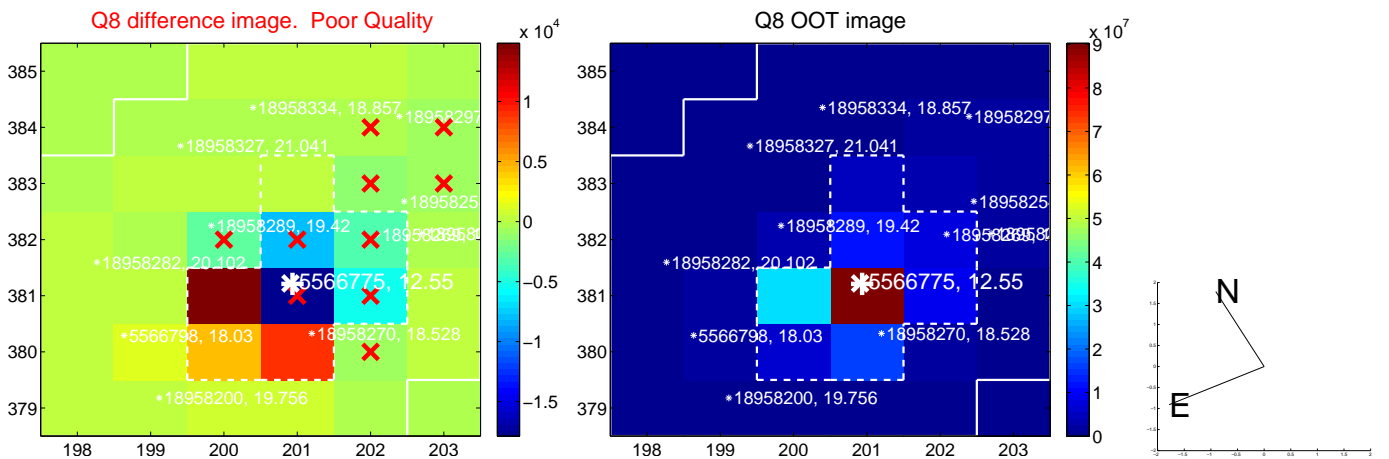
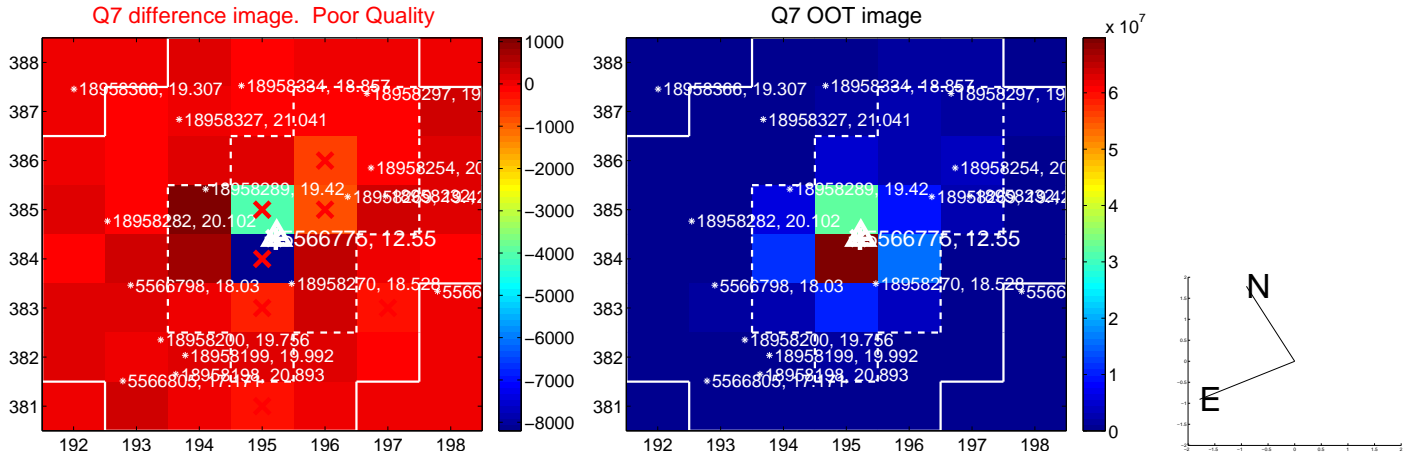
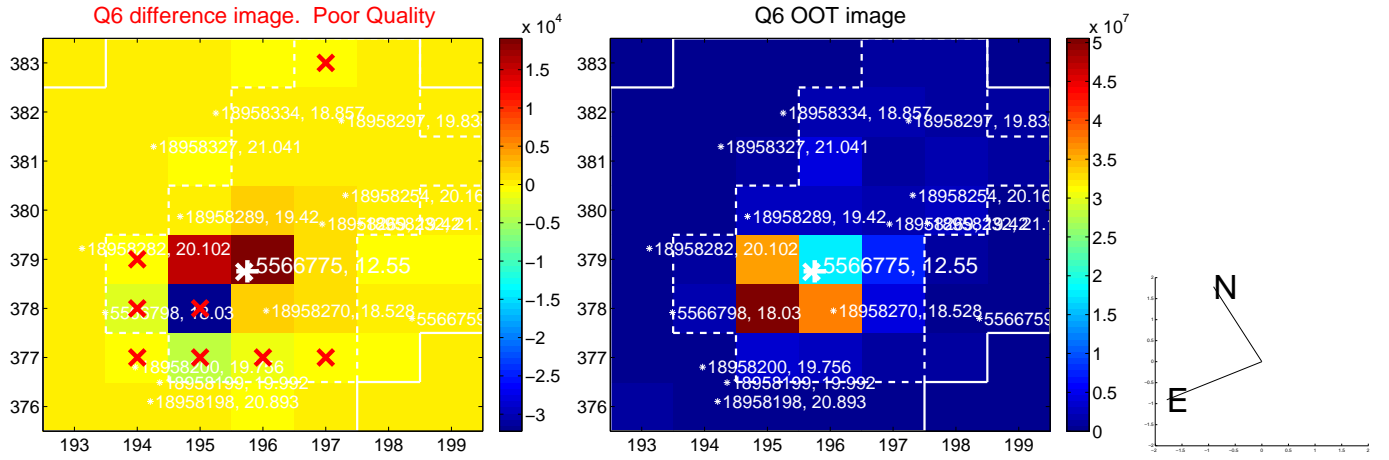
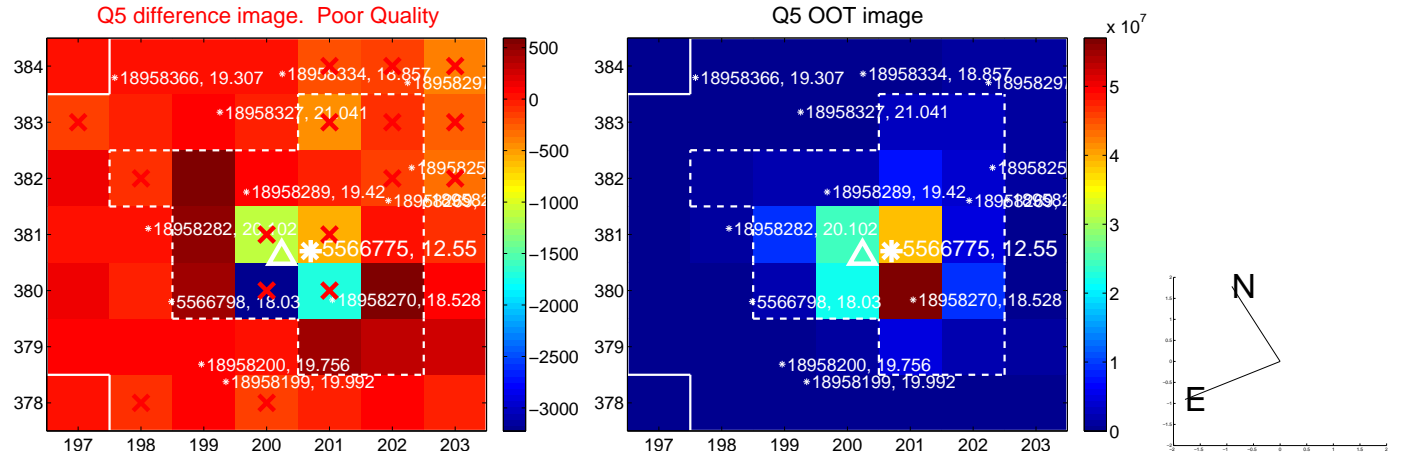


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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



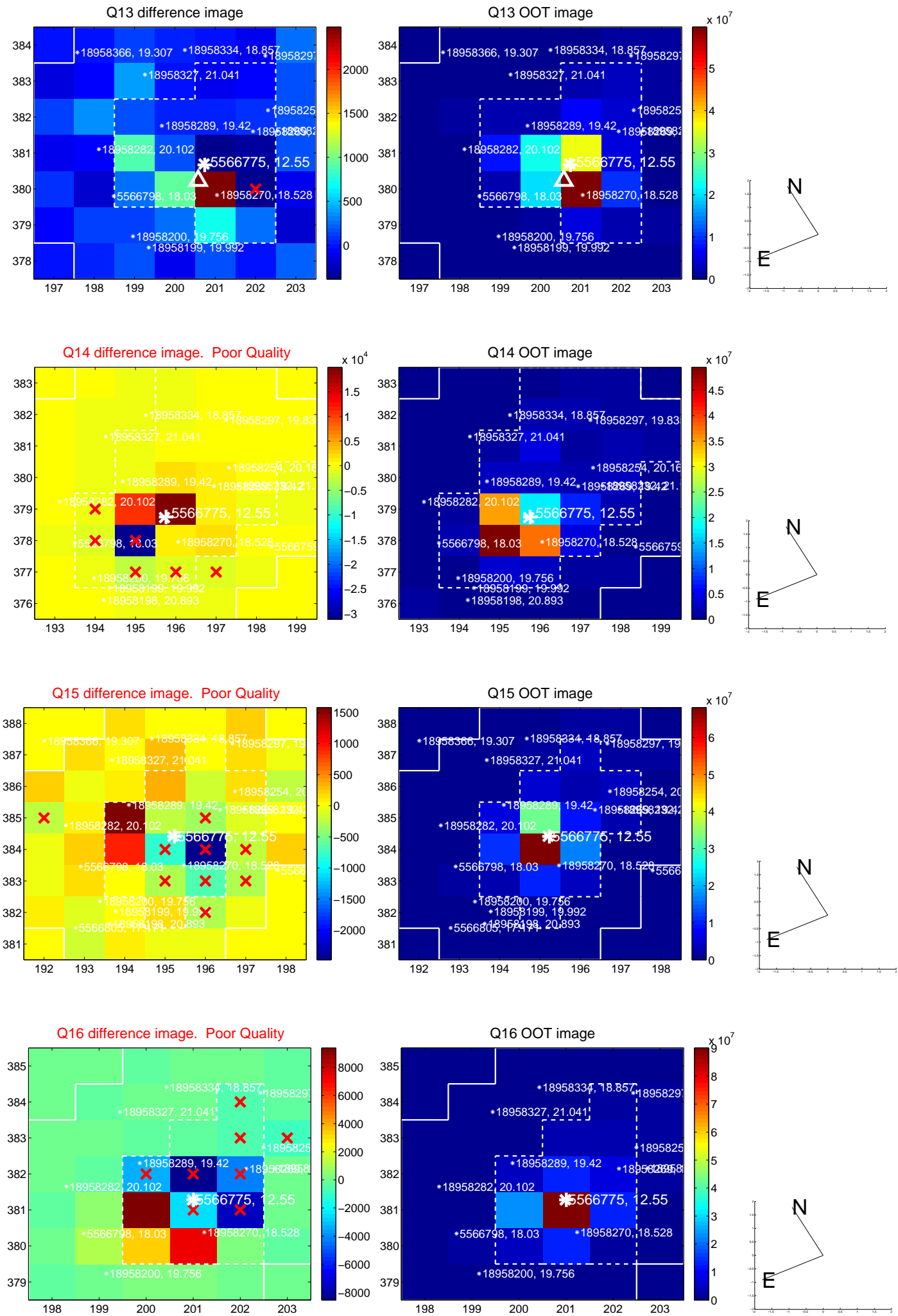
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



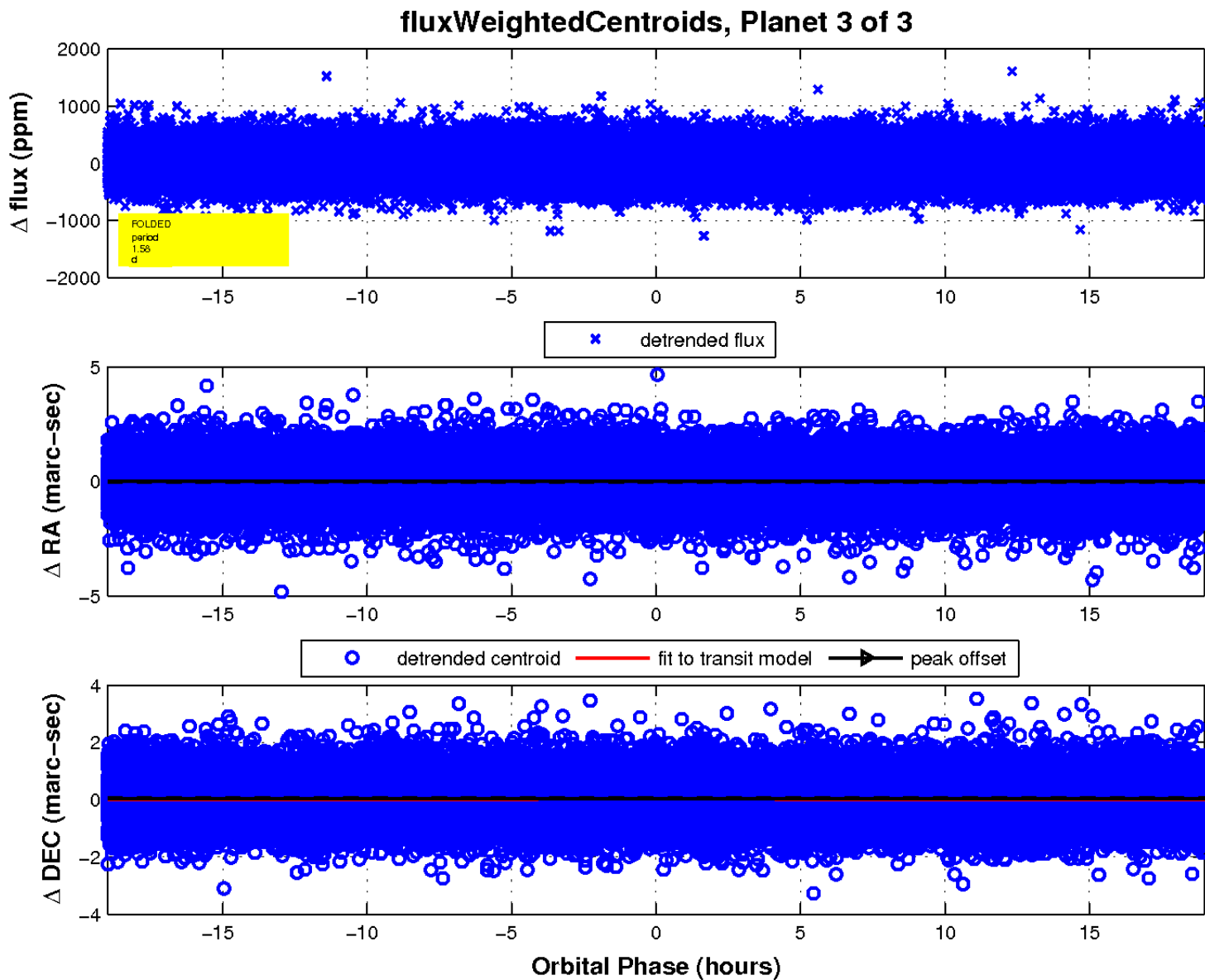
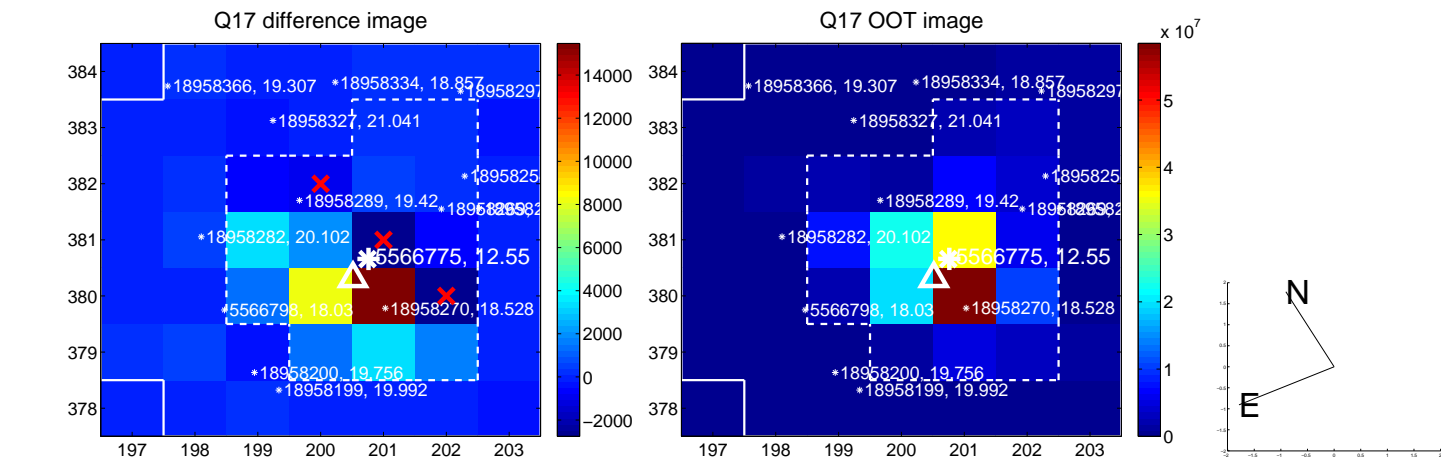




white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



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



UKIRT Image

Declination

