

KIC 005561905

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})
005561905-01	OBS	No	0.853214	131.680128	42.0	2.410	11.8	11.8	1.49	6873	1.13	11715.90
005561905-02	OBS	No	0.853243	132.221265	27.3	1.396	8.3	6.5	1.49	6873	0.91	11715.36

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005561905-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT
005561905-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—SAME_NTL_PERIOD

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

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

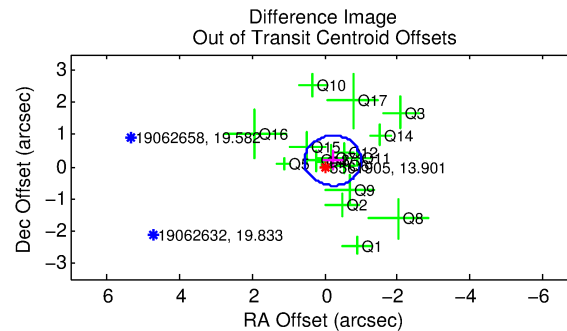
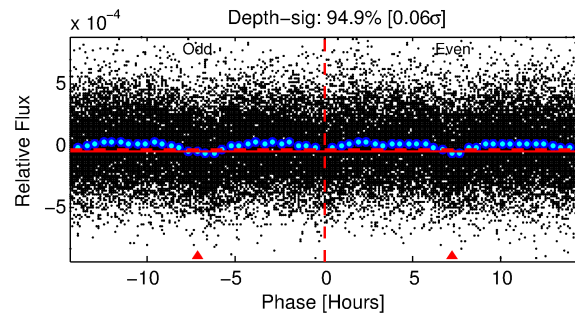
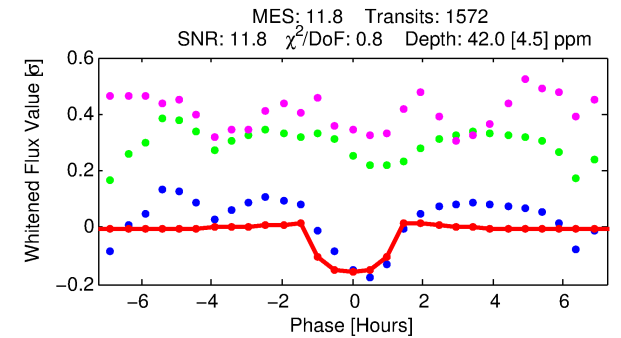
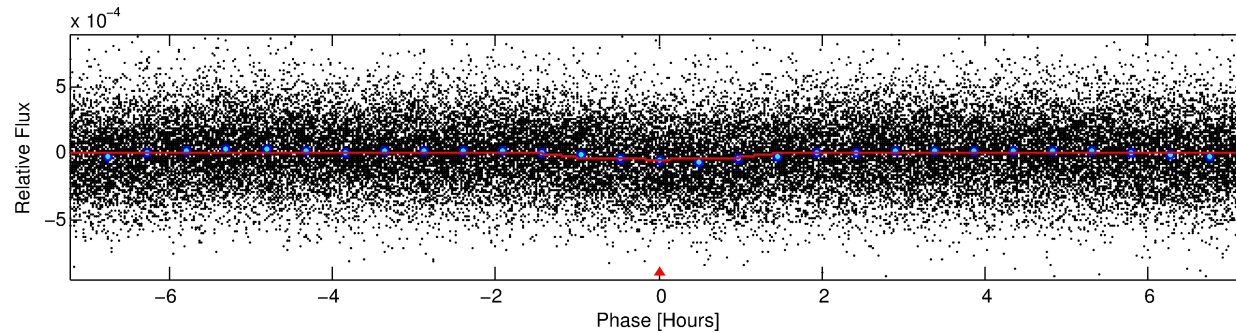
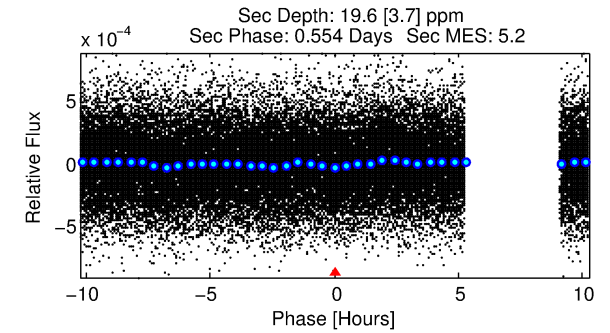
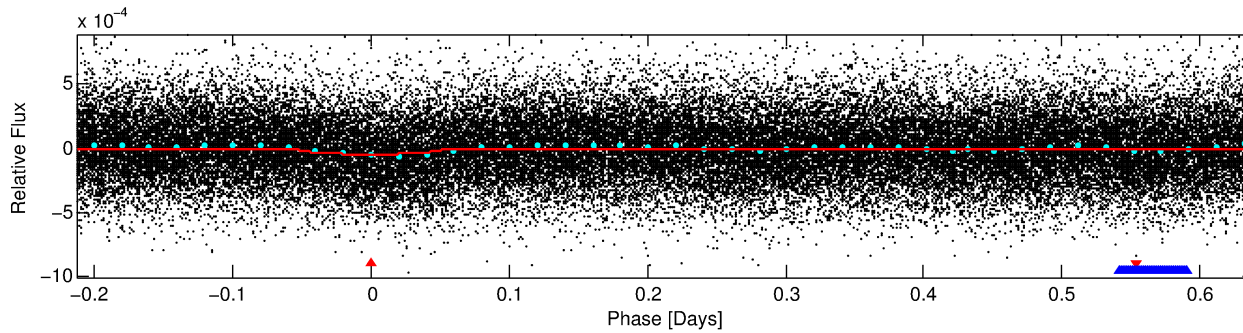
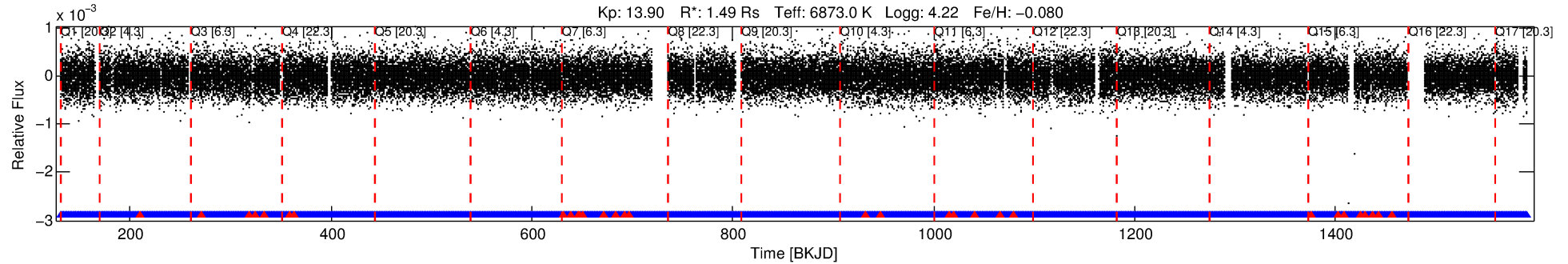
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005561905-01

No Significant Match Found

DV One-Page Summary

KIC: 5561905 Candidate: 1 of 2 Period: 0.853 d



DV Fit Results:

Period = 0.85321 [0.00001] d
Epoch = 131.6801 [0.0024] BKJD
Rp/R* = 0.0069 [0.0021]
a/R* = 1.54 [1.59]
b = 0.90 [0.38]
Seff = 11715.90 [4914.80]
Teq = 2653 [278] K
Rp = 1.13 [0.50] Re
a = 0.0195 [0.0053] AU
Ag = 3.24 [2.37] [0.95σ]
Teffp = 5502 [893] K [3.04σ]

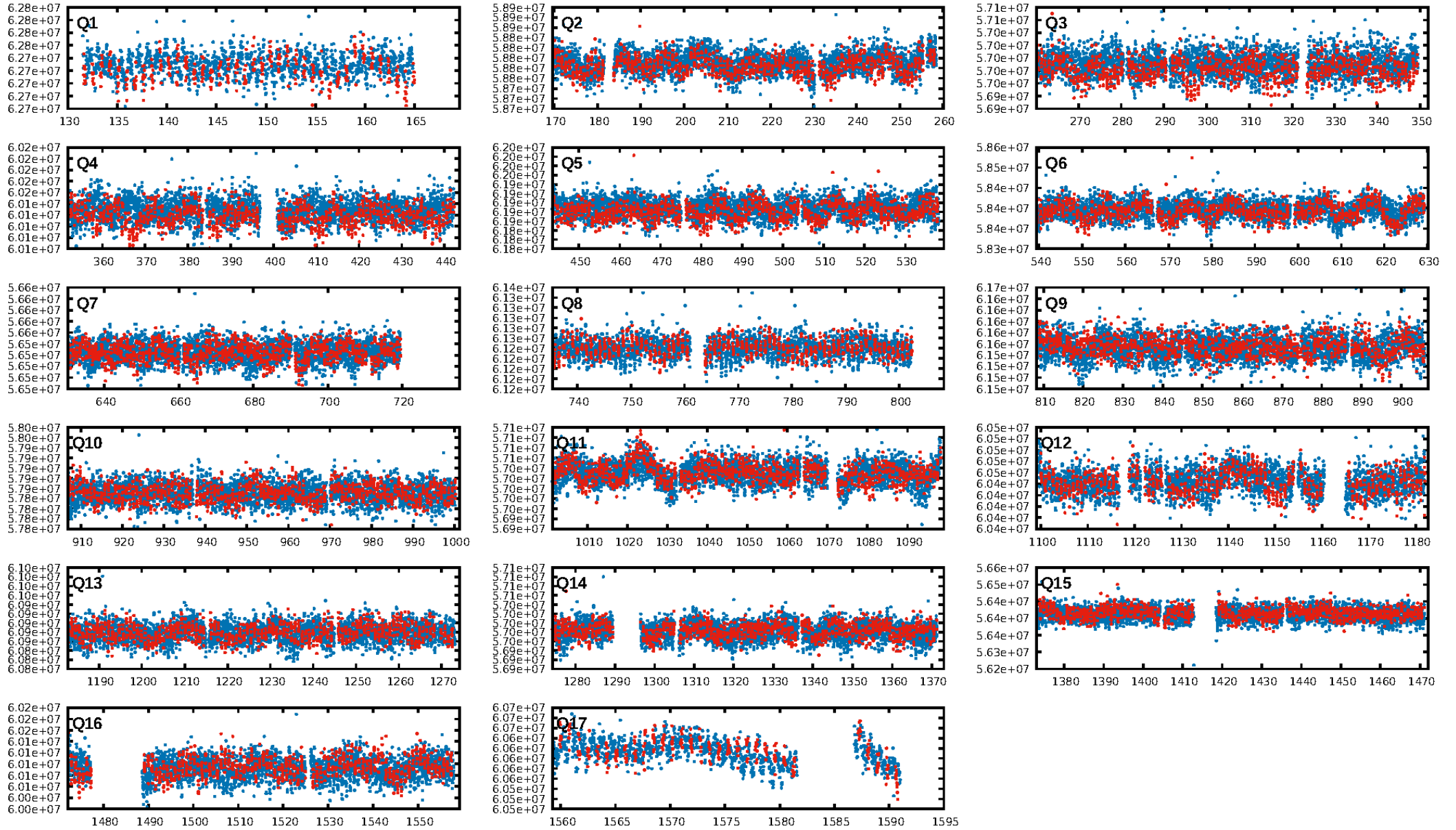
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.0% [0.00σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.88e-29
RollingBand-fgt: 0.98 [1470/1501]
GhostDiagnostic-chr: 2.219
Centroid-sig: 25.5%
Centroid-so: 0.322 arcsec [0.36σ]
OotOffset-rm: 0.289 arcsec [1.11σ]
KicOffset-rm: 0.402 arcsec [1.51σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.88 [15/17]
DiffImageOverlap-fno: 0.18 [3/17]

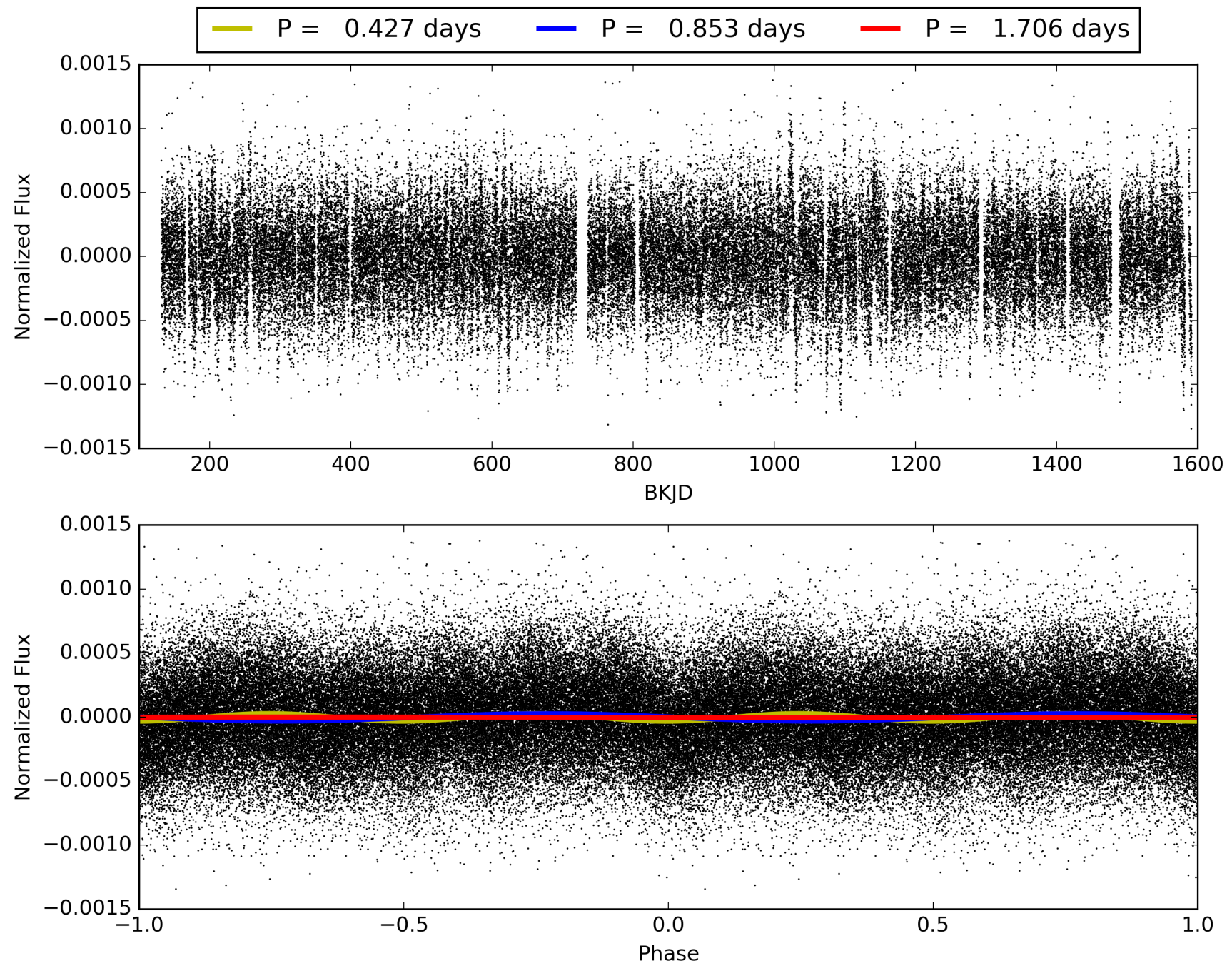
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 18:11:08 Z

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

TCE 005561905-01, PDC Light Curves

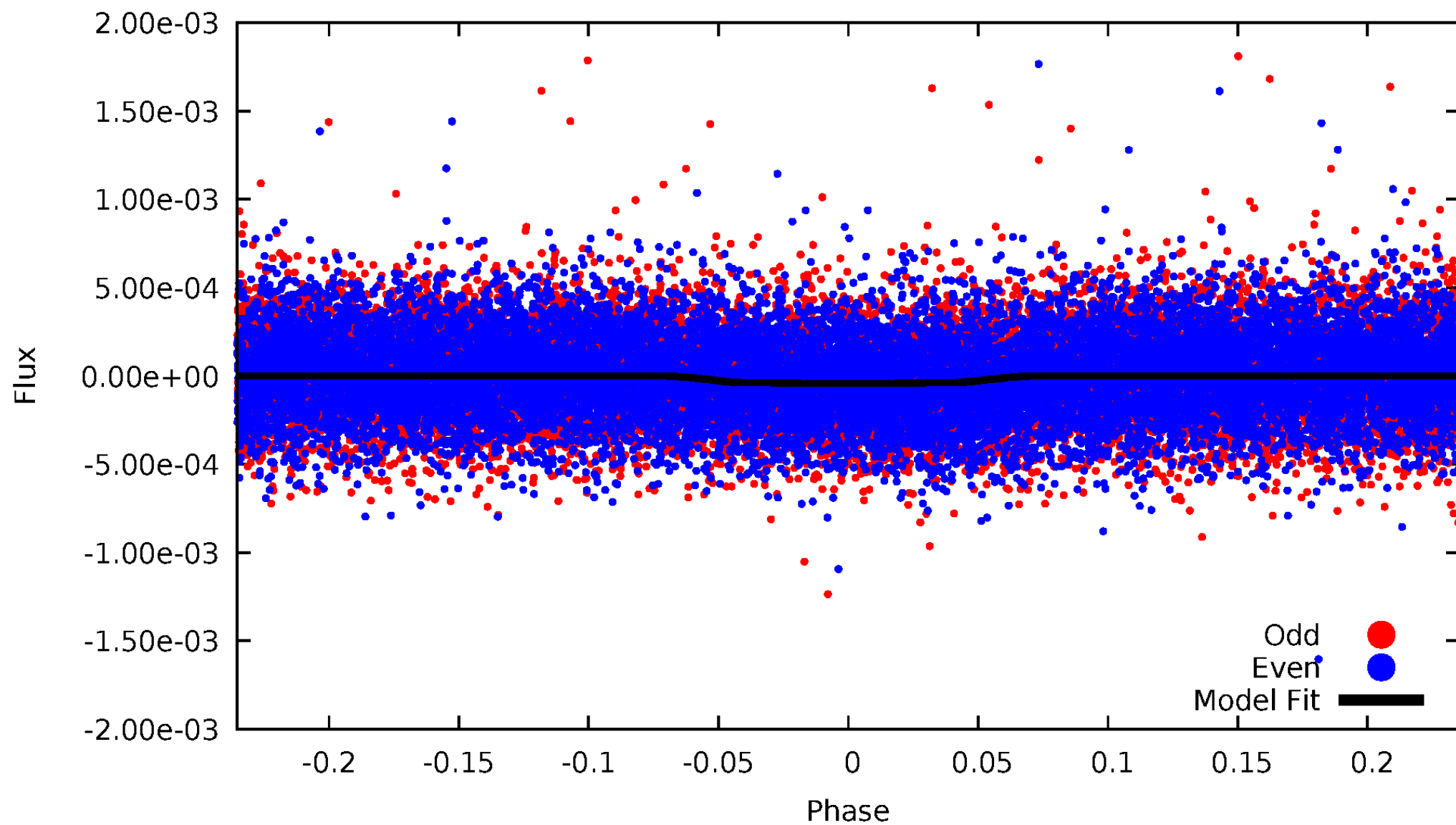


TCE 005561905-01



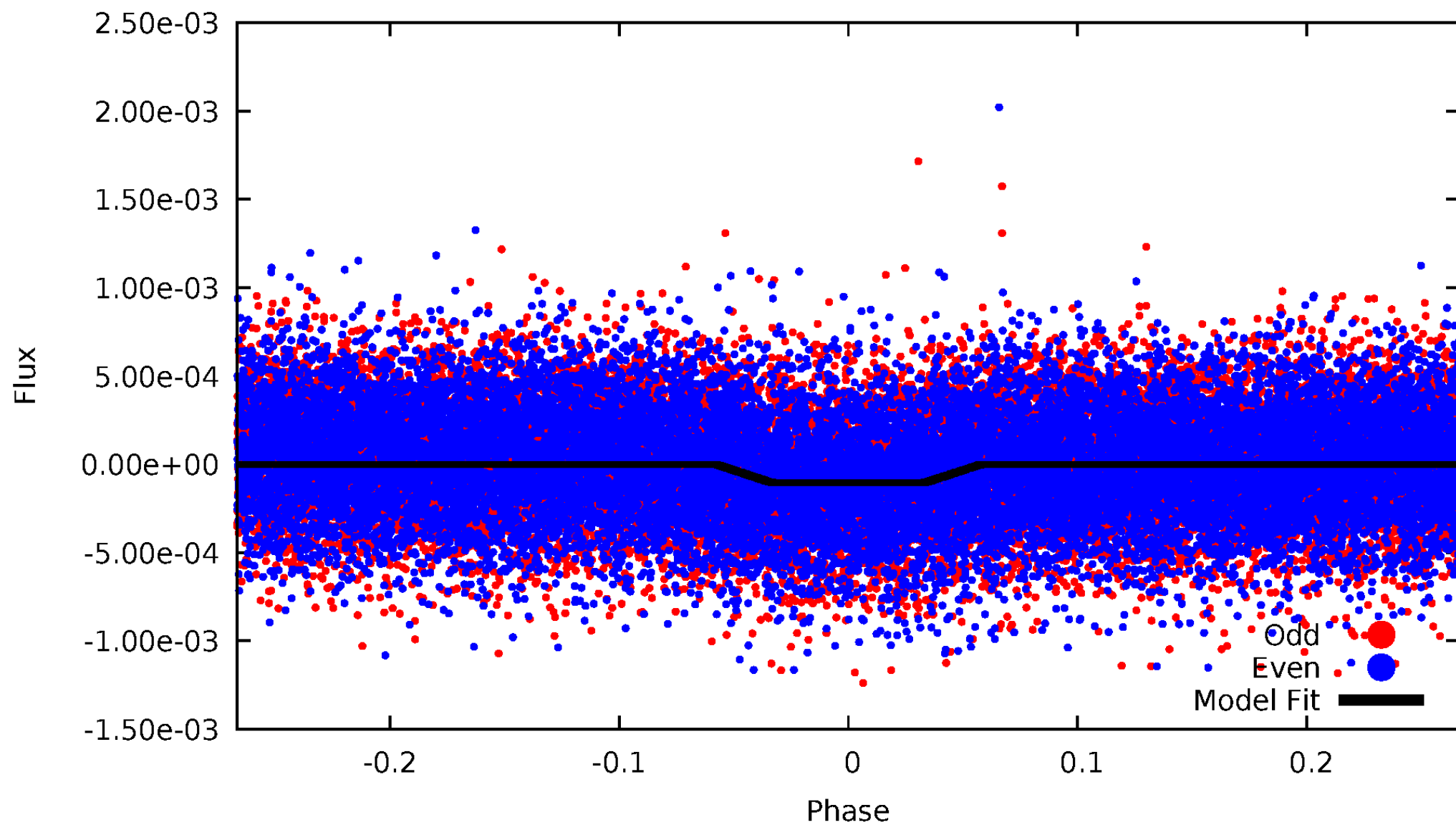
DV Odd/Even

TCE 005561905-01

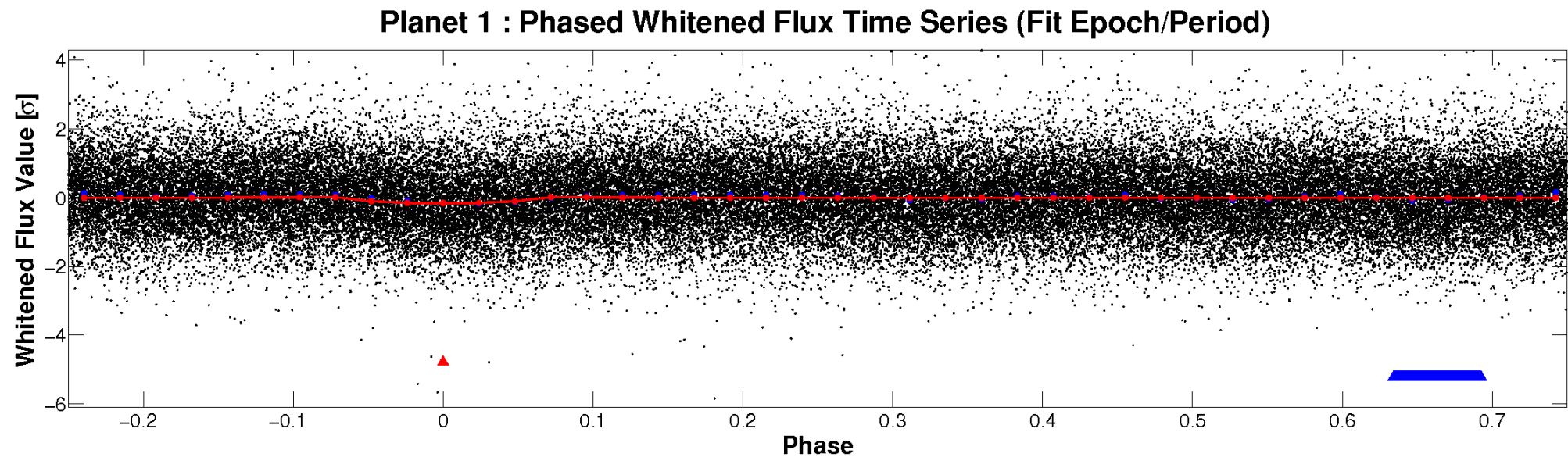
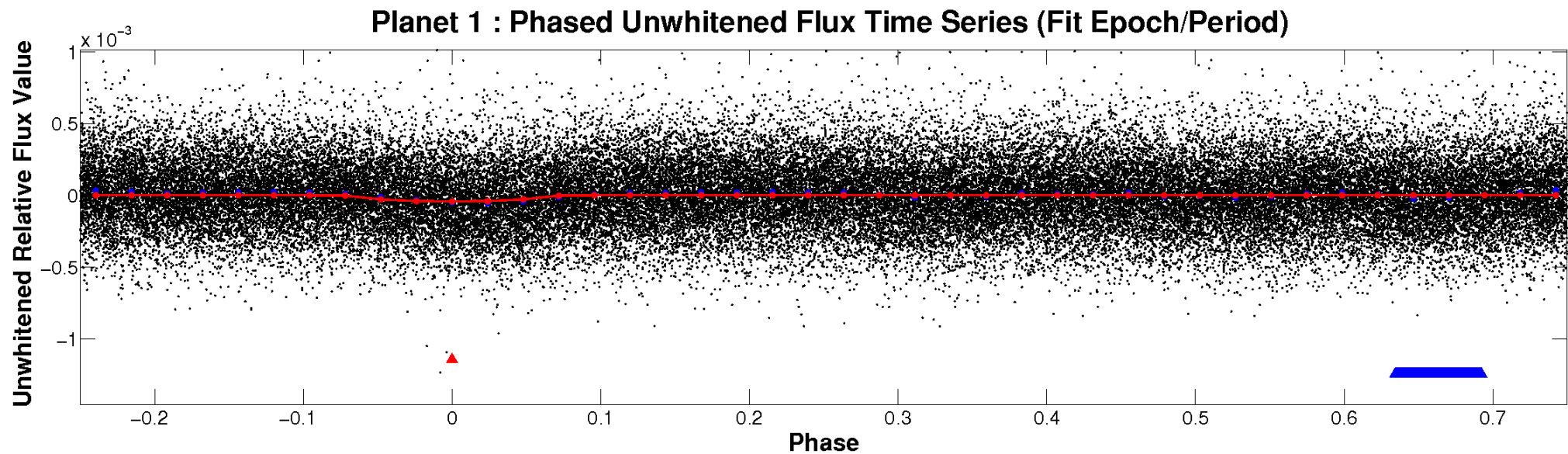


ALT Odd/Even

TCE 005561905-01

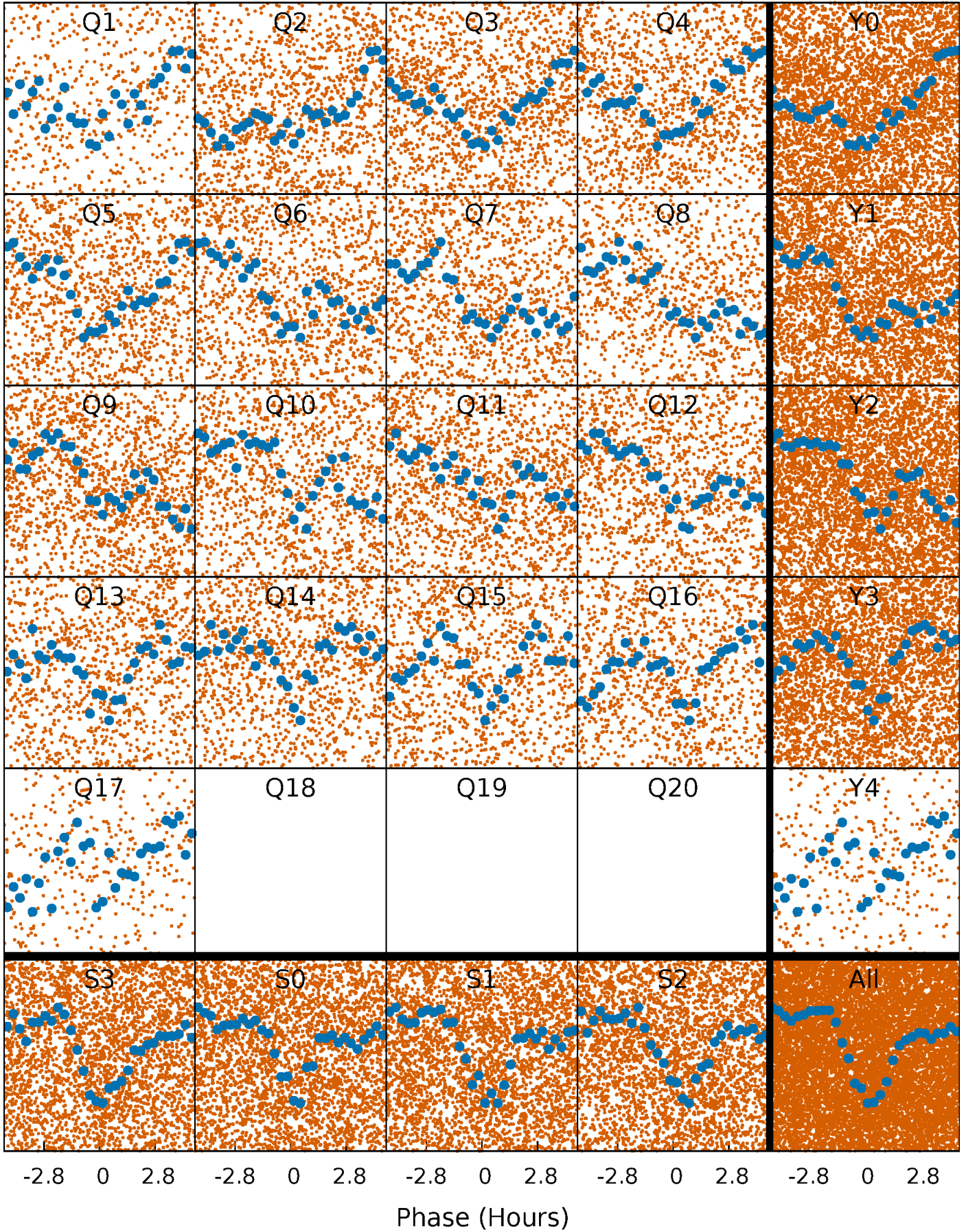


Non-Whitened Vs. Whitened Light Curve



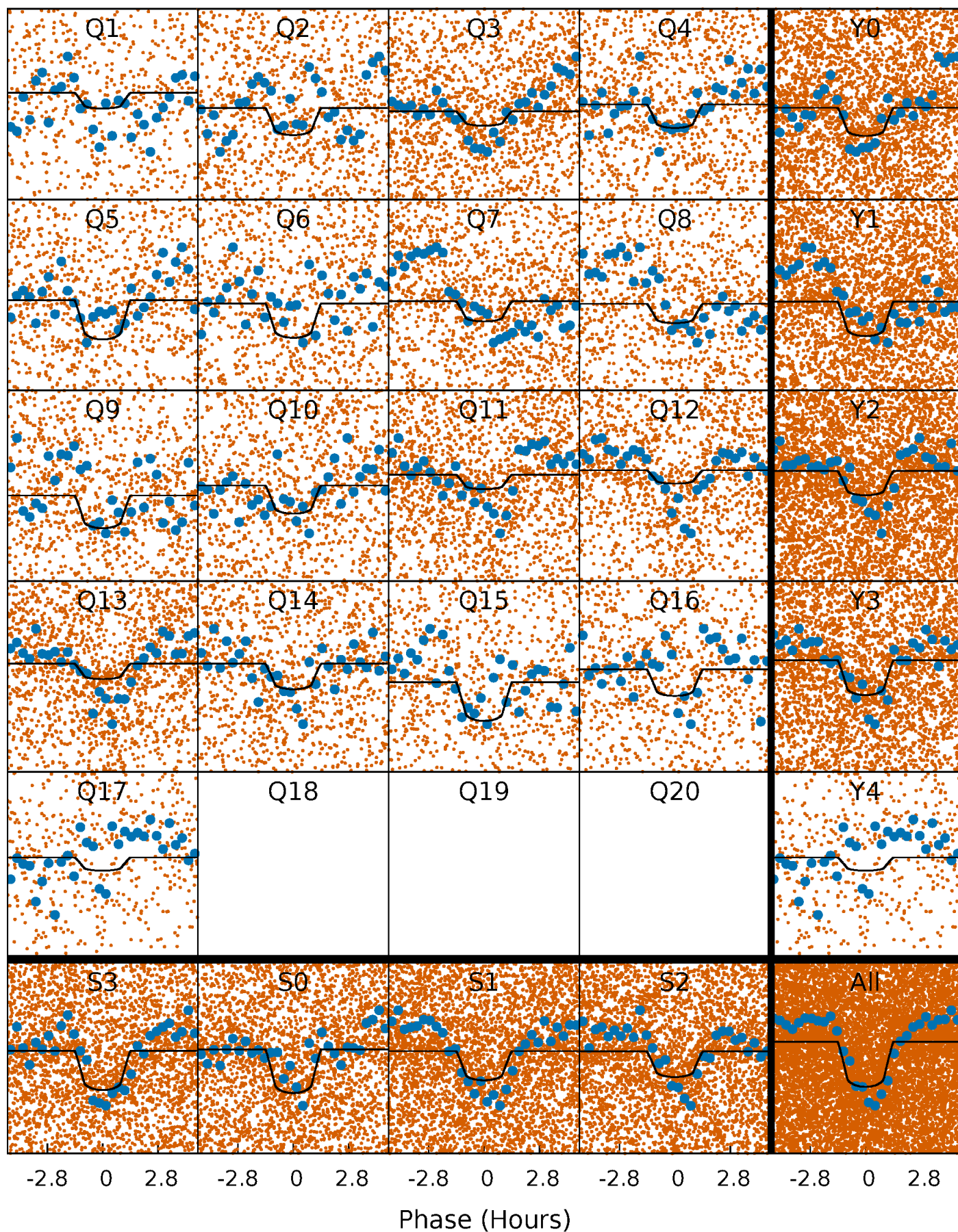
PDC Quarter-Phased Transit Curves

TCE 005561905-01 P= 0.853214 Days $T_0=131.680128$ (BKJD)



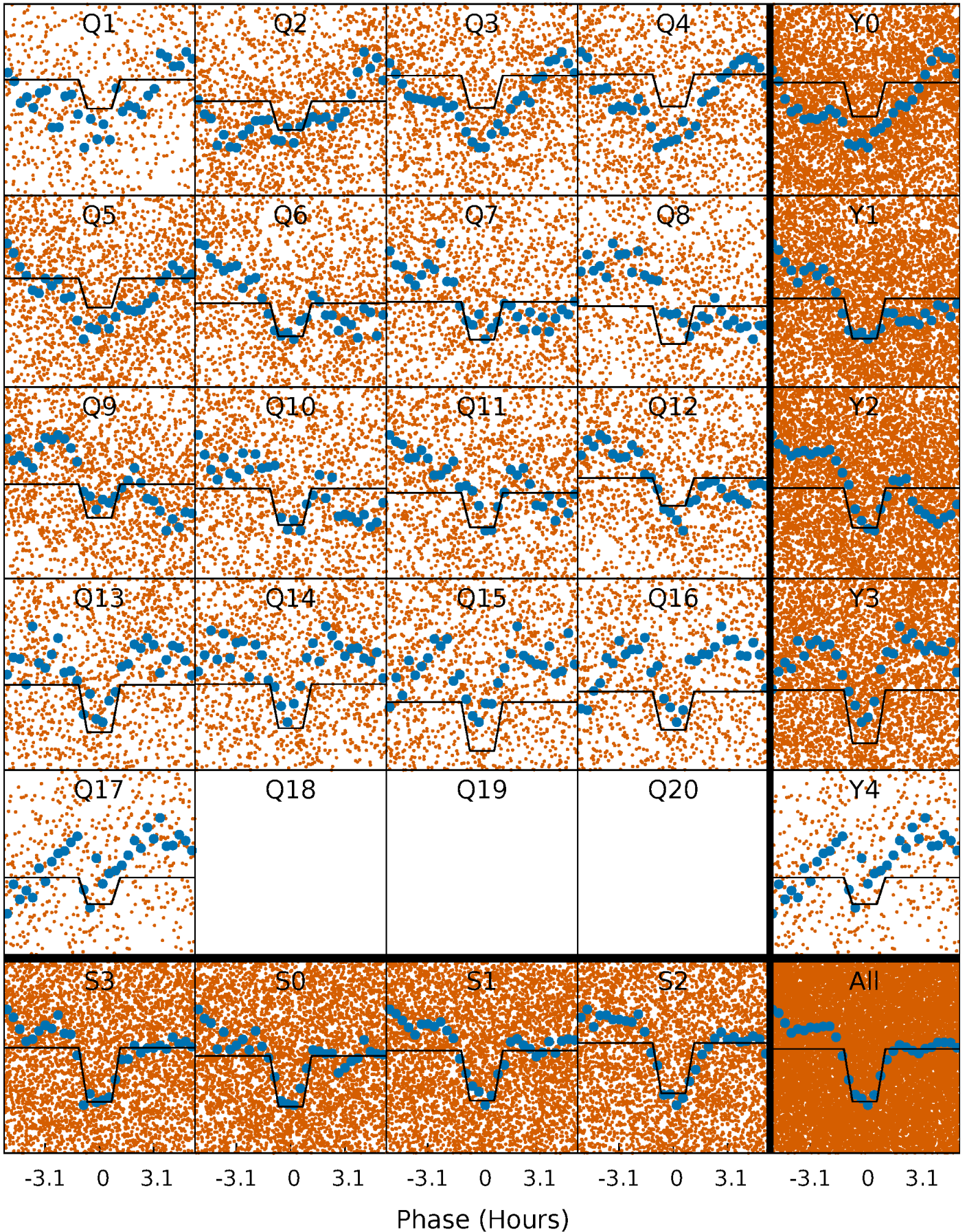
DV Quarter-Phased Transit Curves

TCE 005561905-01 P= 0.853214 Days $T_0=131.680128$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

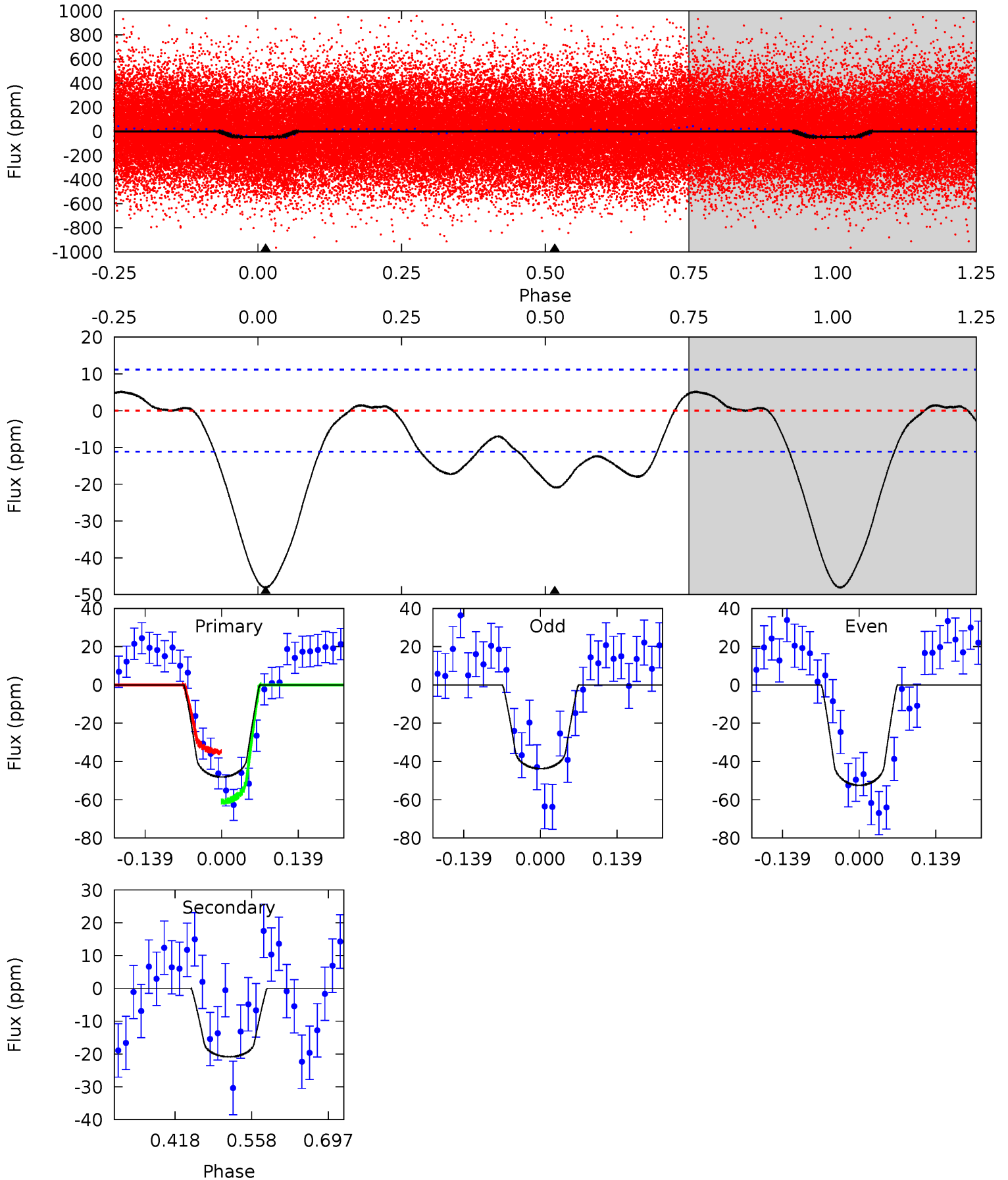
TCE 005561905-01 P= 0.853231 Days $T_0=131.677921$ (BKJD)



DV Model-Shift Uniqueness Test

005561905-01, P = 0.853214 Days, E = 130.826914 Days

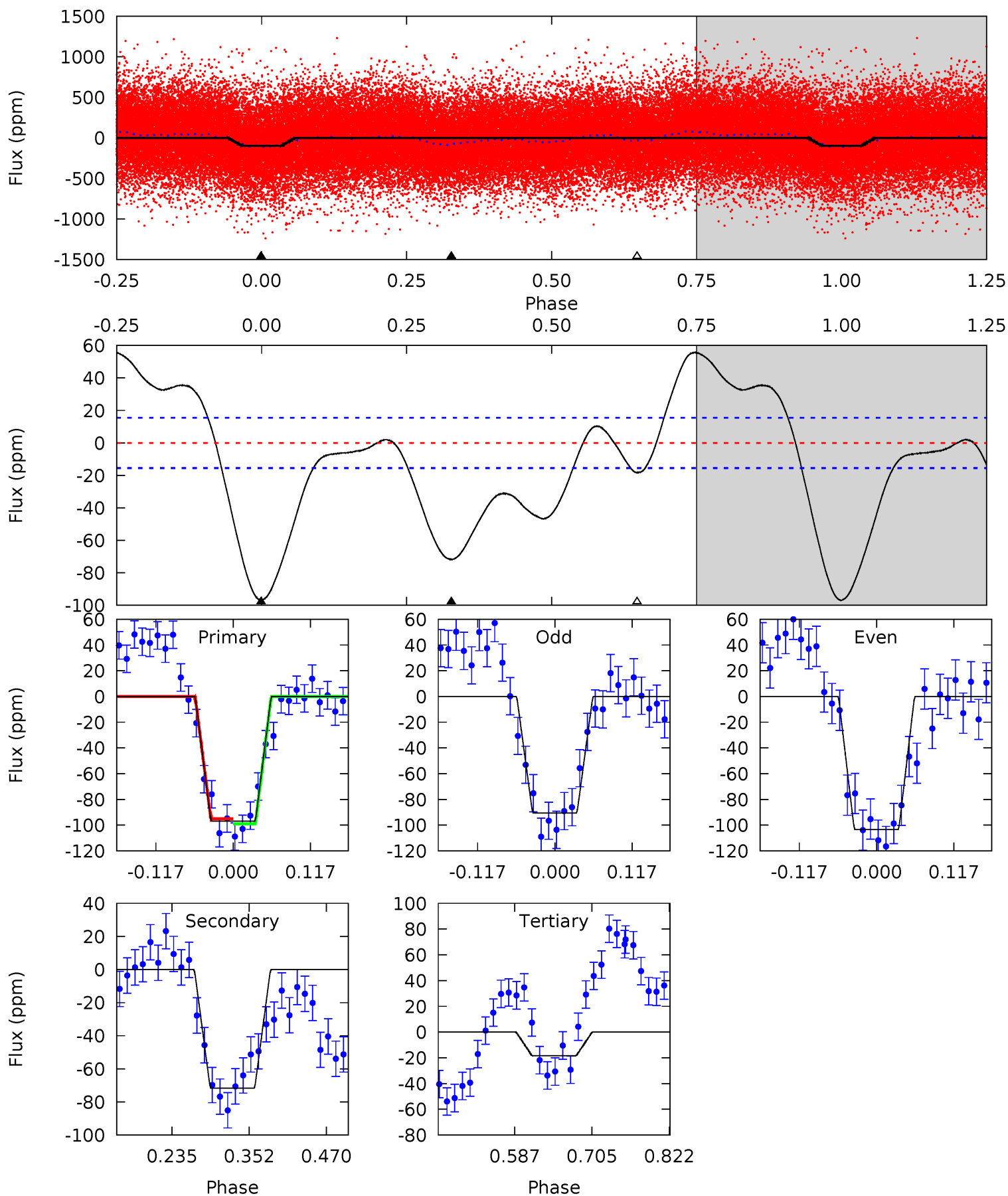
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
19.4	8.42	0	0	4.49	1.48	3.16	19.4	19.4	8.42	8.42	1.76	1.01	0.10	5.23



Alt Model-Shift Uniqueness Test

005561905-01, P = 0.853231 Days, E = 130.824690 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
28.4	21.0	5.36	0	4.53	1.57	8.71	23.0	28.4	15.6	21.0	1.89	1.09	0.36	0.58



Stellar Parameters For KIC 005561905

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6873^{+189}_{-307}	$4.223^{+0.108}_{-0.201}$	$-0.080^{+0.250}_{-0.350}$	$1.493^{+0.495}_{-0.304}$	$1.365^{+0.204}_{-0.224}$	$0.578^{+0.347}_{-0.289}$
	+3%/-4%	+3%/-5%	+312%/-438%	+33%/-20%	+15%/-16%	+60%/-50%
Source	PHO1	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 005561905-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-21 ± 2	$1.17^{+0.38}_{-0.38}$	3731^{+282}_{-241}	5399^{+1274}_{-667}	$3.218^{+3.719}_{-1.447}$
Alt.	-72 ± 3	$1.70^{+0.46}_{-0.39}$	3753^{+280}_{-256}	6126^{+908}_{-638}	$5.101^{+3.432}_{-1.834}$

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

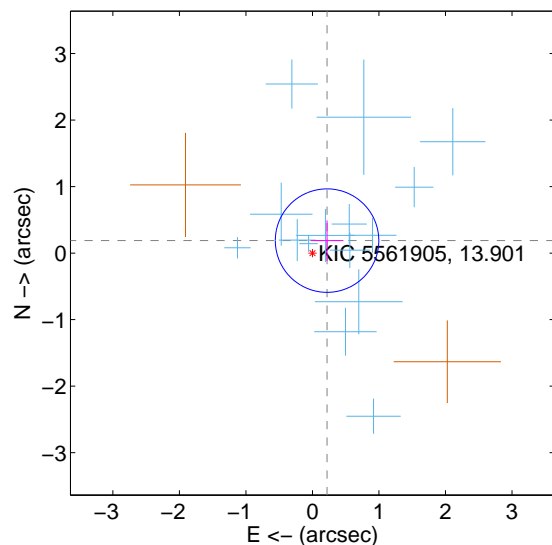
Supplemental centroid analysis for 005561905-01. Kepler magnitude: 13.90. Transit SNR 11.80

There are 15 quarters with good PRF difference image offsets

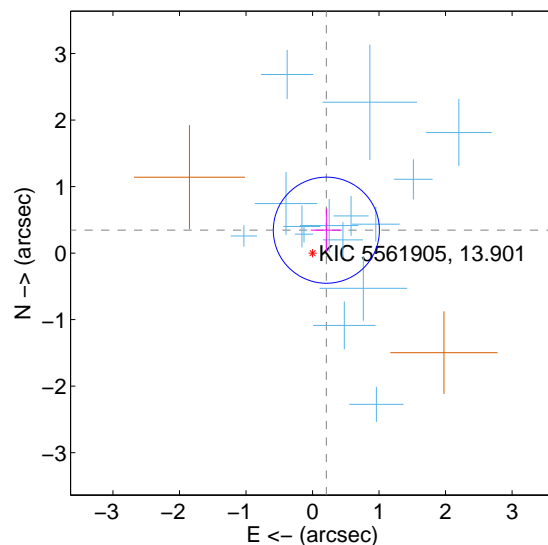
The direct PRF centroid is offset from the target star catalog position by about 0.24 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.289 ± 0.259	1.11	-0.220 ± 0.246	0.188 ± 0.304
PRF-fit source offset from KIC position	0.402 ± 0.266	1.51	-0.208 ± 0.234	0.344 ± 0.320
photometric centroid source offset	0.32 ± 0.90	0.36	-0.22 ± 0.92	-0.24 ± 0.89

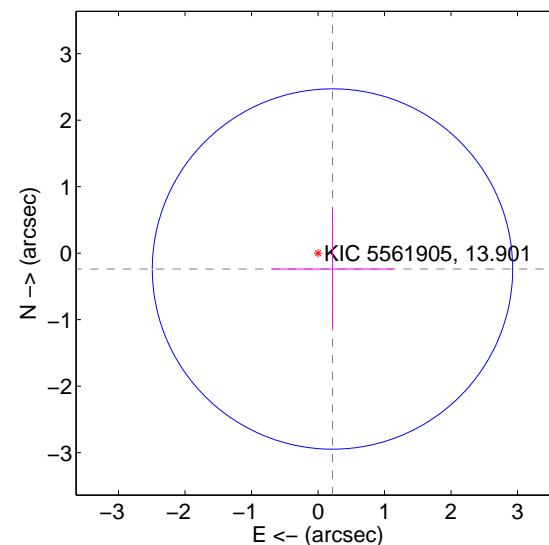
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

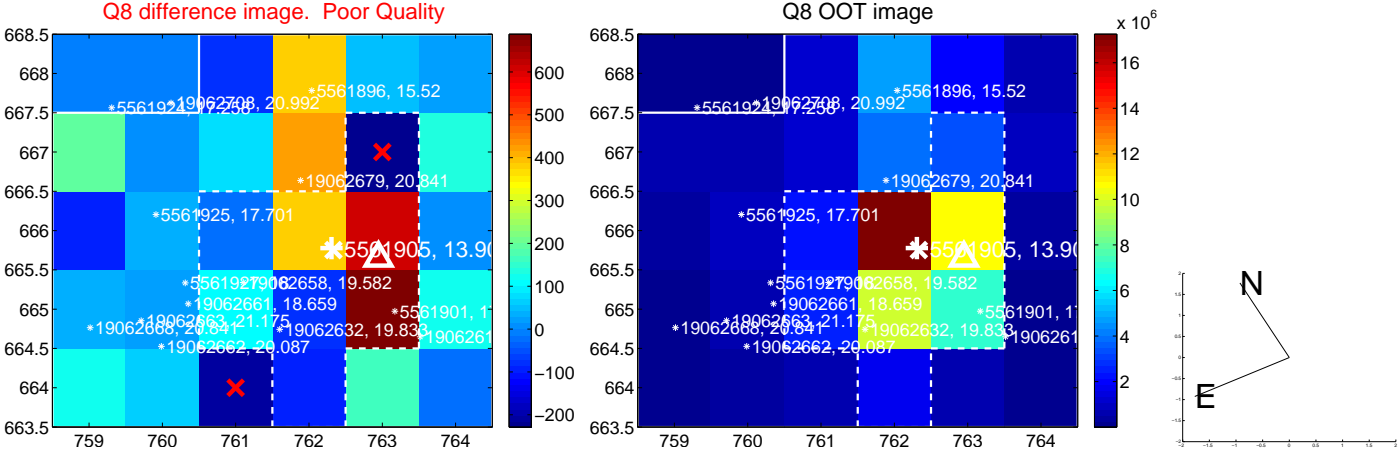
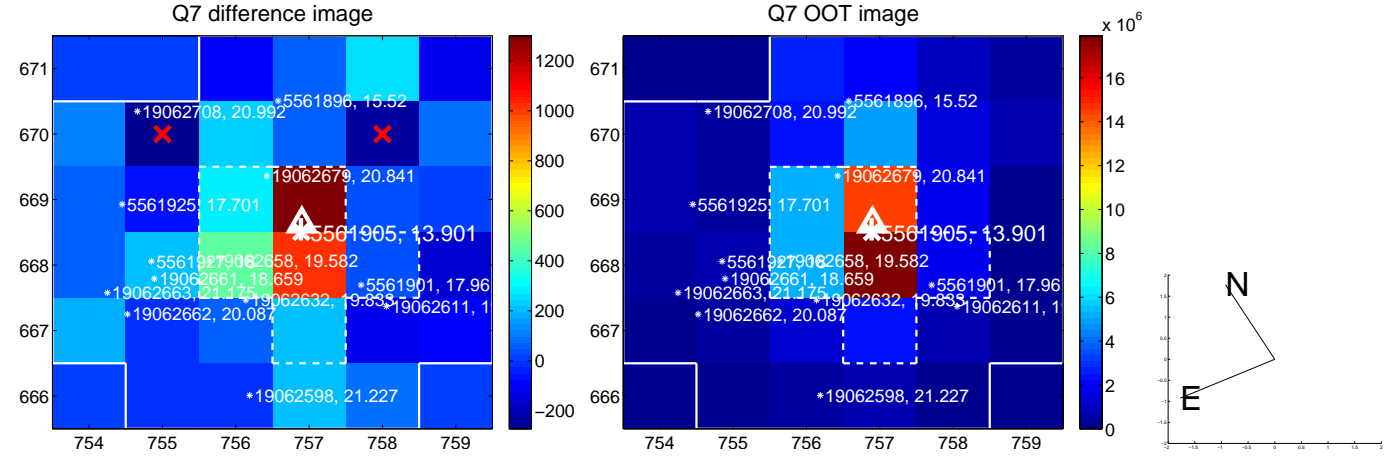
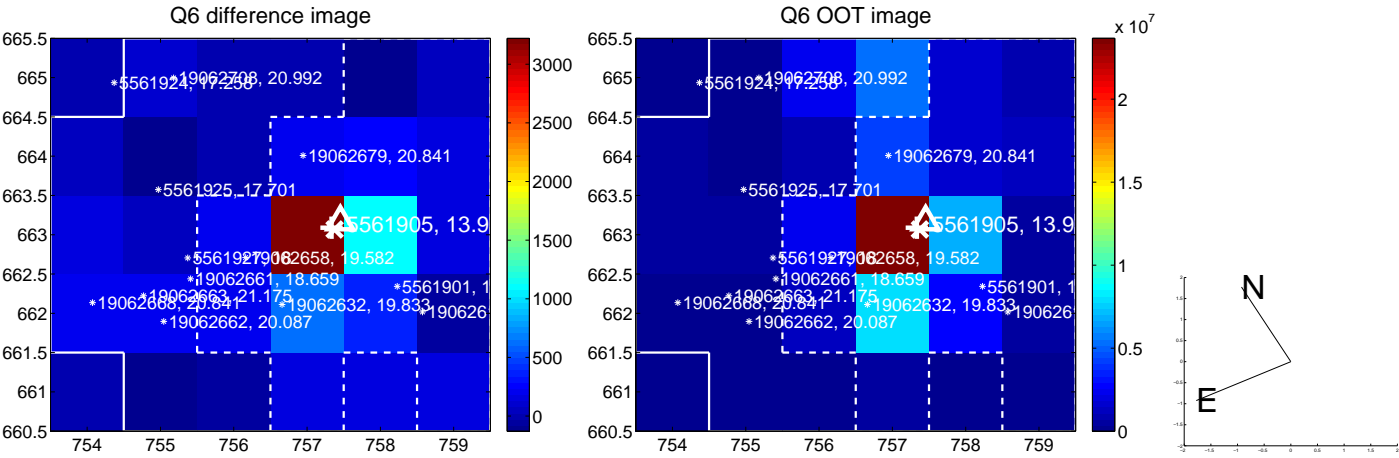
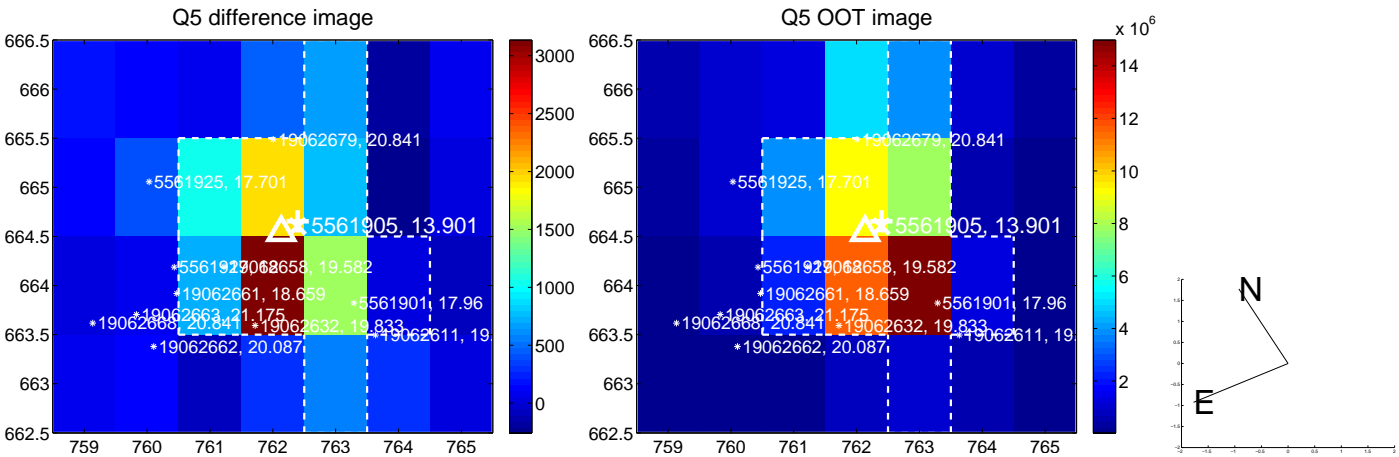


offset from photometric centroids

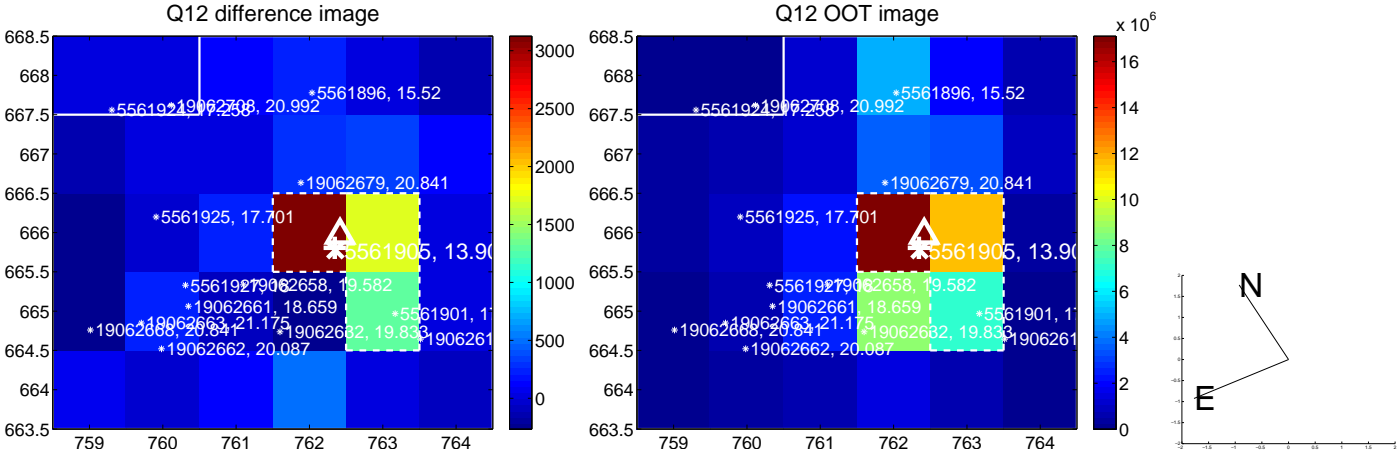
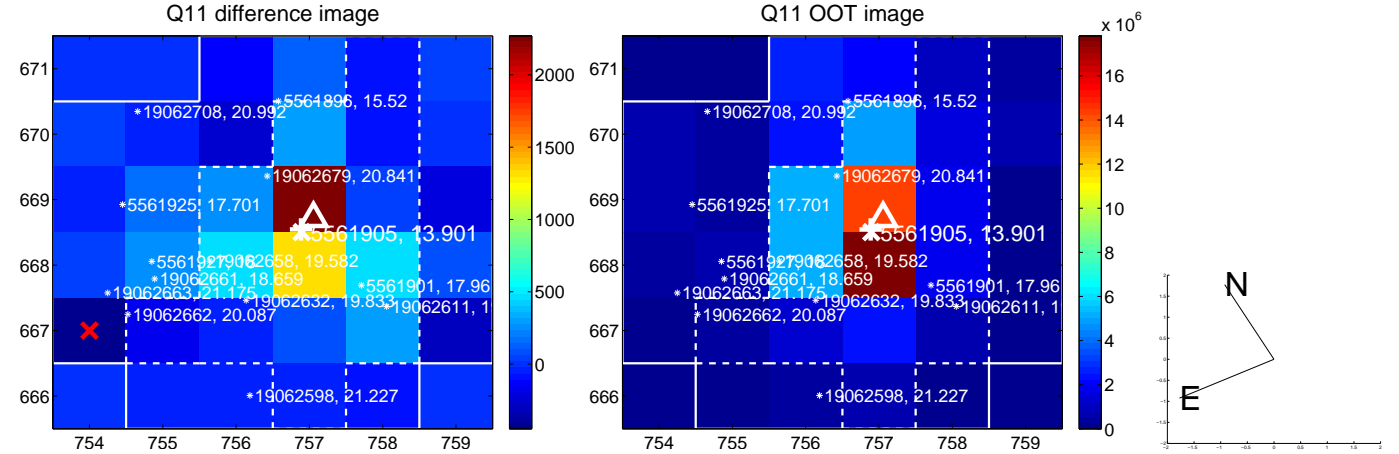
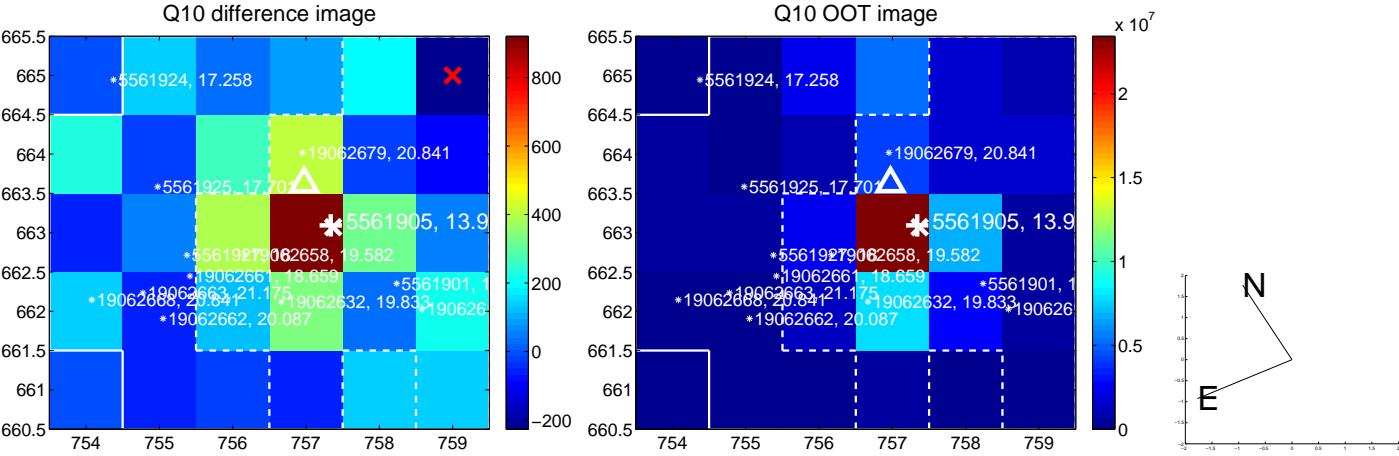
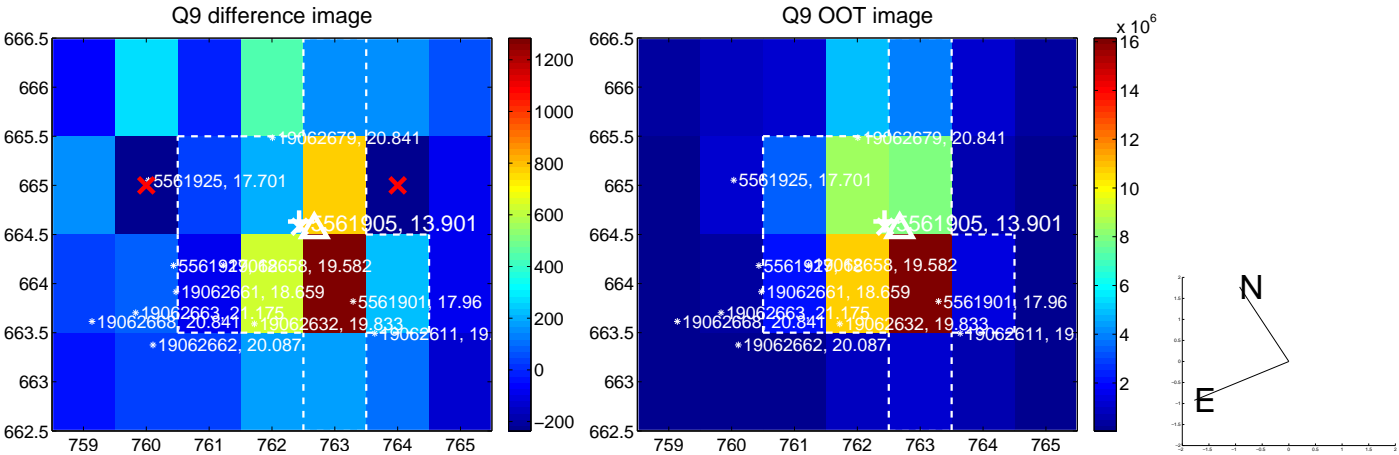


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ . Red *: target star. Blue *: Other stars. Text next to a star gives its KIC ID and kepmag. KIC IDs > 15,000,000 are from the UKIRT catalog.

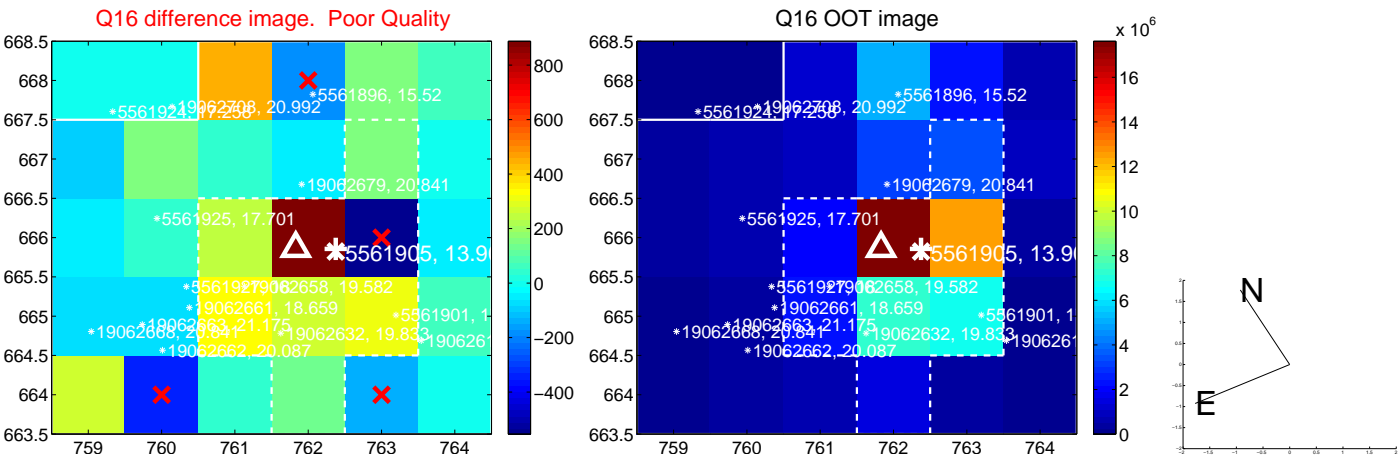
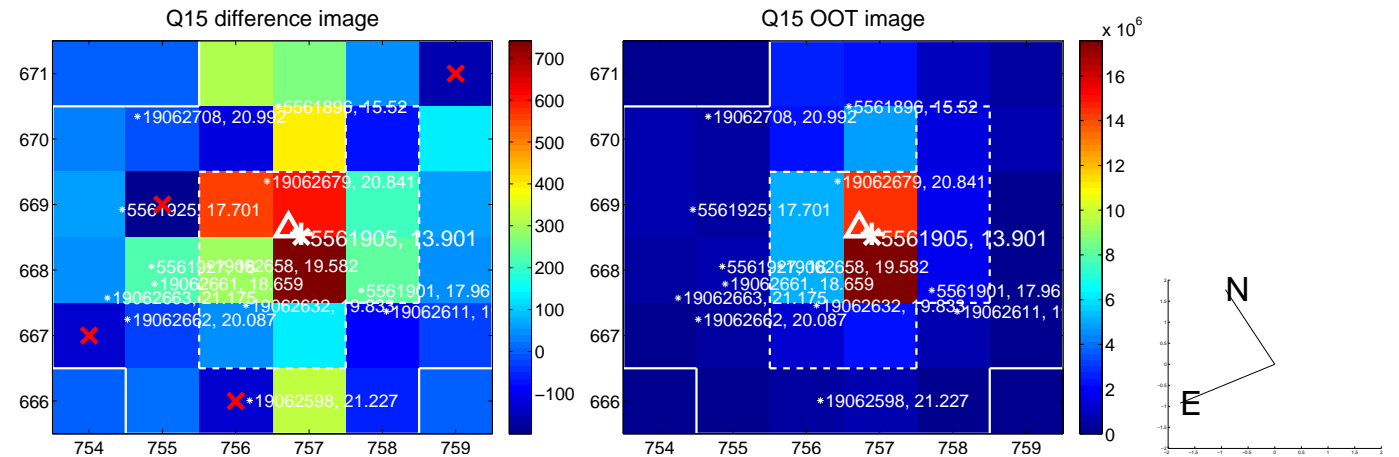
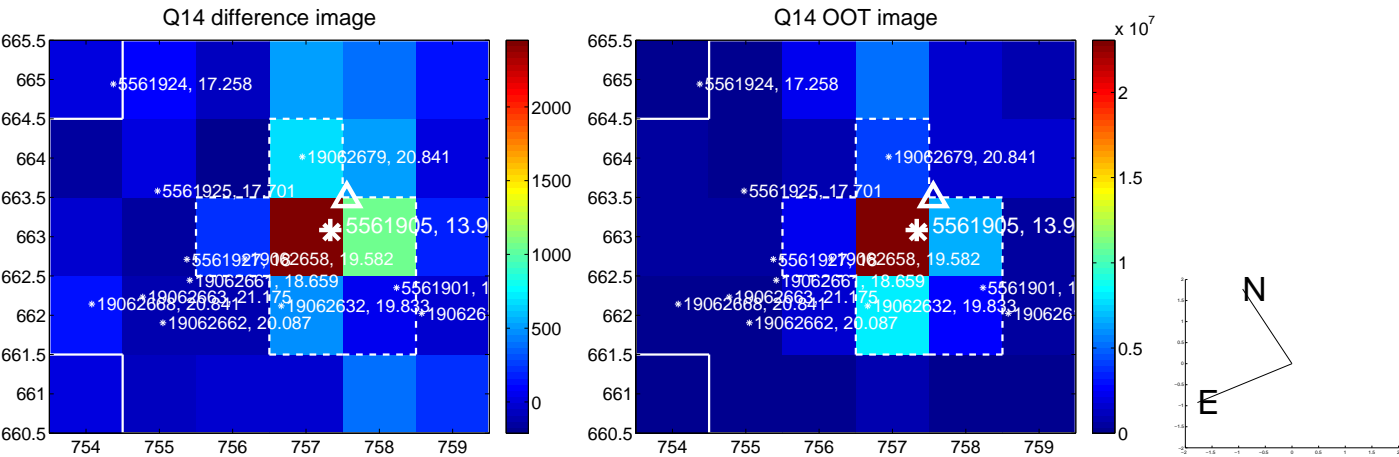
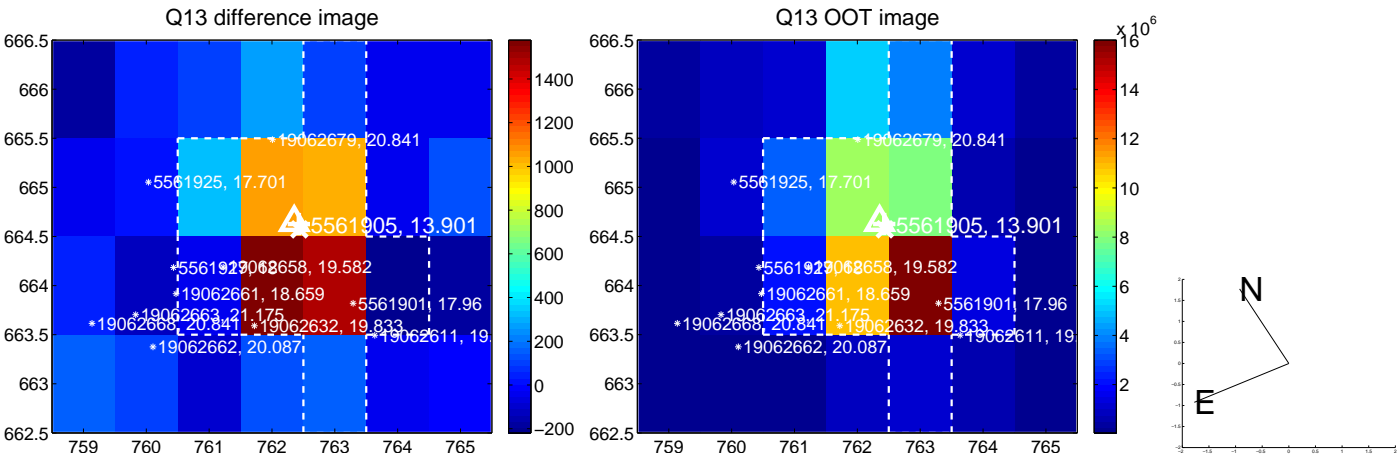
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



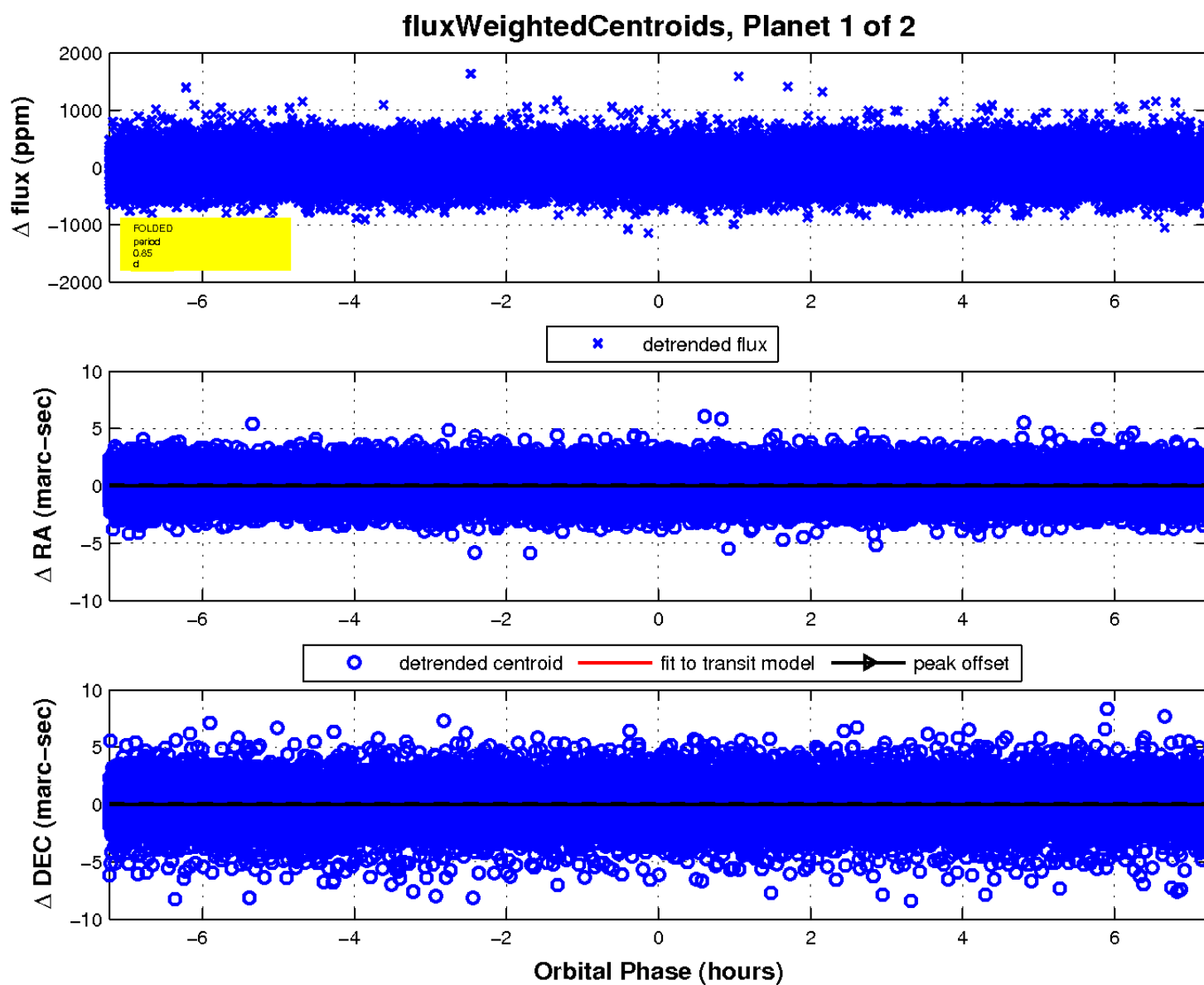
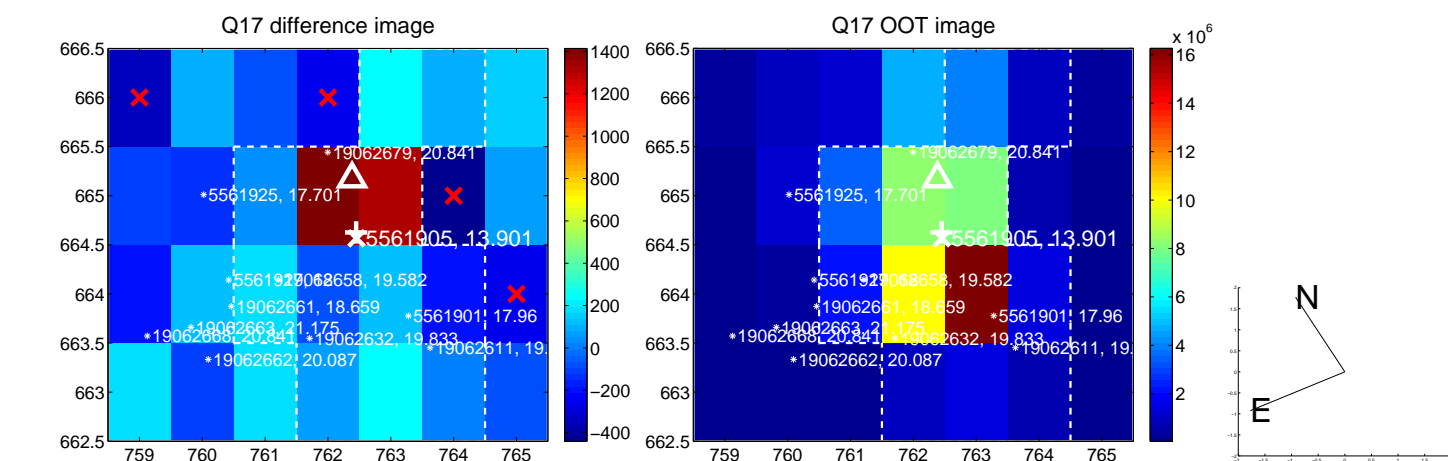
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

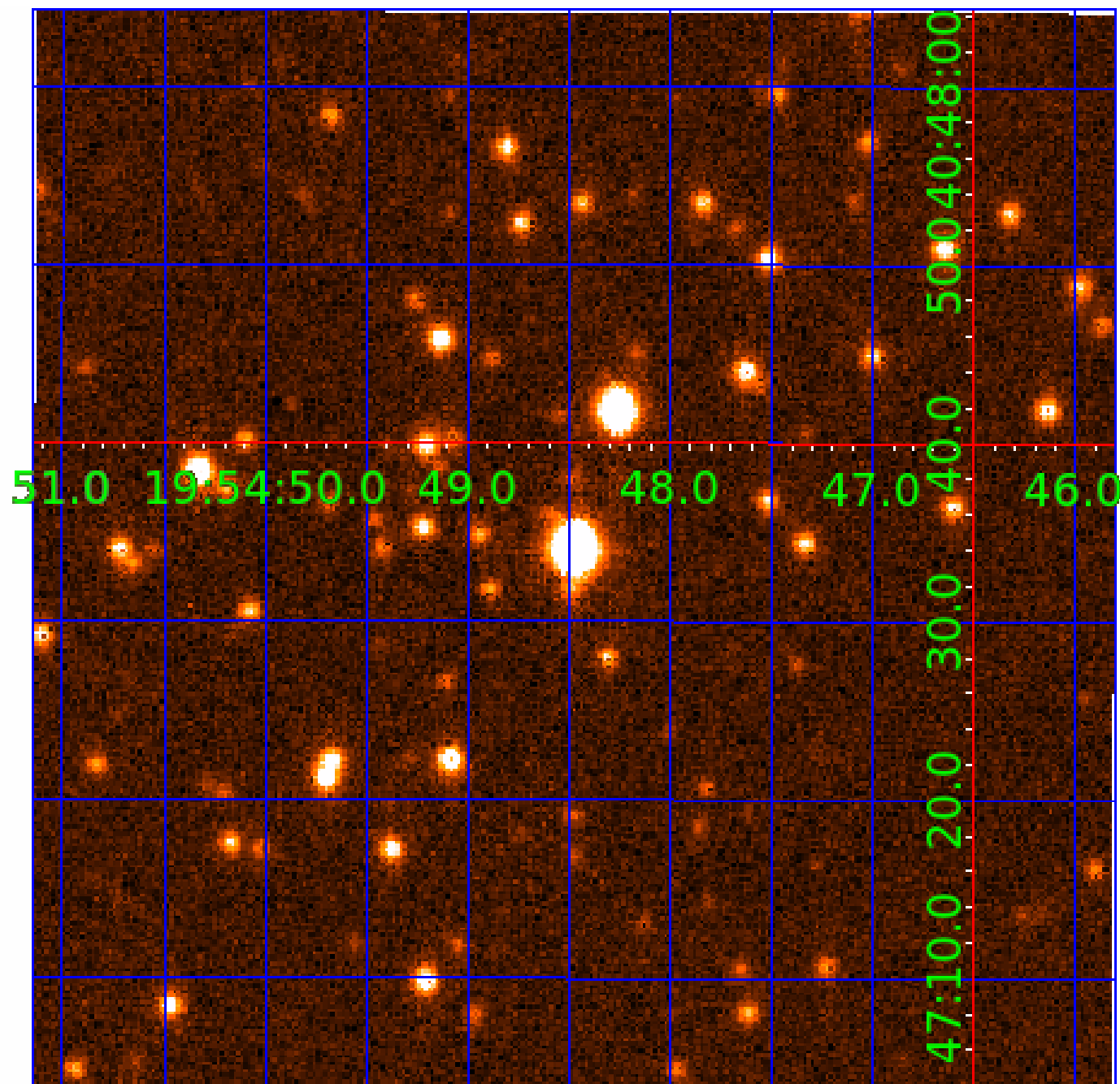


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 005561905

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})
005561905-01	OBS	No	0.853214	131.680128	42.0	2.410	11.8	11.8	1.49	6873	1.13	11715.90
005561905-02	OBS	No	0.853243	132.221265	27.3	1.396	8.3	6.5	1.49	6873	0.91	11715.36

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005561905-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT
005561905-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—SAME_NTL_PERIOD

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

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

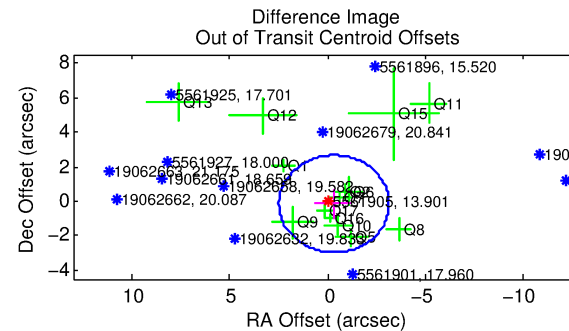
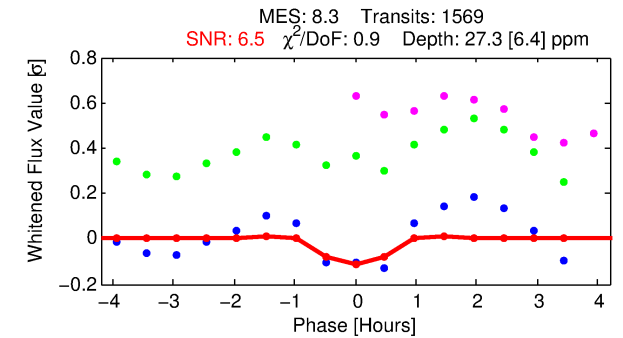
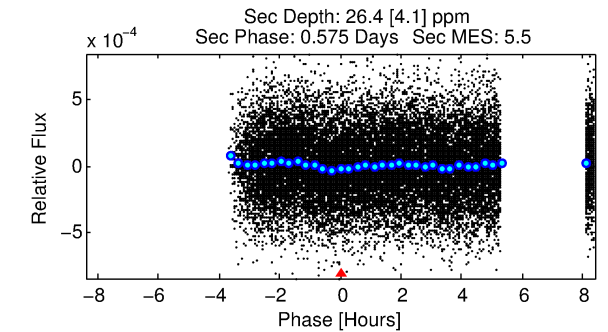
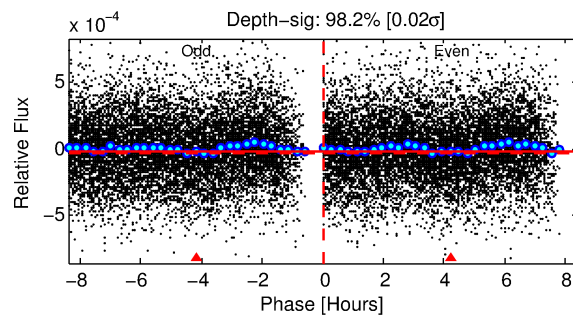
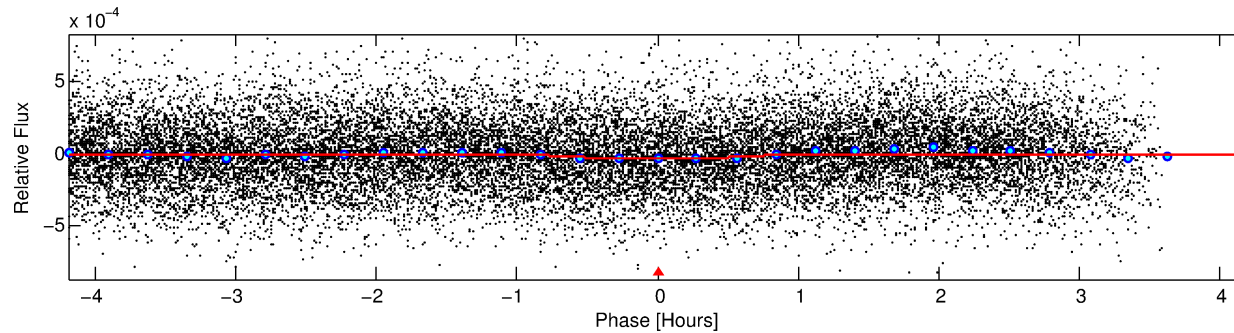
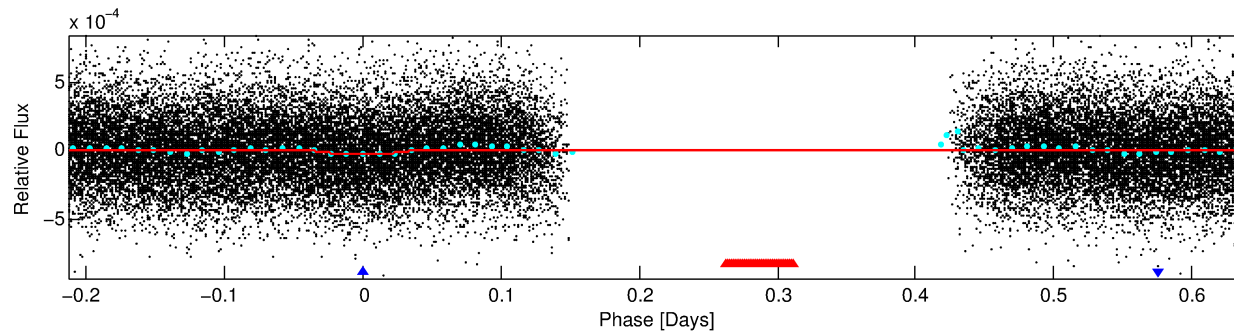
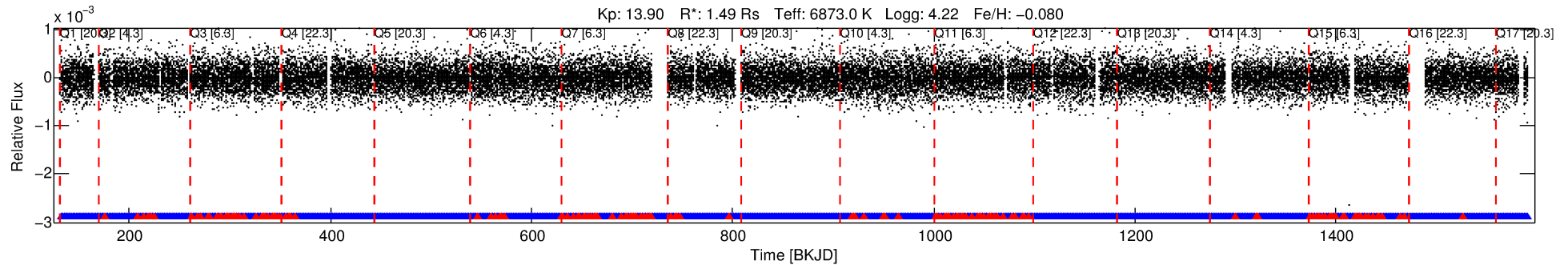
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005561905-02

No Significant Match Found

DV One-Page Summary

KIC: 5561905 Candidate: 2 of 2 Period: 0.853 d



DV Fit Results:

Period = 0.85324 [0.00002] d
Epoch = 132.2213 [0.0033] BKJD
Rp/R* = 0.0056 [0.0019]
a/R* = 2.31 [3.70]
b = 0.90 [0.43]
S_{eff} = 11715.36 [4914.57]
T_{eq} = 2653 [278] K
Rp = 0.91 [0.43] R_e
a = 0.0195 [0.0053] AU
Ag = 6.70 [5.37] [1.06σ]
Teffp = 6599 [1200] K [3.20σ]

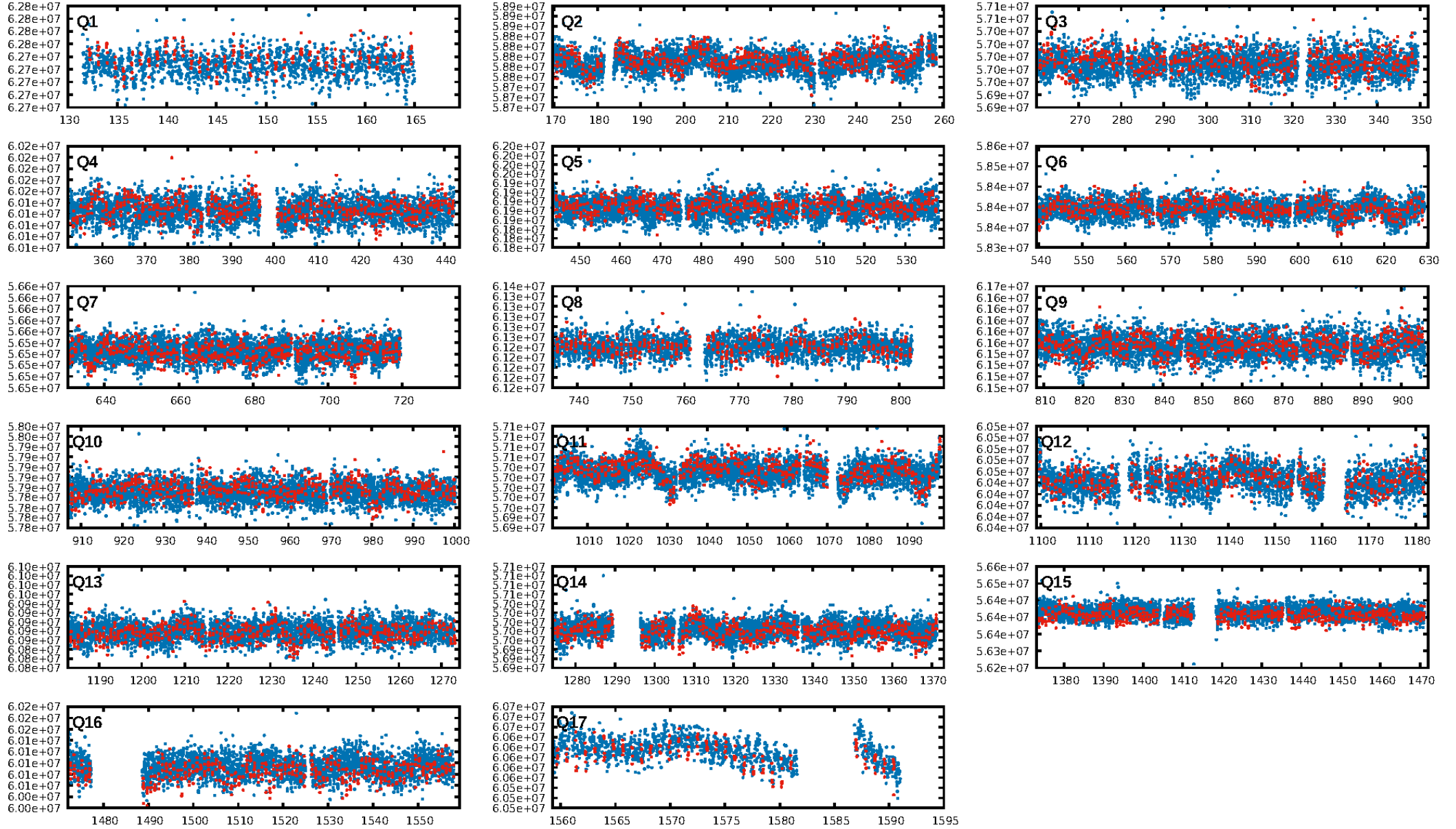
DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 7.14e-15
RollingBand-fgt: 0.90 [1351/1499]
GhostDiagnostic-chr: 1.193
Centroid-sig: 42.9%
Centroid-so: 1.175 arcsec [0.64σ]
OotOffset-rm: 0.361 arcsec [0.39σ]
OotOffset-st: 3/3/3/5 [14]
KicOffset-rm: 0.359 arcsec [0.40σ]
KicOffset-st: 3/3/3/5 [14]
DiffImageQuality-fgm: 0.29 [4/14]
DiffImageOverlap-fno: 0.88 [15/17]

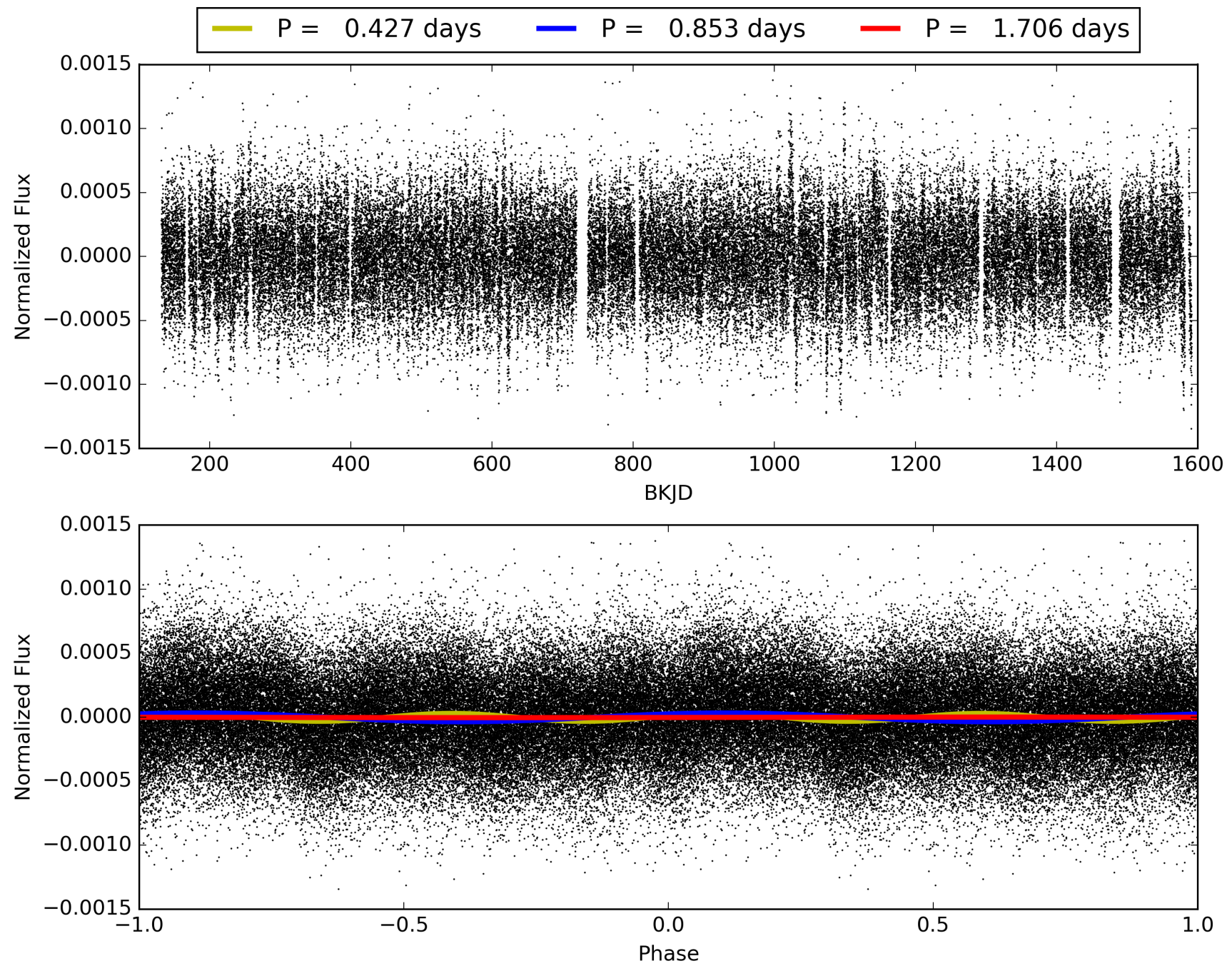
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 18:11:18 Z

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

TCE 005561905-02, PDC Light Curves

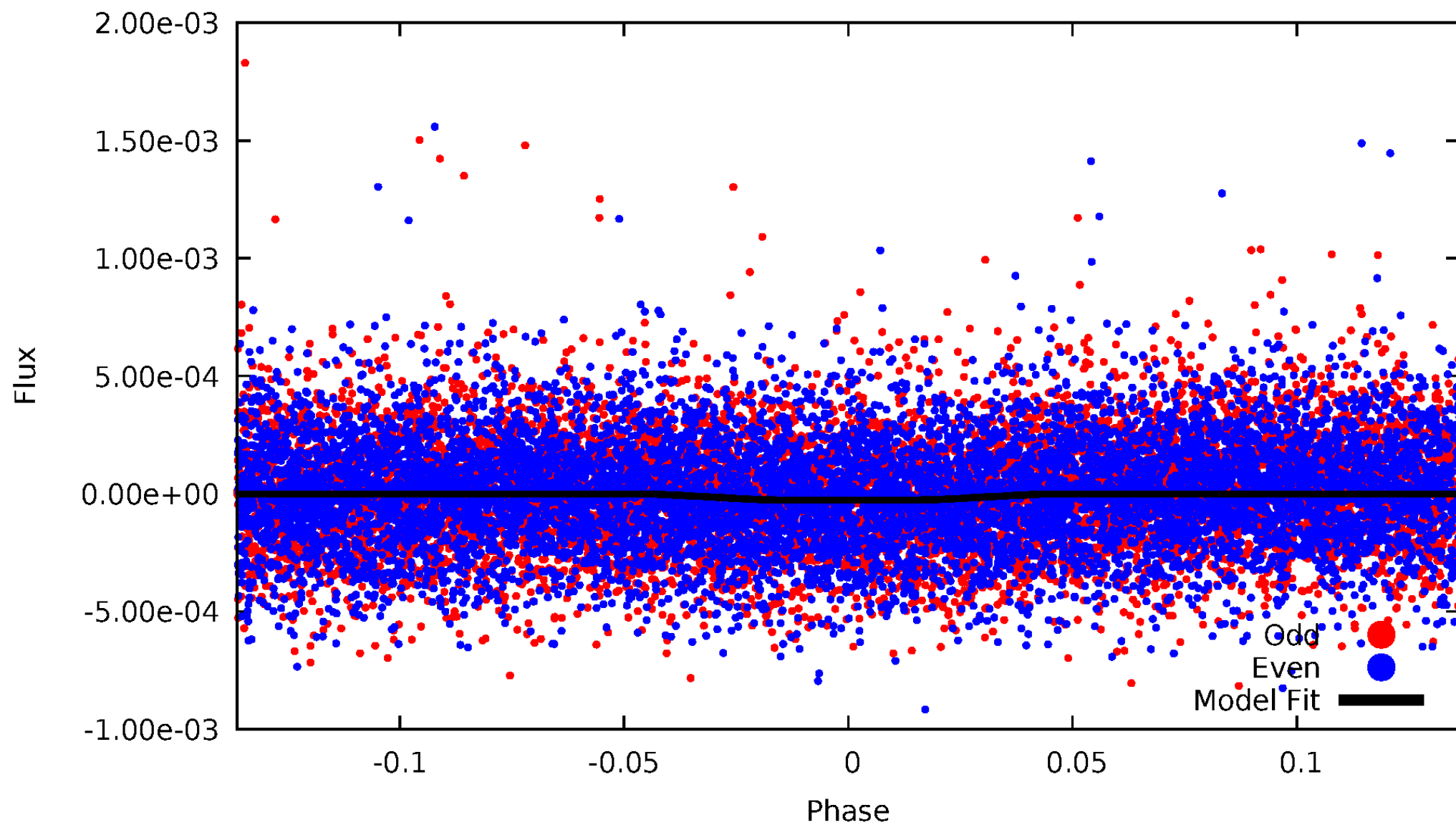


TCE 005561905-02



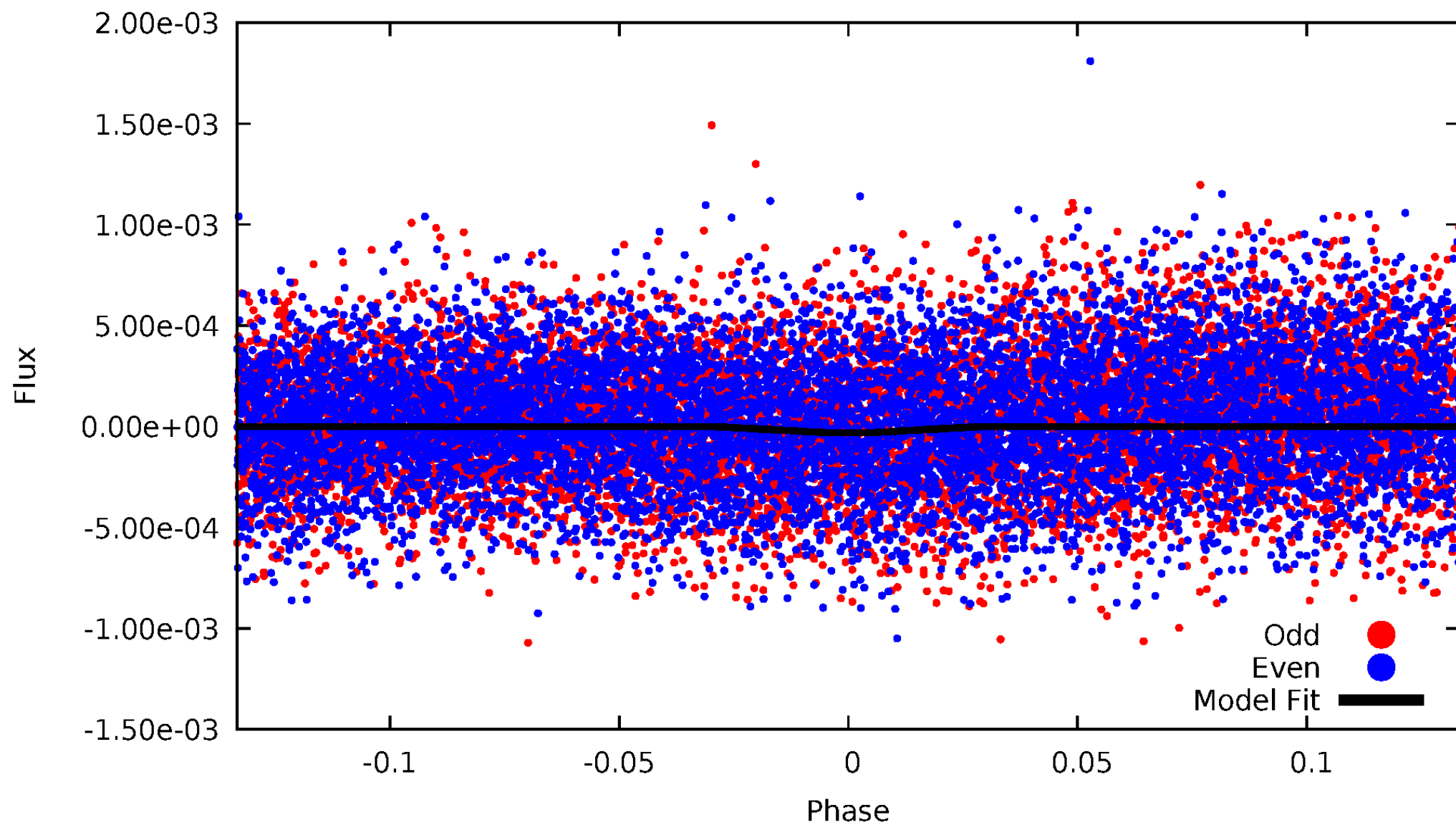
DV Odd/Even

TCE 005561905-02



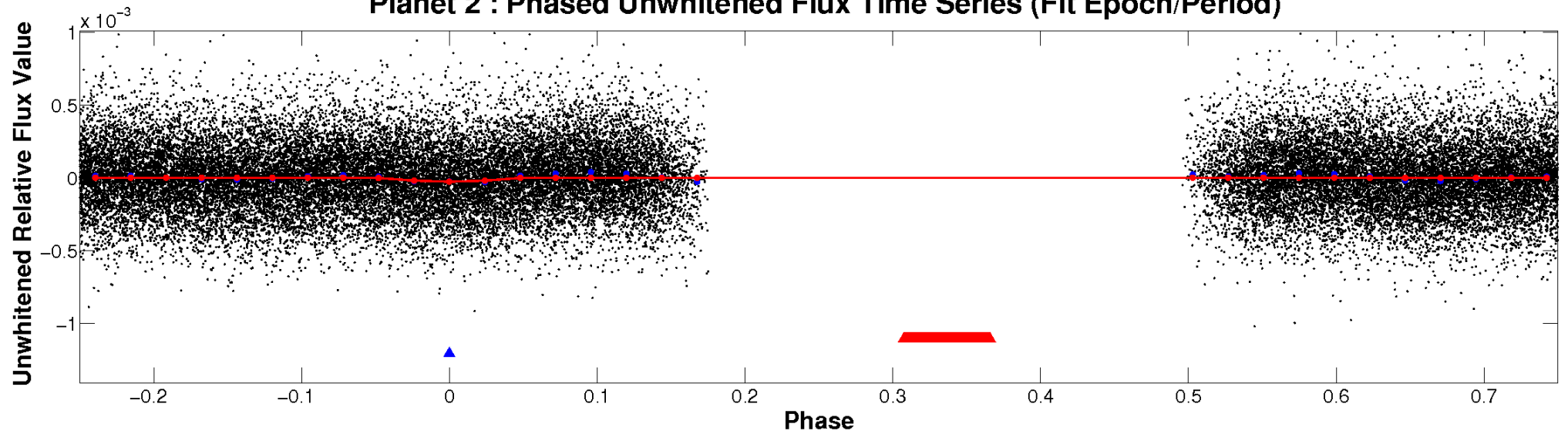
ALT Odd/Even

TCE 005561905-02

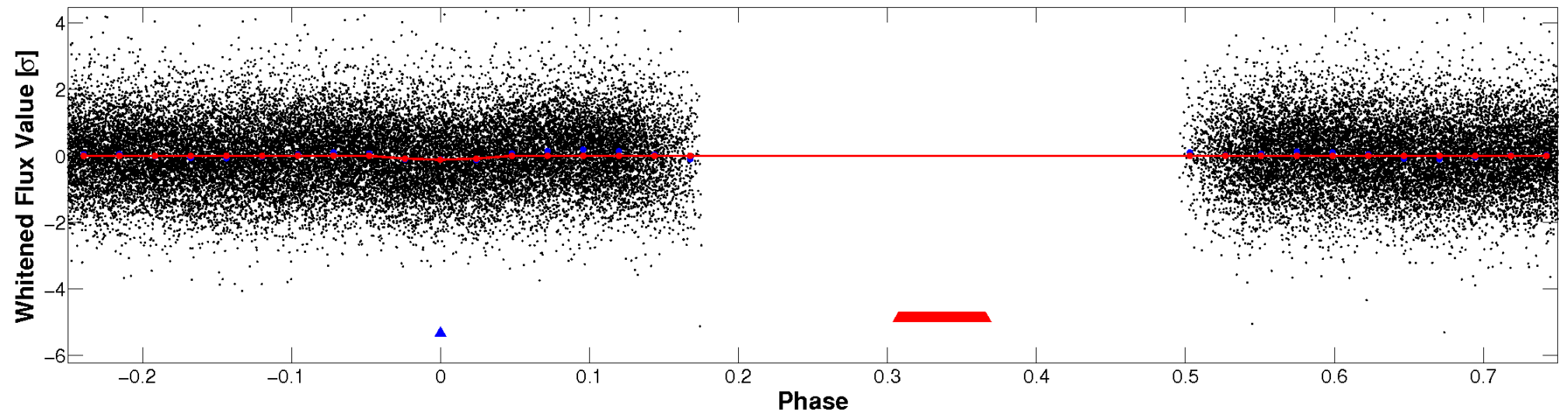


Non-Whitened Vs. Whitened Light Curve

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

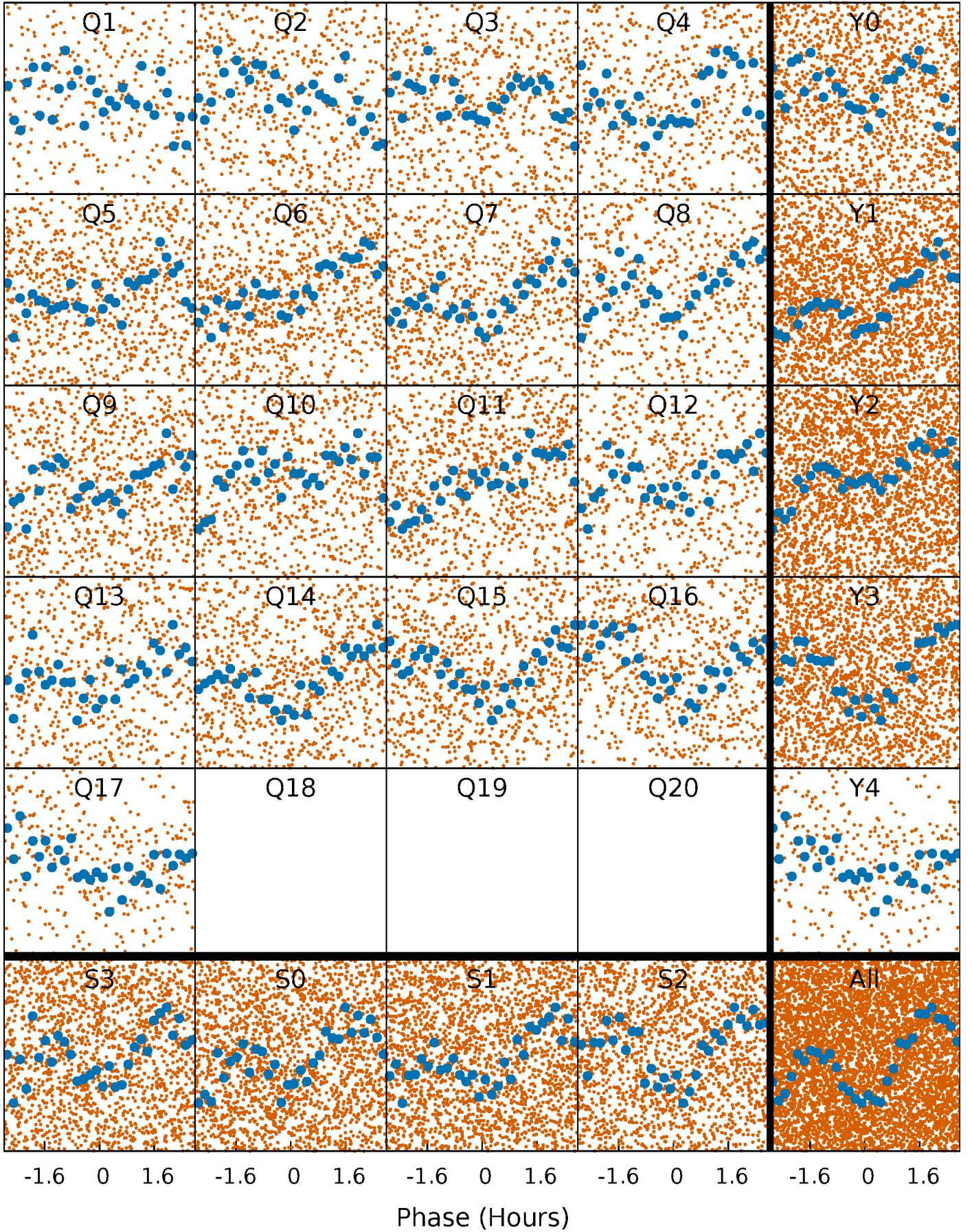


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



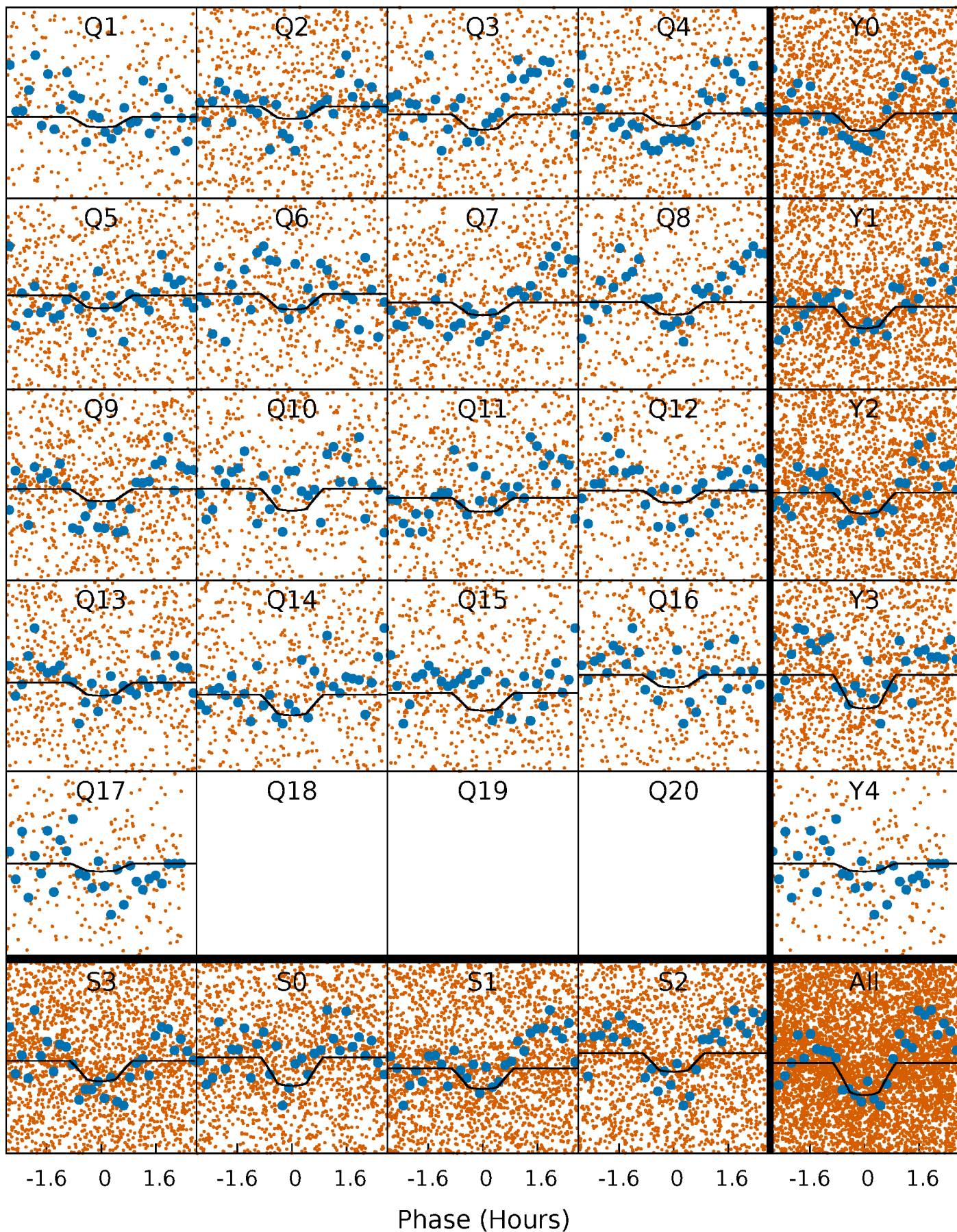
PDC Quarter-Phased Transit Curves

TCE 005561905-02 P= 0.853243 Days $T_0=132.221265$ (BKJD)



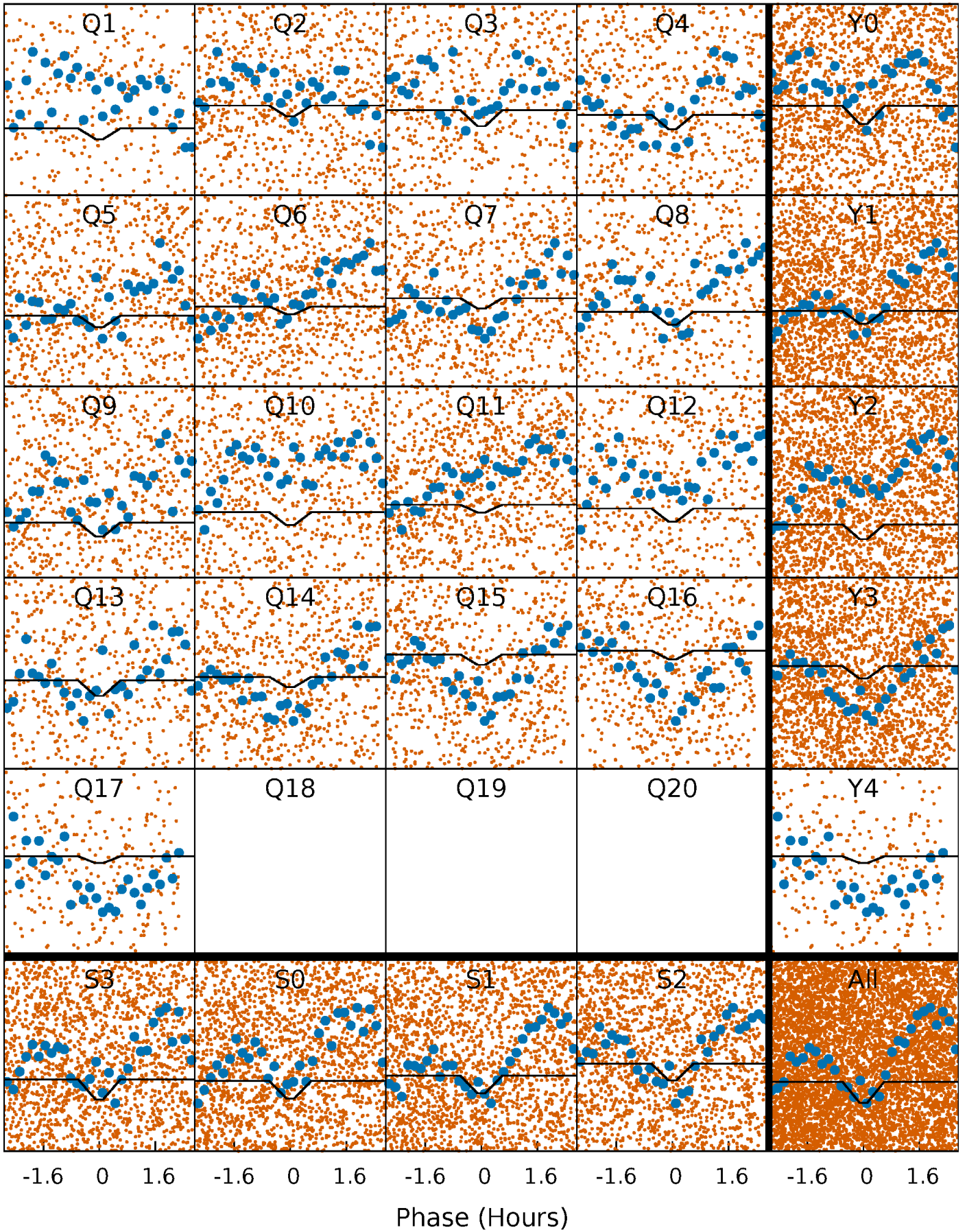
DV Quarter-Phased Transit Curves

TCE 005561905-02 $P = 0.853243$ Days $T_0 = 132.221265$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

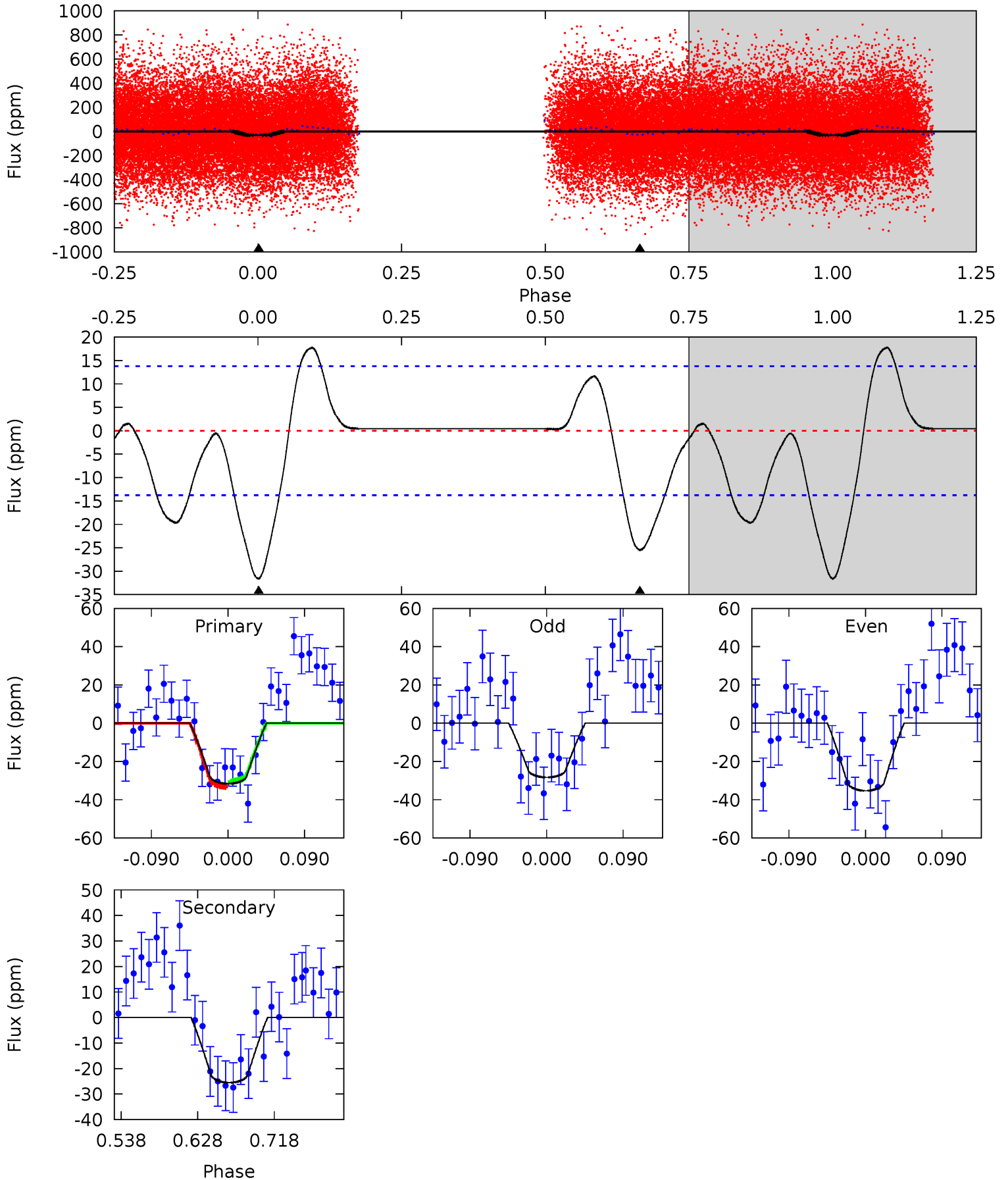
TCE 005561905-02 P= 0.853247 Days $T_0=132.221360$ (BKJD)



DV Model-Shift Uniqueness Test

005561905-02, P = 0.853243 Days, E = 131.368022 Days

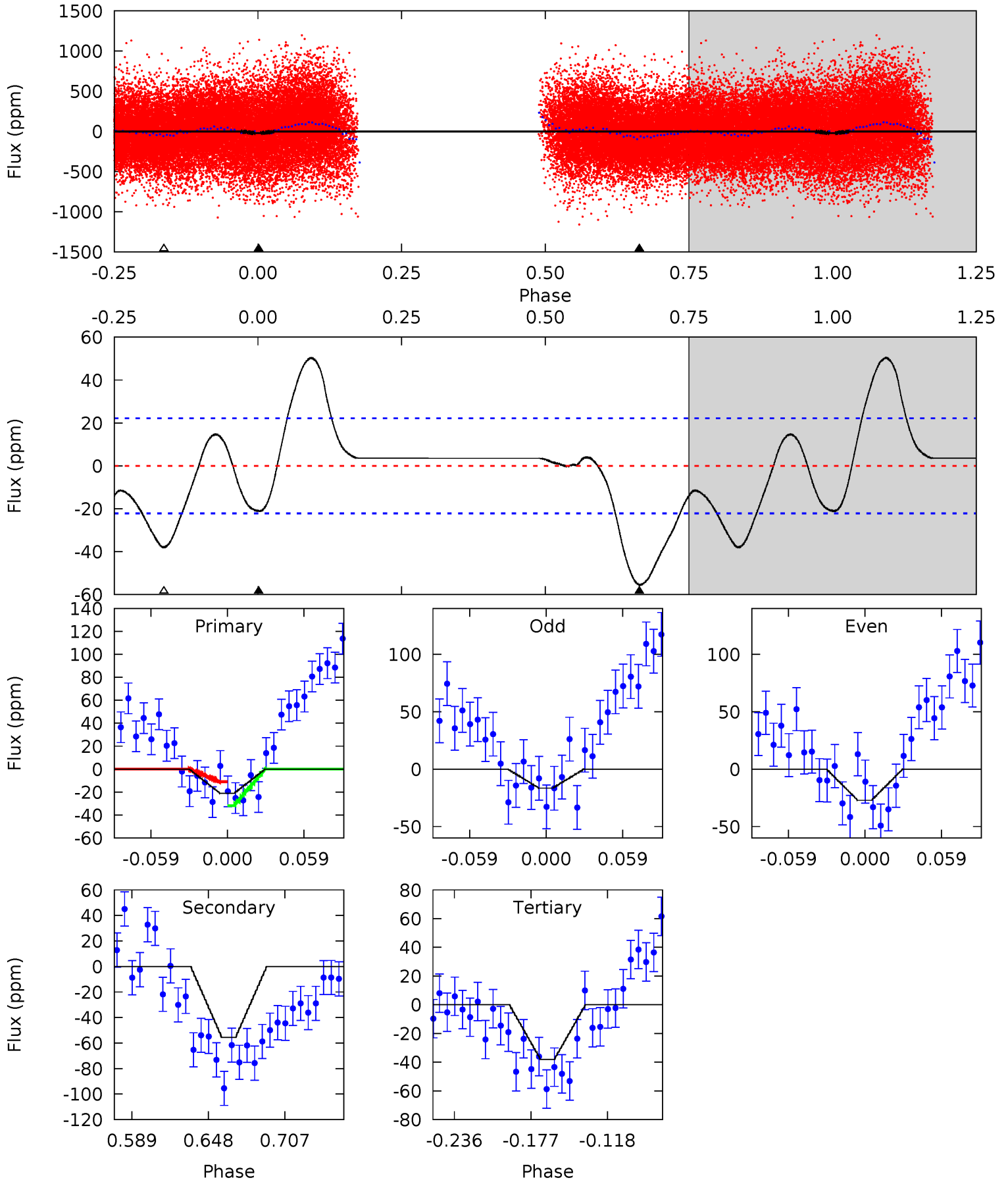
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.5	8.50	0	0	4.59	1.70	3.50	10.5	10.5	8.50	8.50	1.17	0.95	0.36	0.44



Alt Model-Shift Uniqueness Test

005561905-02, P = 0.853247 Days, E = 131.368113 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4.46	11.7	8.02	0	4.67	1.89	5.15	-3.55	4.46	3.70	11.7	1.12	1.05	0.48	2.07



Stellar Parameters For KIC 005561905

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6873^{+189}_{-307}	$4.223^{+0.108}_{-0.201}$	$-0.080^{+0.250}_{-0.350}$	$1.493^{+0.495}_{-0.304}$	$1.365^{+0.204}_{-0.224}$	$0.578^{+0.347}_{-0.289}$
	+3%/-4%	+3%/-5%	+312%/-438%	+33%/-20%	+15%/-16%	+60%/-50%
Source	PHO1	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 005561905-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-26 ± 3	$0.94^{+0.36}_{-0.33}$	3743^{+276}_{-251}	6382^{+1839}_{-974}	$5.900^{+8.444}_{-2.733}$
Alt.	-56 ± 5	$0.95^{+0.36}_{-0.34}$	3759^{+300}_{-261}	7906^{+2782}_{-1292}	13^{+18}_{-6}

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

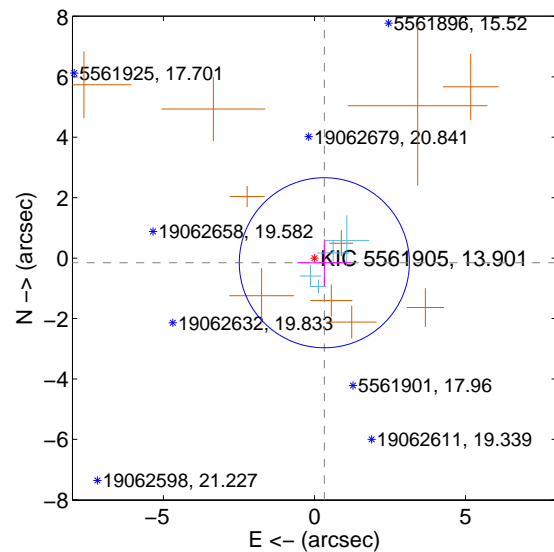
Supplemental centroid analysis for 005561905-02. Kepler magnitude: 13.90. Transit SNR 6.46

There are 4 quarters with good PRF difference image offsets

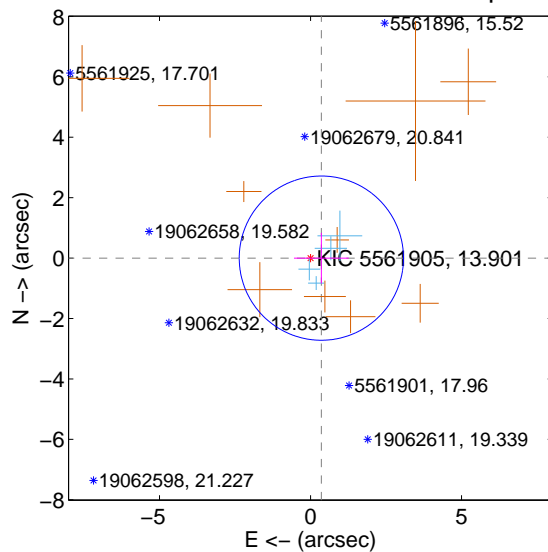
The direct PRF centroid is offset from the target star catalog position by about 0.24 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.361 ± 0.938	0.39	-0.327 ± 0.902	-0.154 ± 0.777
PRF-fit source offset from KIC position	0.359 ± 0.906	0.40	-0.359 ± 0.905	-0.002 ± 0.838
photometric centroid source offset	1.18 ± 1.83	0.64	1.04 ± 1.86	-0.55 ± 1.75

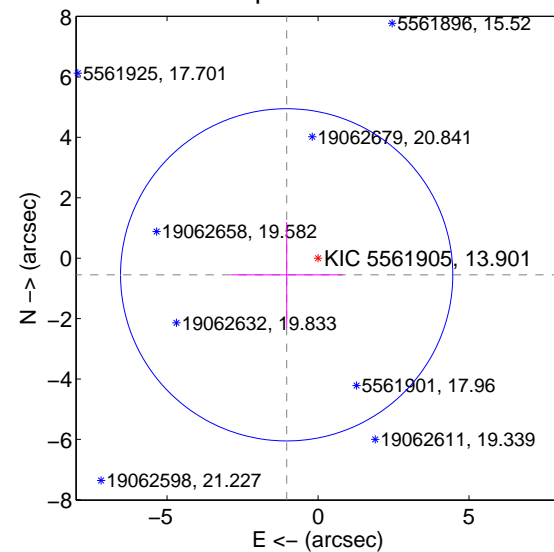
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

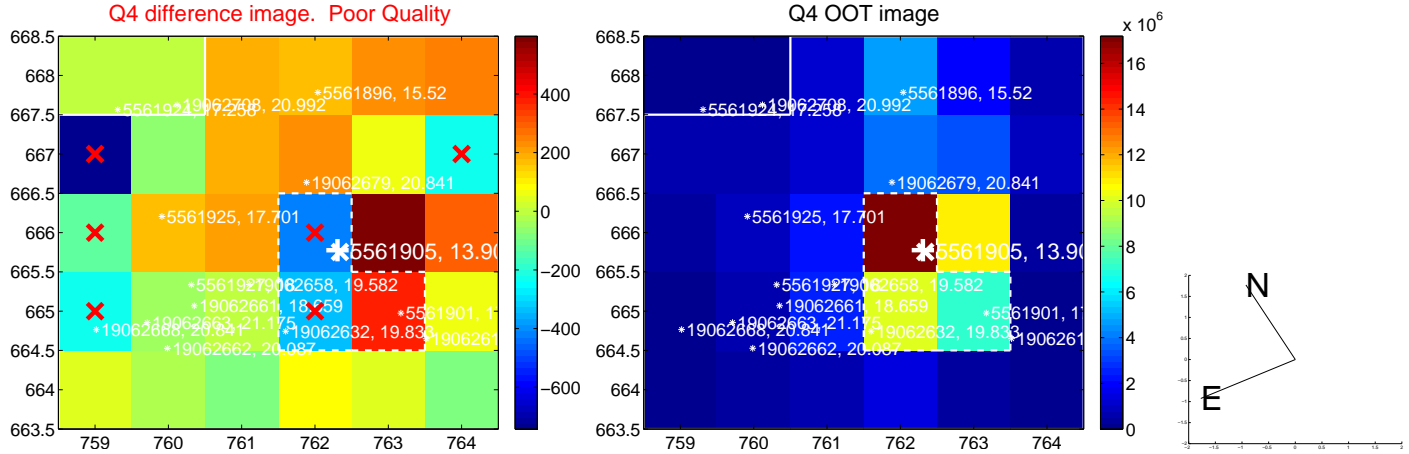
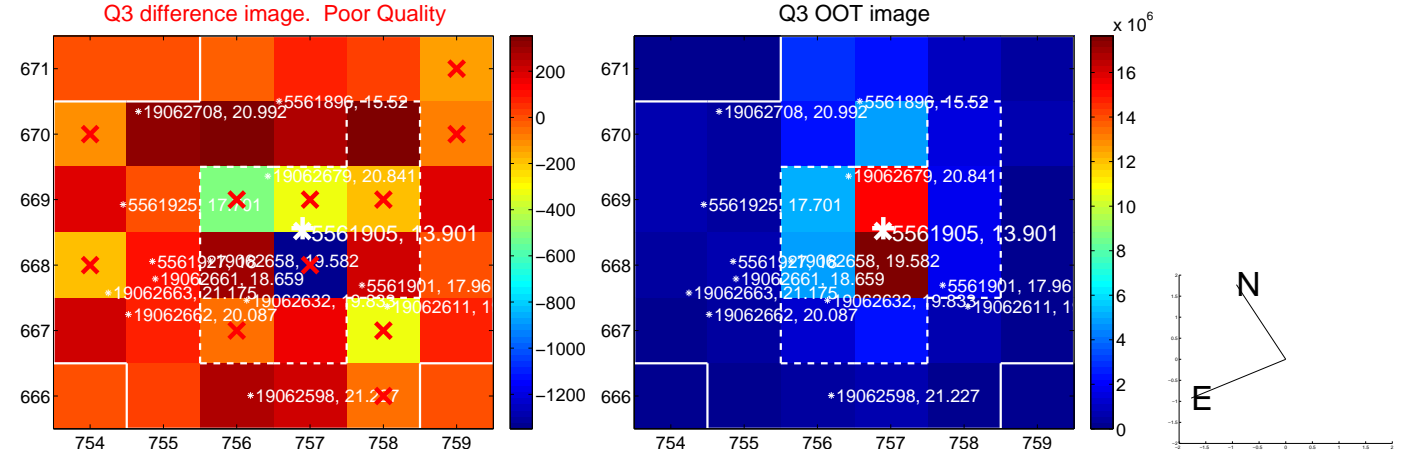
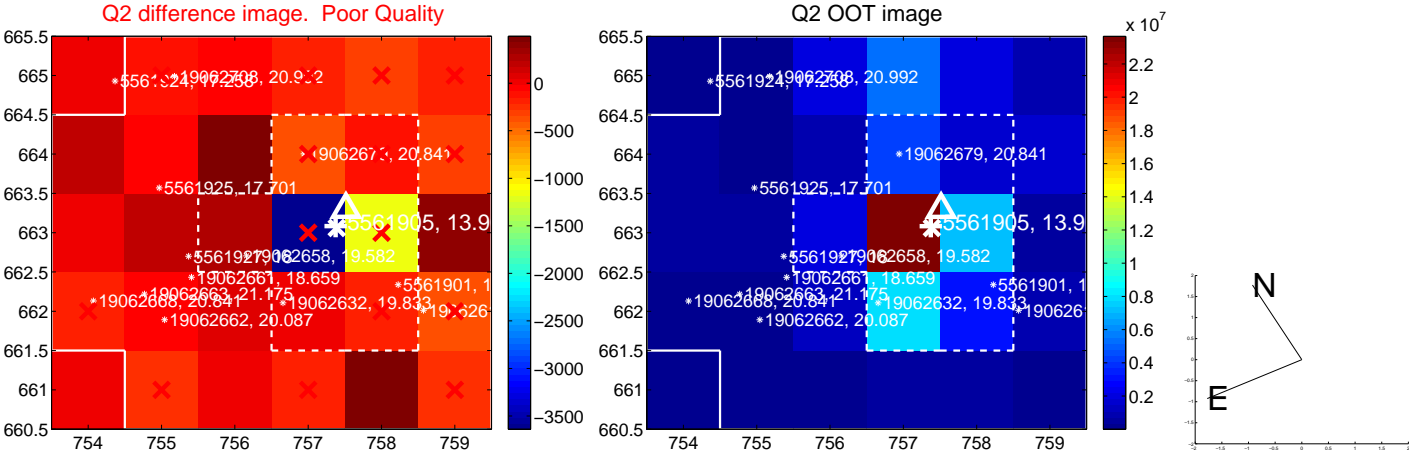
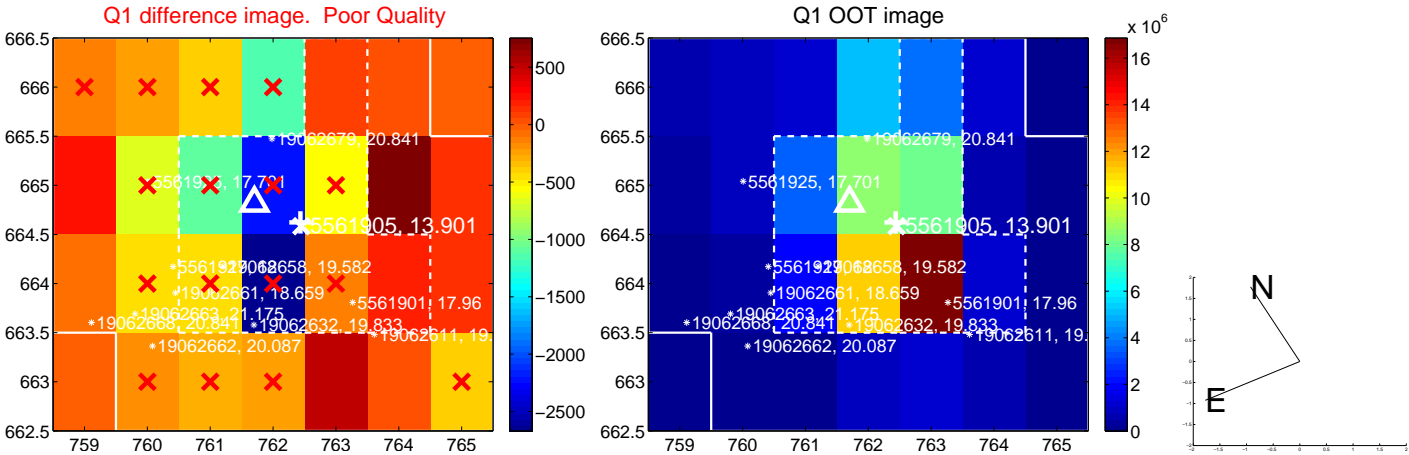


offset from photometric centroids

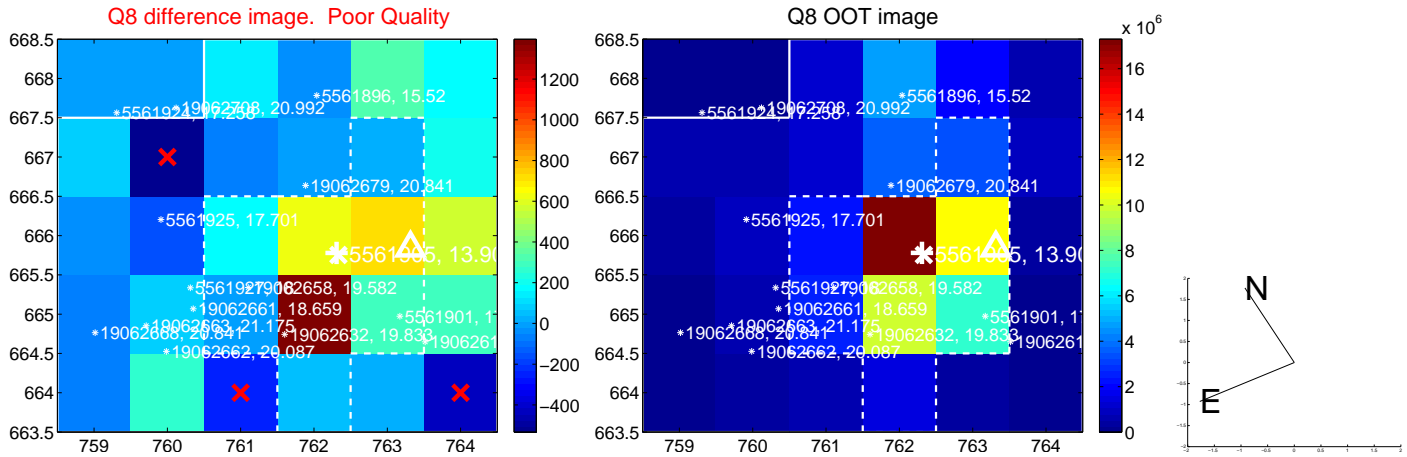
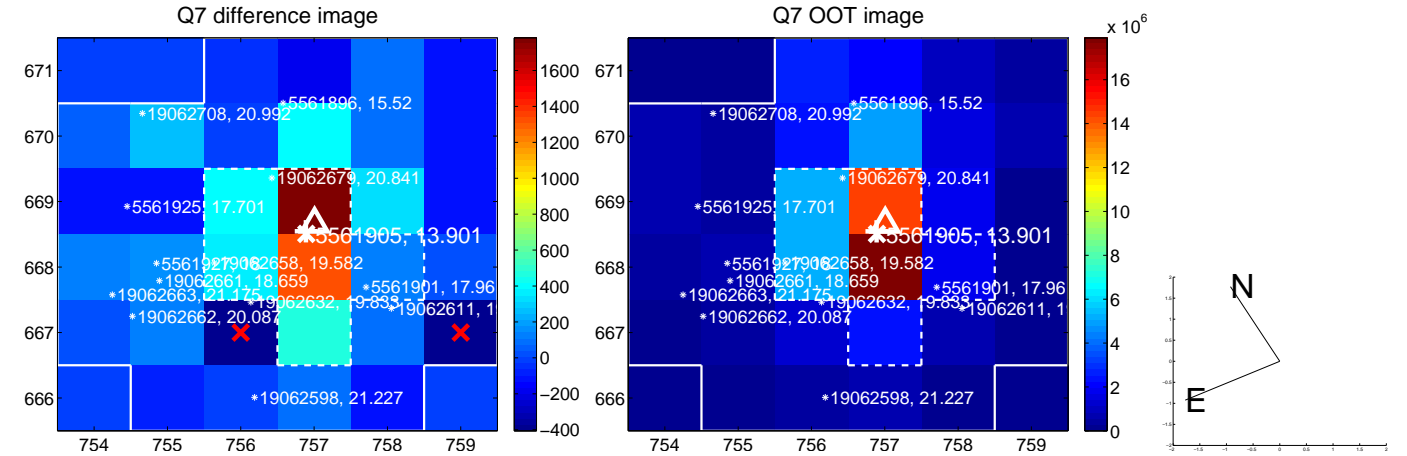
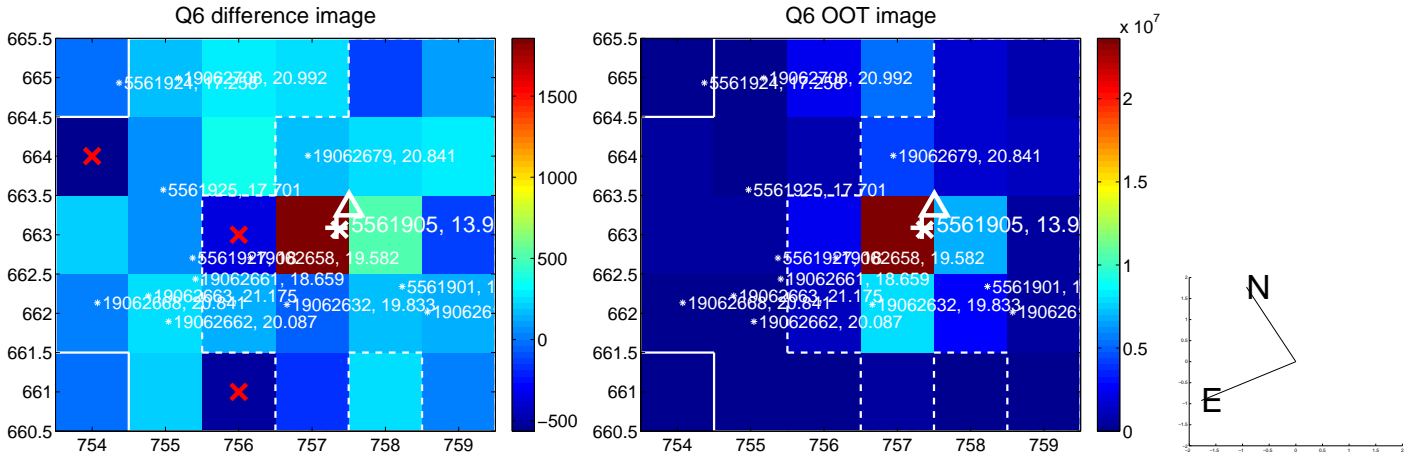
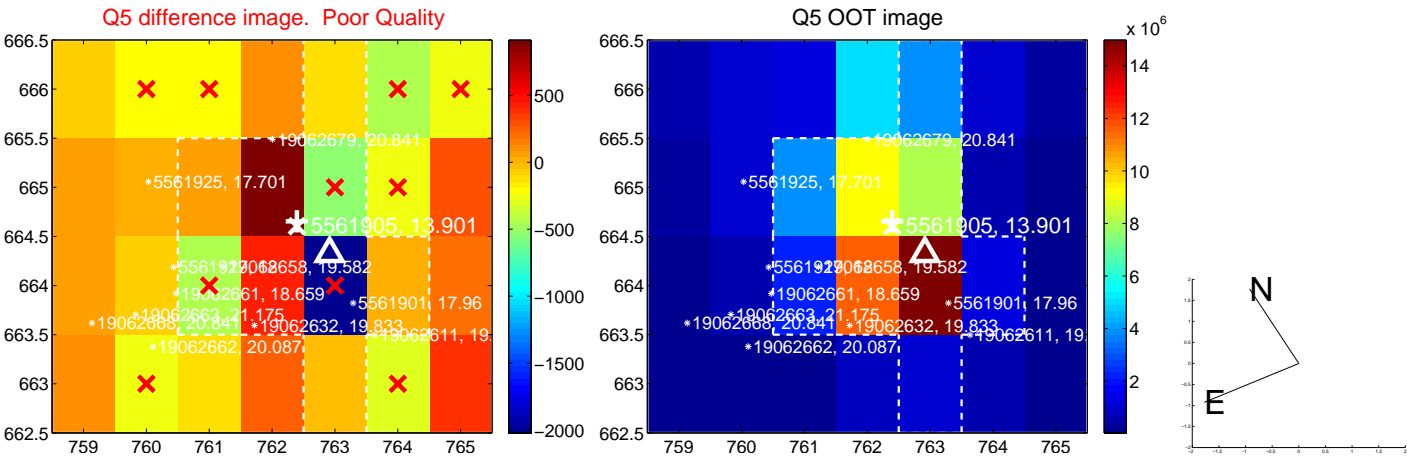


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ . Red *: target star. Blue *: Other stars. Text next to a star gives its KIC ID and kepmag. KIC IDs > 15,000,000 are from the UKIRT catalog.

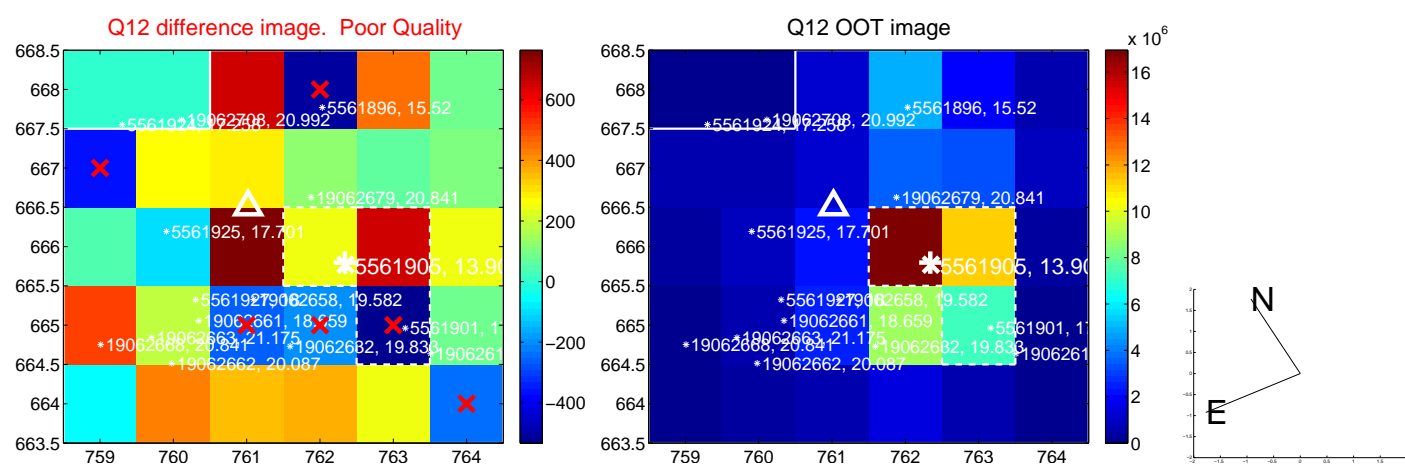
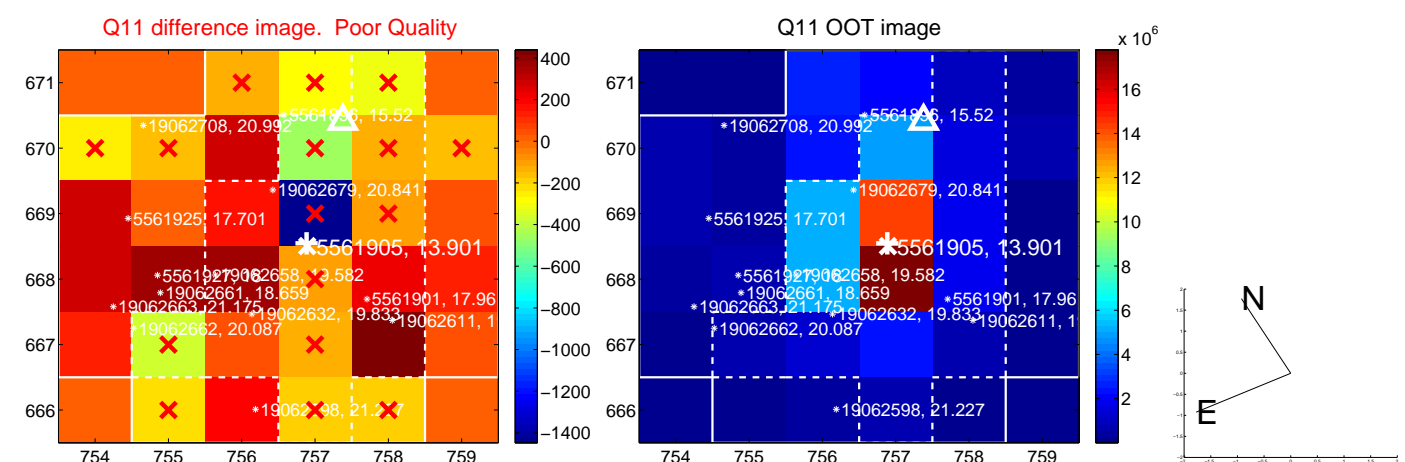
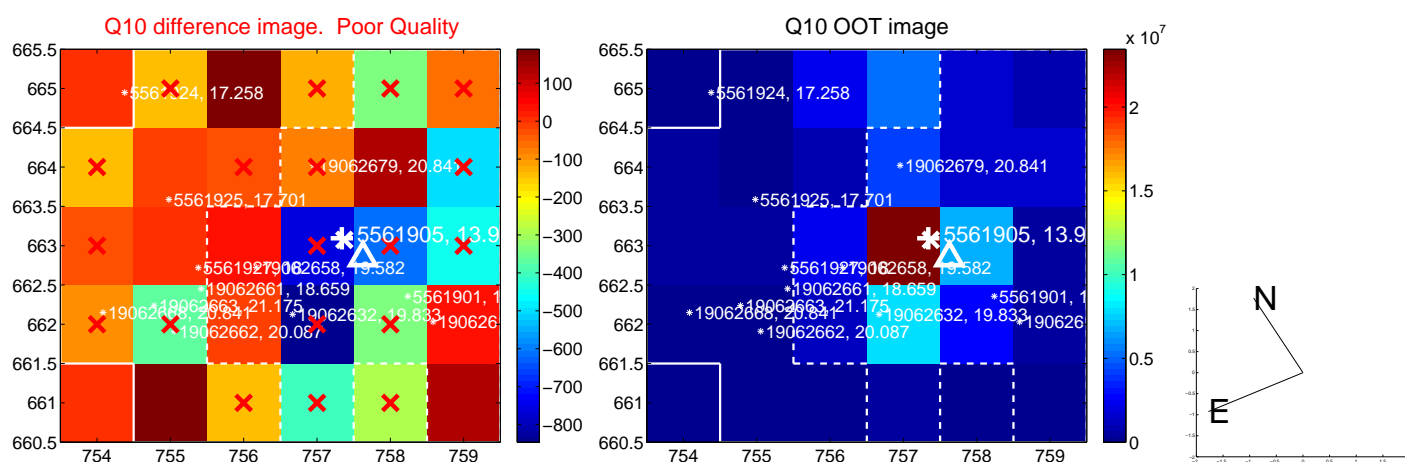
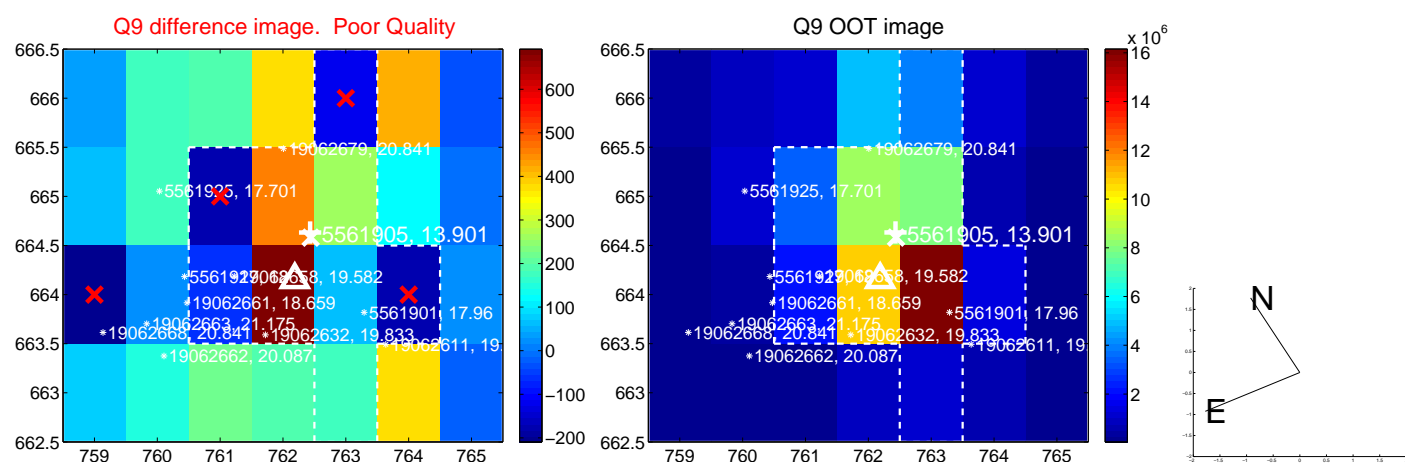
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



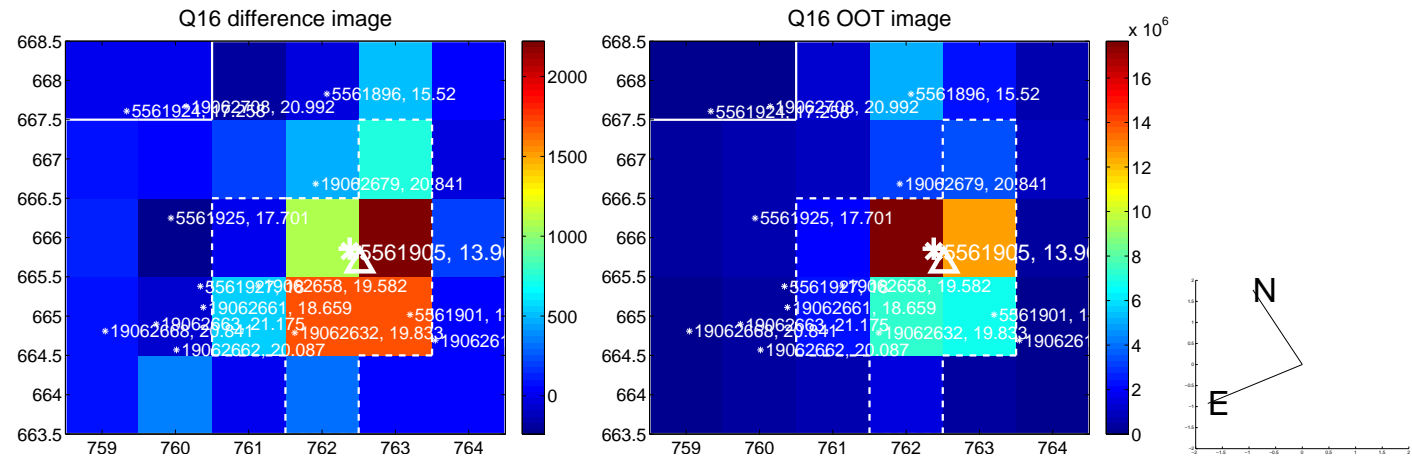
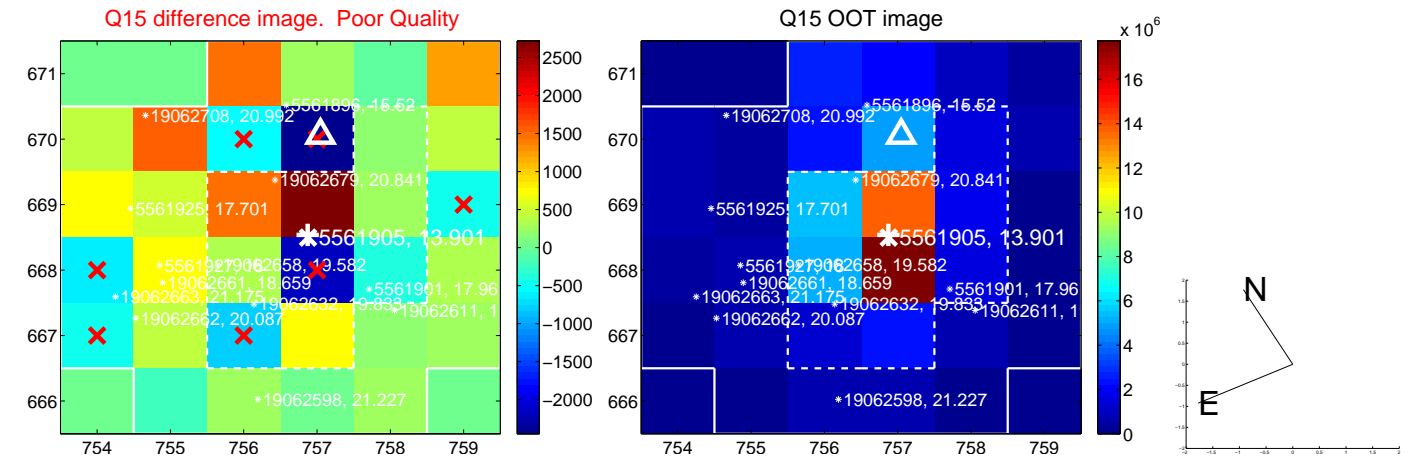
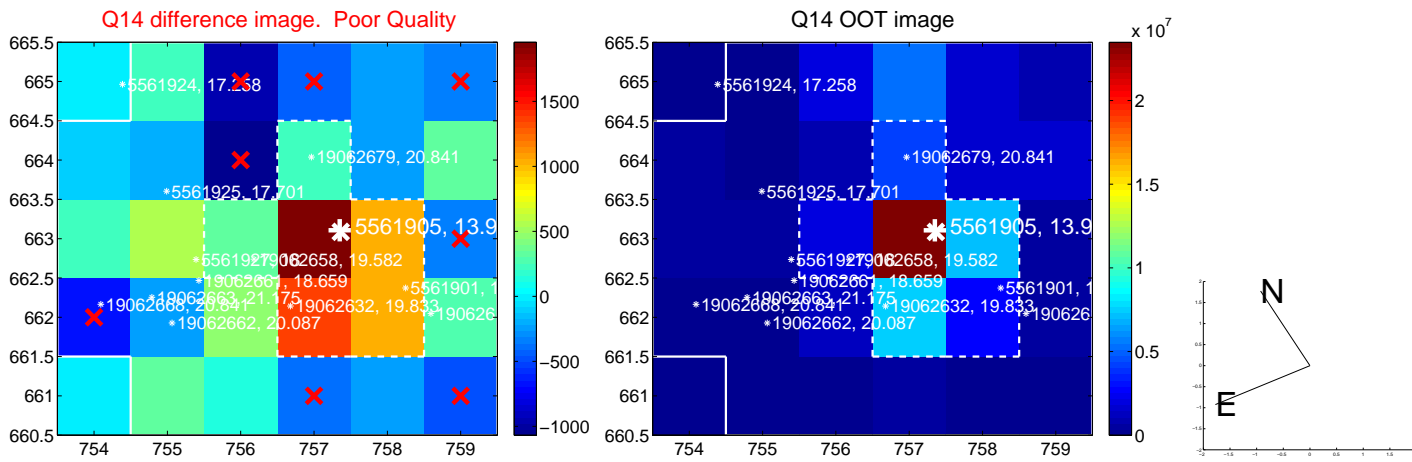
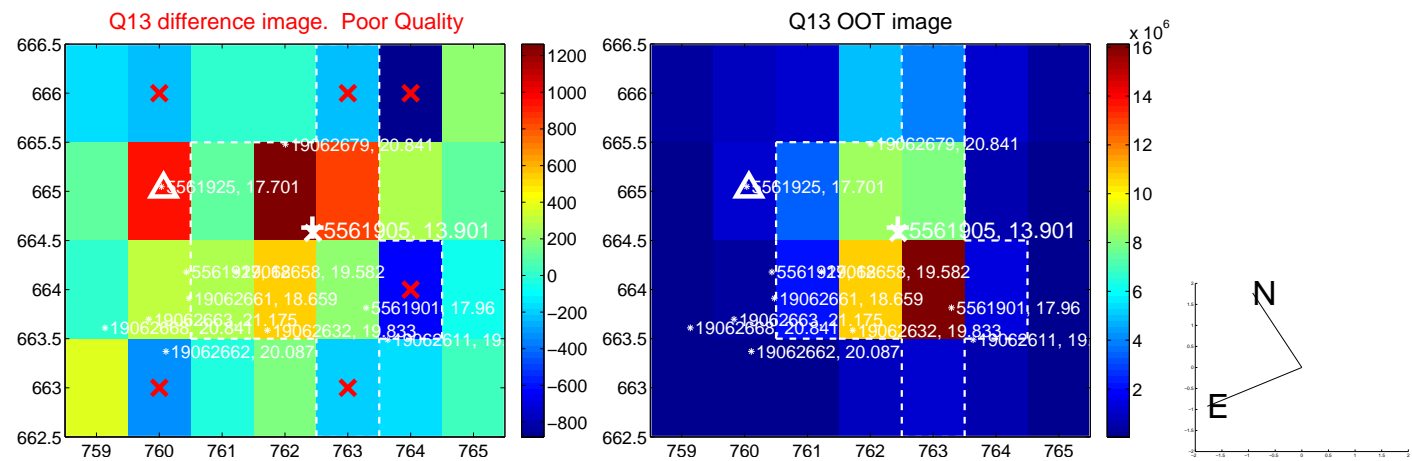
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



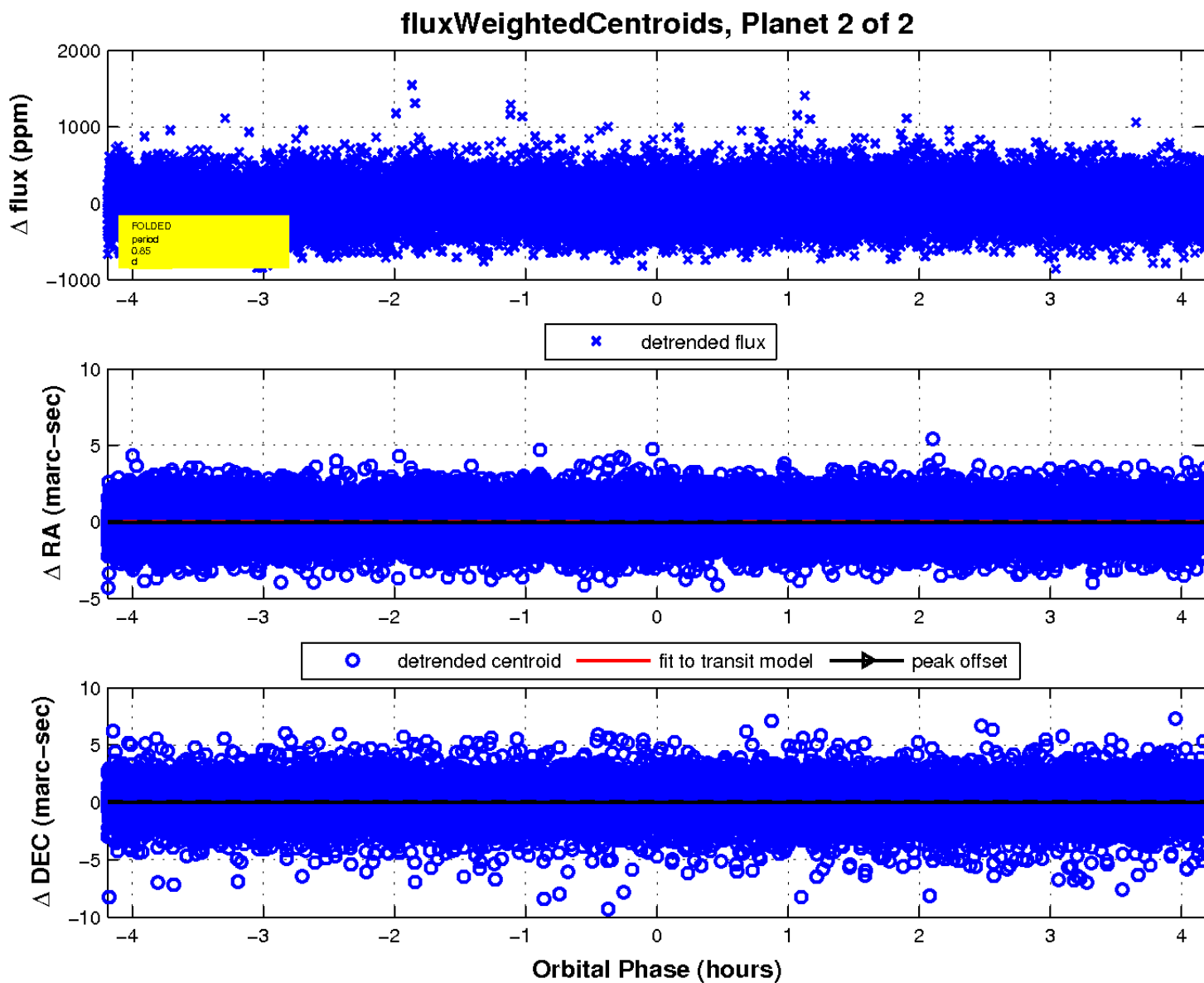
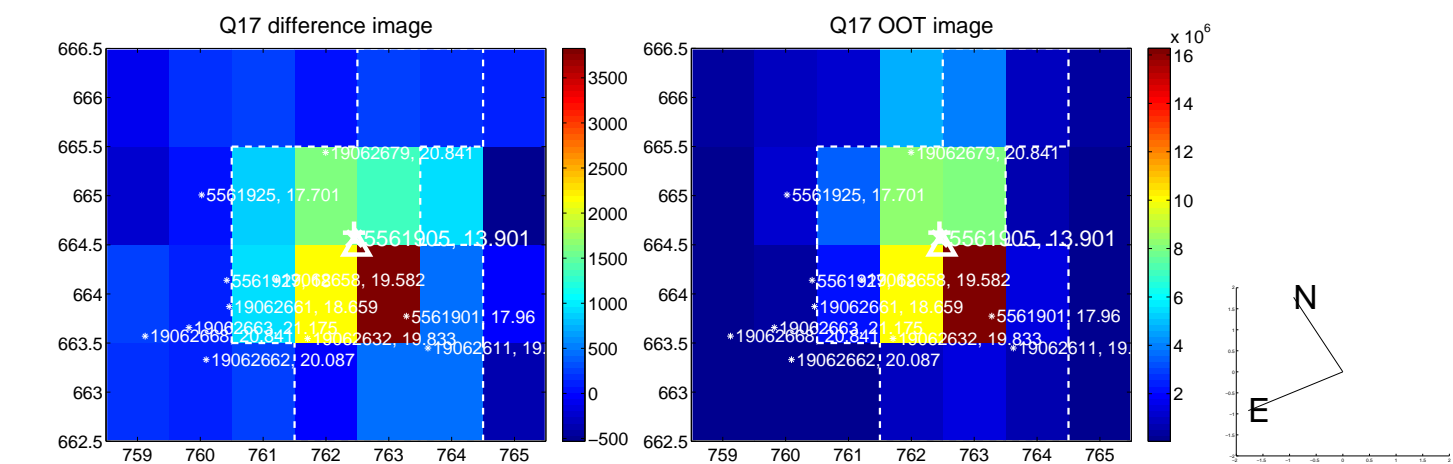
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

