

KIC 005546277

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})
005546277-01	OBS	3797.01	7.500257	137.388538	216.8	2.854	33.8	23.1	0.92	5849	2.48	156.07
005546277-02	OBS	No	7.500309	133.782105	156.9	2.334	24.9	19.2	0.92	5849	1.37	156.07

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005546277-01	OBS	FP	0.00	0	1	1	0	MOD_SEC_DV—MOD_SEC_ALT—HAS_SEC_TCE—CENT_RESOLVED_OFFSET
005546277-02	OBS	FP	0.00	1	1	1	0	IS_SEC_TCE—CENT_RESOLVED_OFFSET

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

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

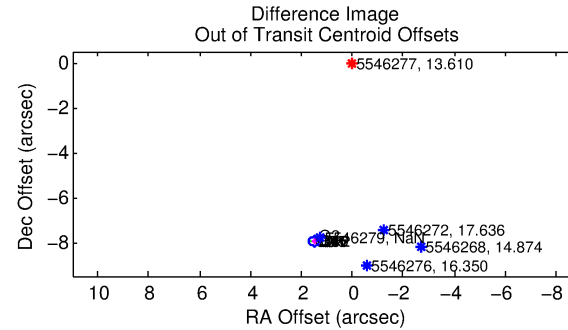
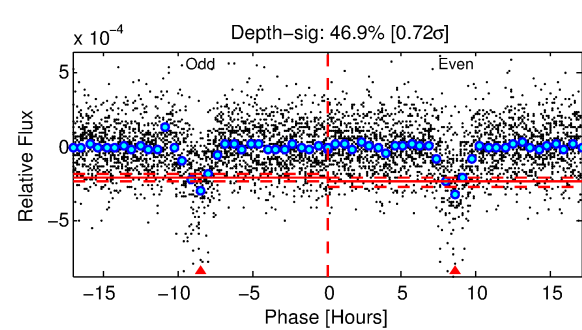
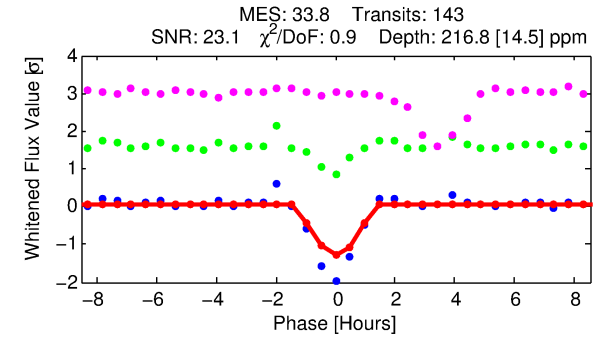
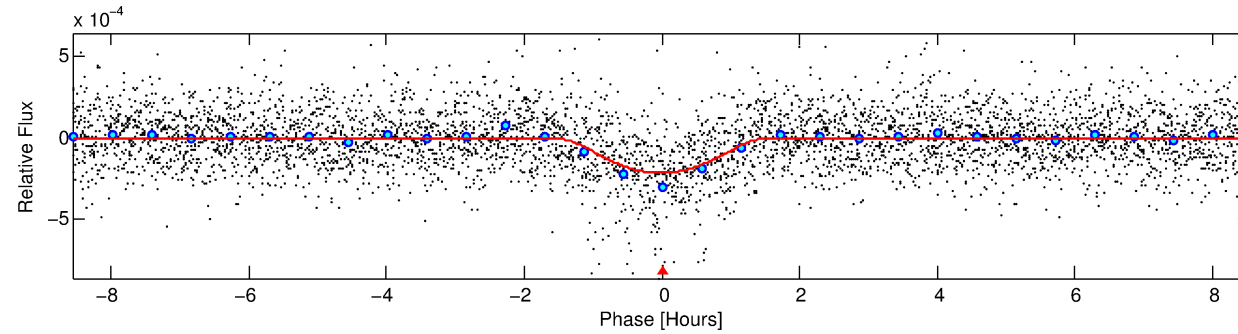
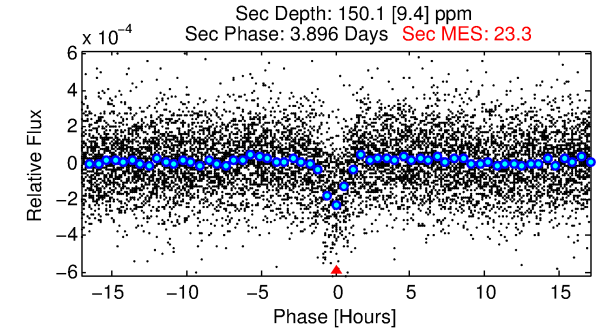
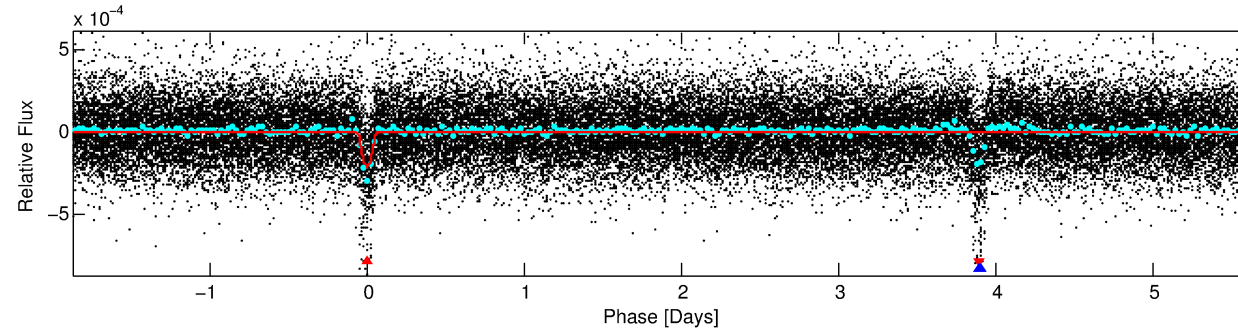
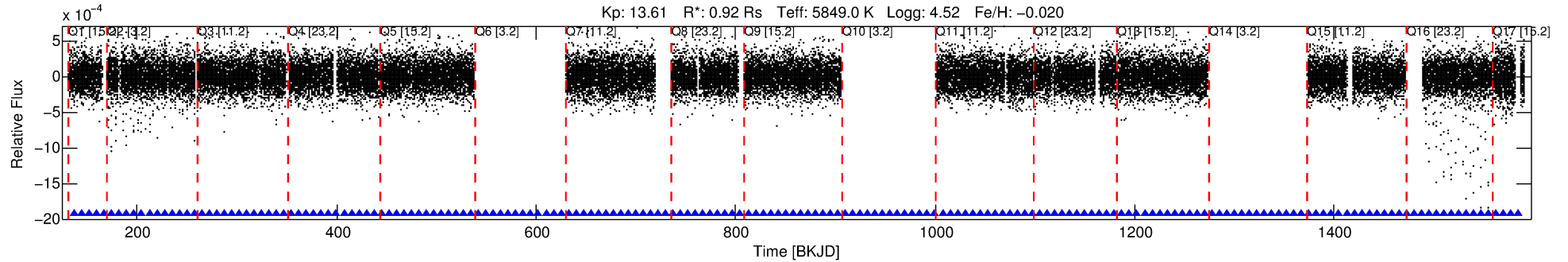
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005546277-01

No Significant Match Found

DV One-Page Summary

KIC: 5546277 Candidate: 1 of 2 Period: 7.500 d
KOI: K03797.01 Corr: 0.895



DV Fit Results:

Period = 7.50026 [0.00003] d
Epoch = 137.3885 [0.0027] BKJD
Rp/R* = 0.0247 [0.0301]
a/R* = 5.00 [1.85]
b = 1.00 [0.05]
Seff = 156.07 [60.30]
Teq = 901 [87] K
Rp = 2.48 [3.11] Re
a = 0.0753 [0.0191] AU
Ag = 76.43 [188.25] [0.40σ]
Teff = 4120 [2512] K [1.28σ]

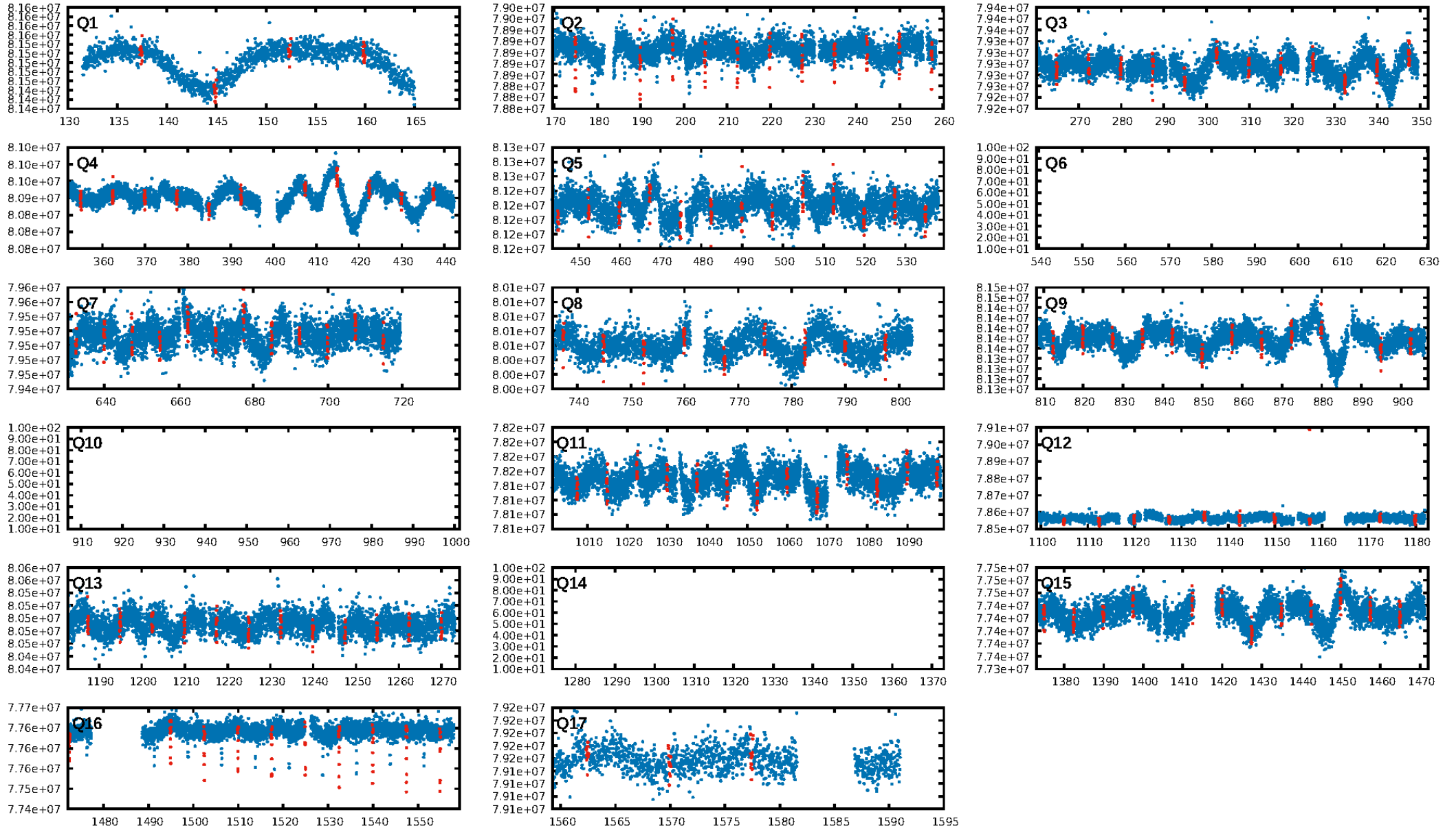
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.0% [0.00σ]
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 5.97e-243
RollingBand-fgt: 1.00 [136/136]
GhostDiagnostic-chr: -0.467
Centroid-sig: 0.0%
Centroid-so: 84.462 arcsec [177.93σ]
OotOffset-rm: 8.098 arcsec [112.73σ]
KicOffset-rm: 8.047 arcsec [109.57σ]
OotOffset-st: 1/4/4/0 [9]
KicOffset-st: 1/4/4/0 [9]
DiffImageQuality-fgm: 1.00 [9/9]
DiffImageOverlap-fno: 1.00 [14/14]

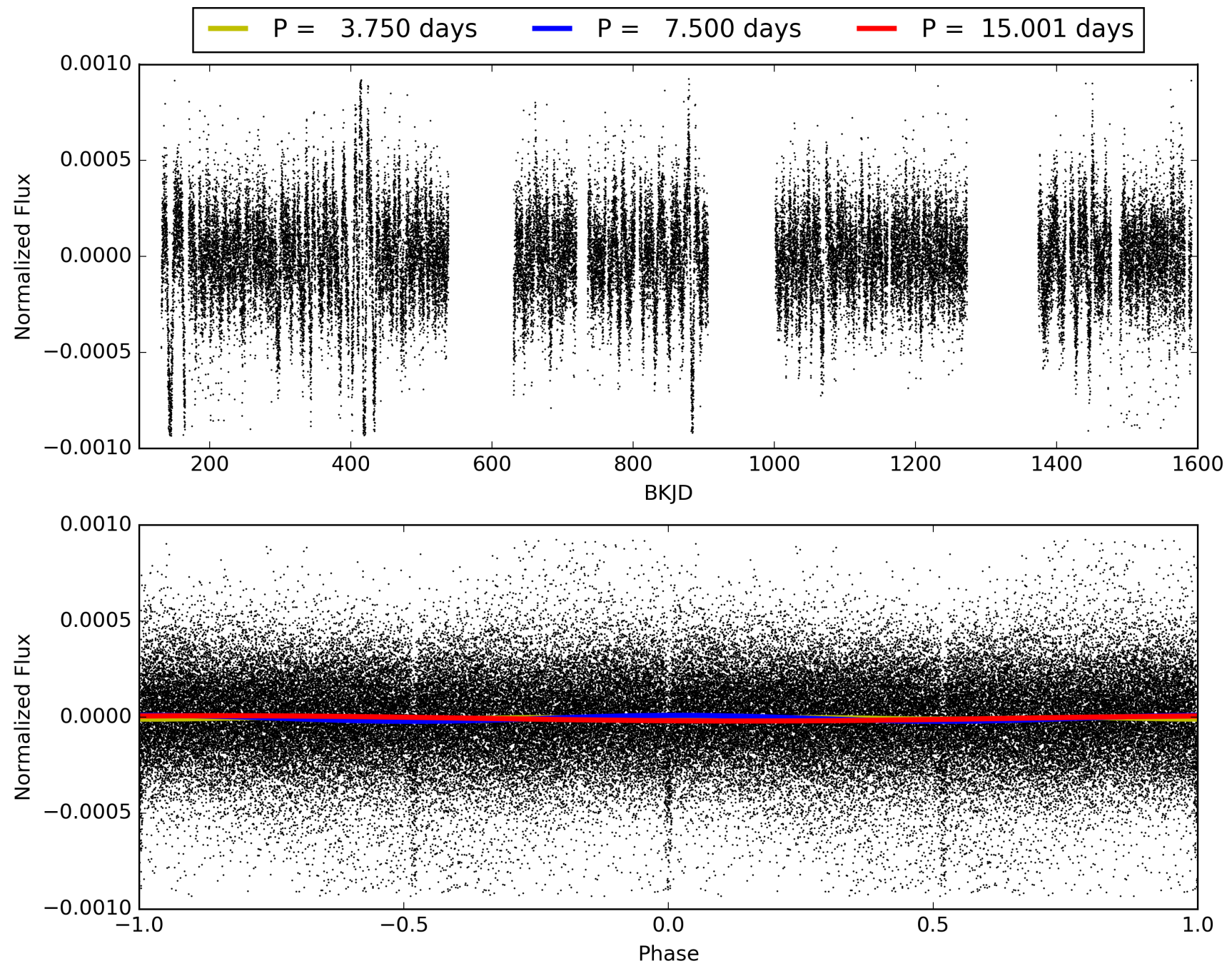
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This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 005546277-01, PDC Light Curves

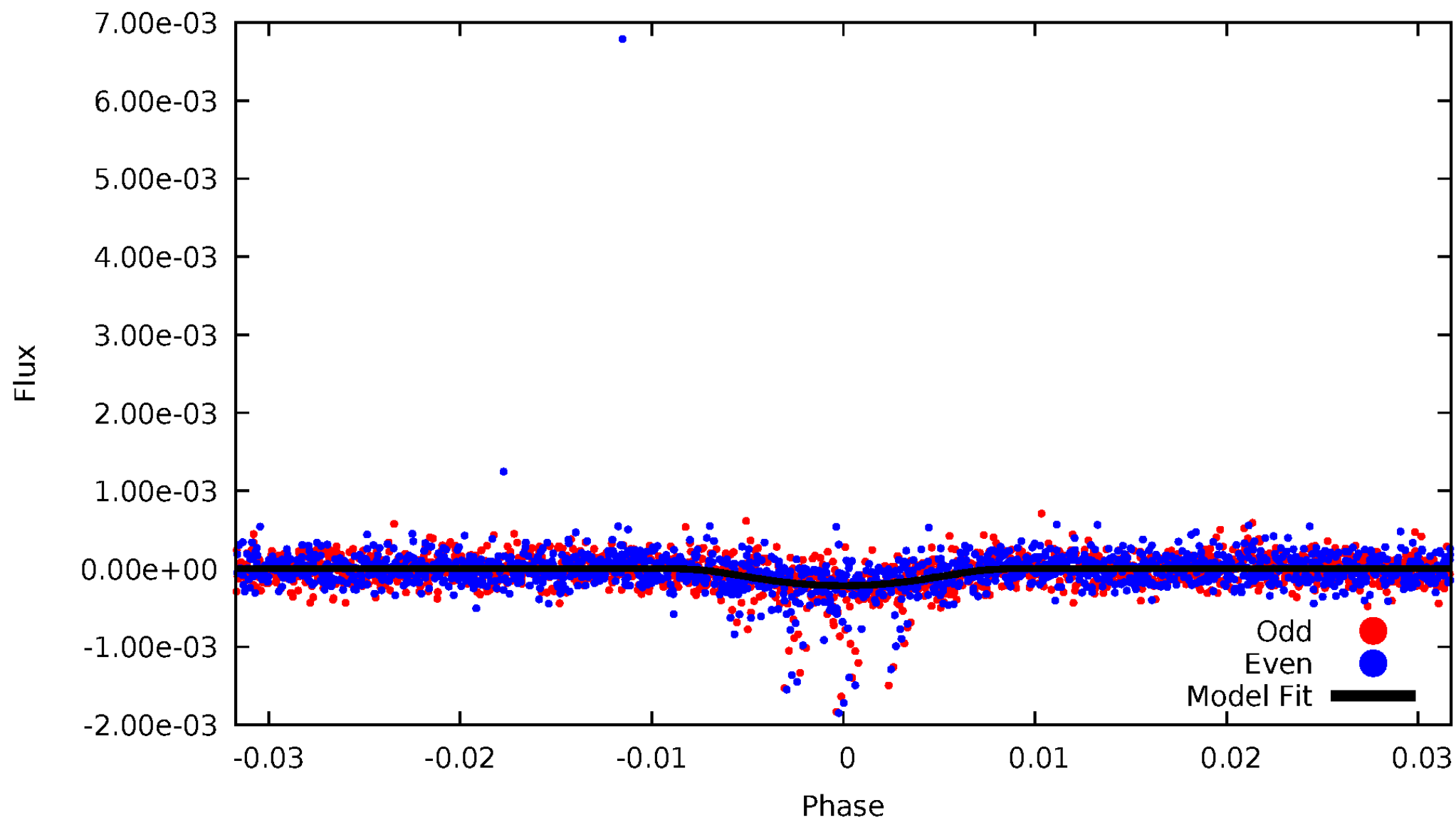


TCE 005546277-01



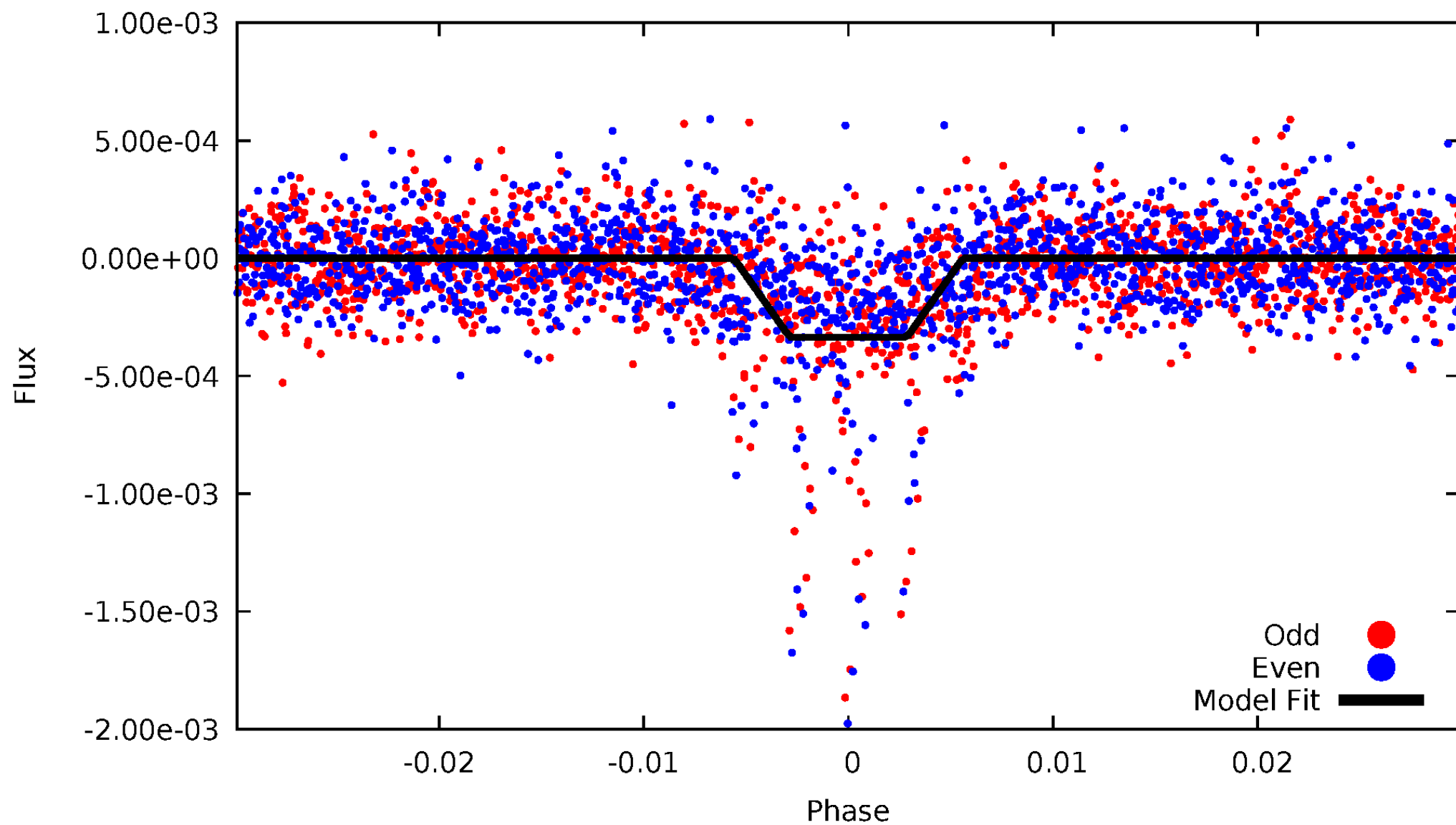
DV Odd/Even

TCE 005546277-01

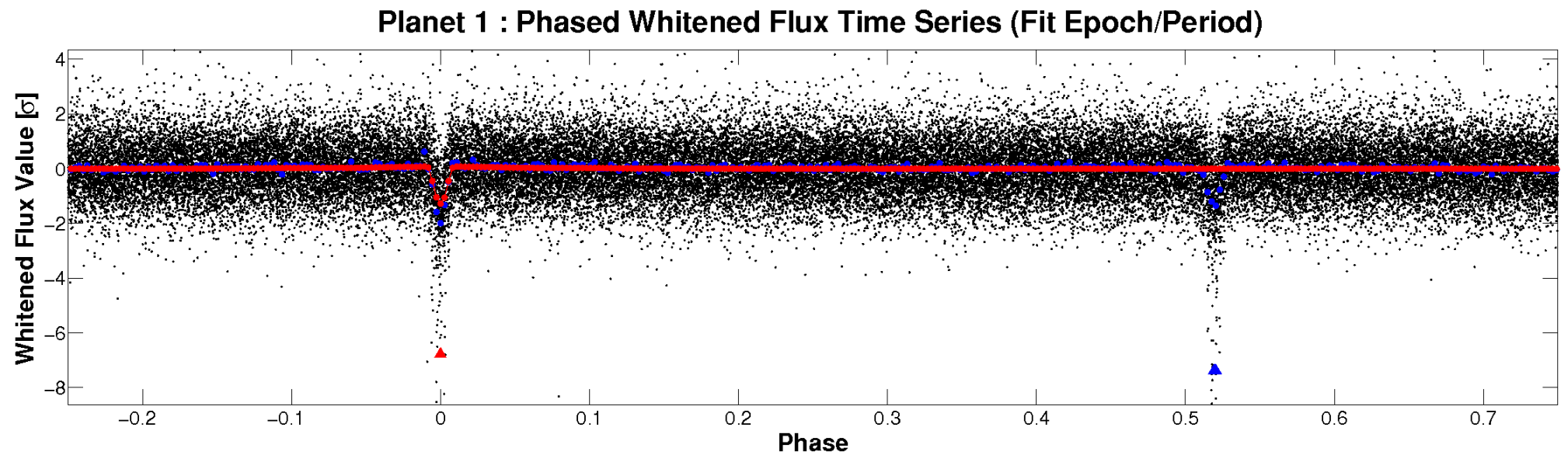
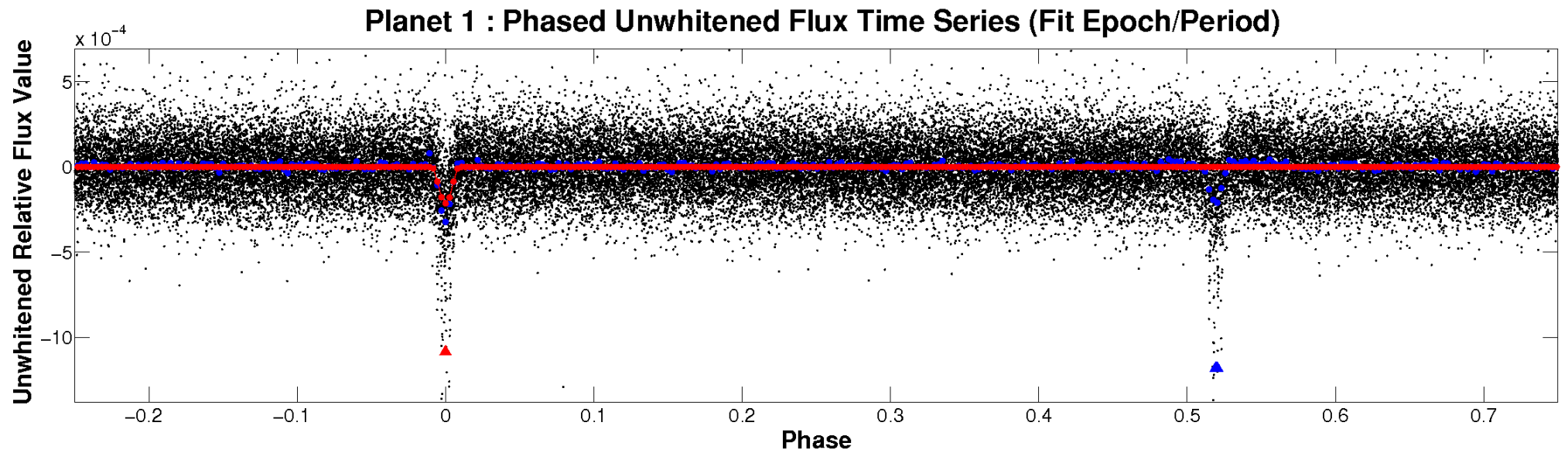


ALT Odd/Even

TCE 005546277-01



Non-Whitened Vs. Whitened Light Curve



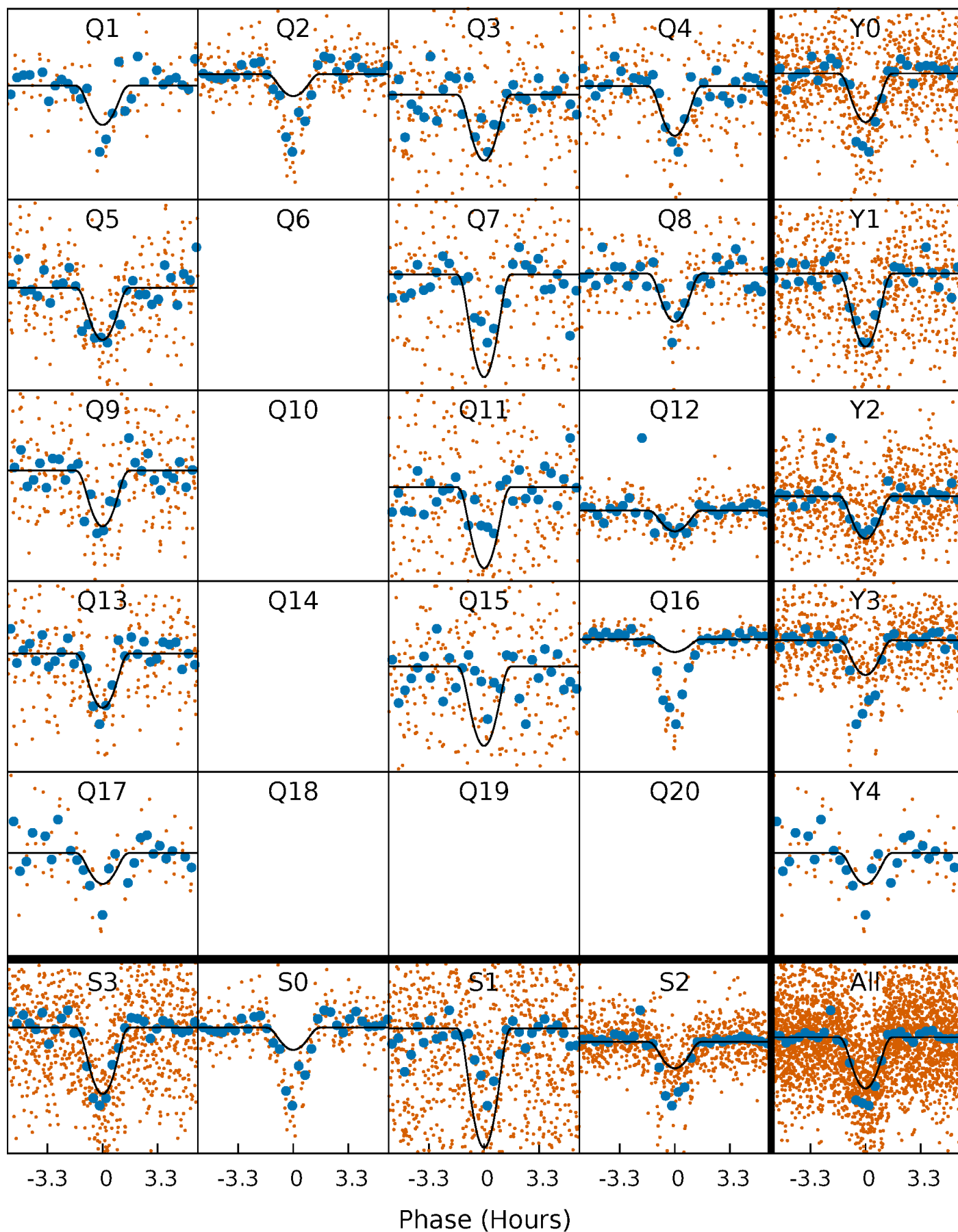
PDC Quarter-Phased Transit Curves

TCE 005546277-01 P= 7.500257 Days $T_0=137.388538$ (BKJD)



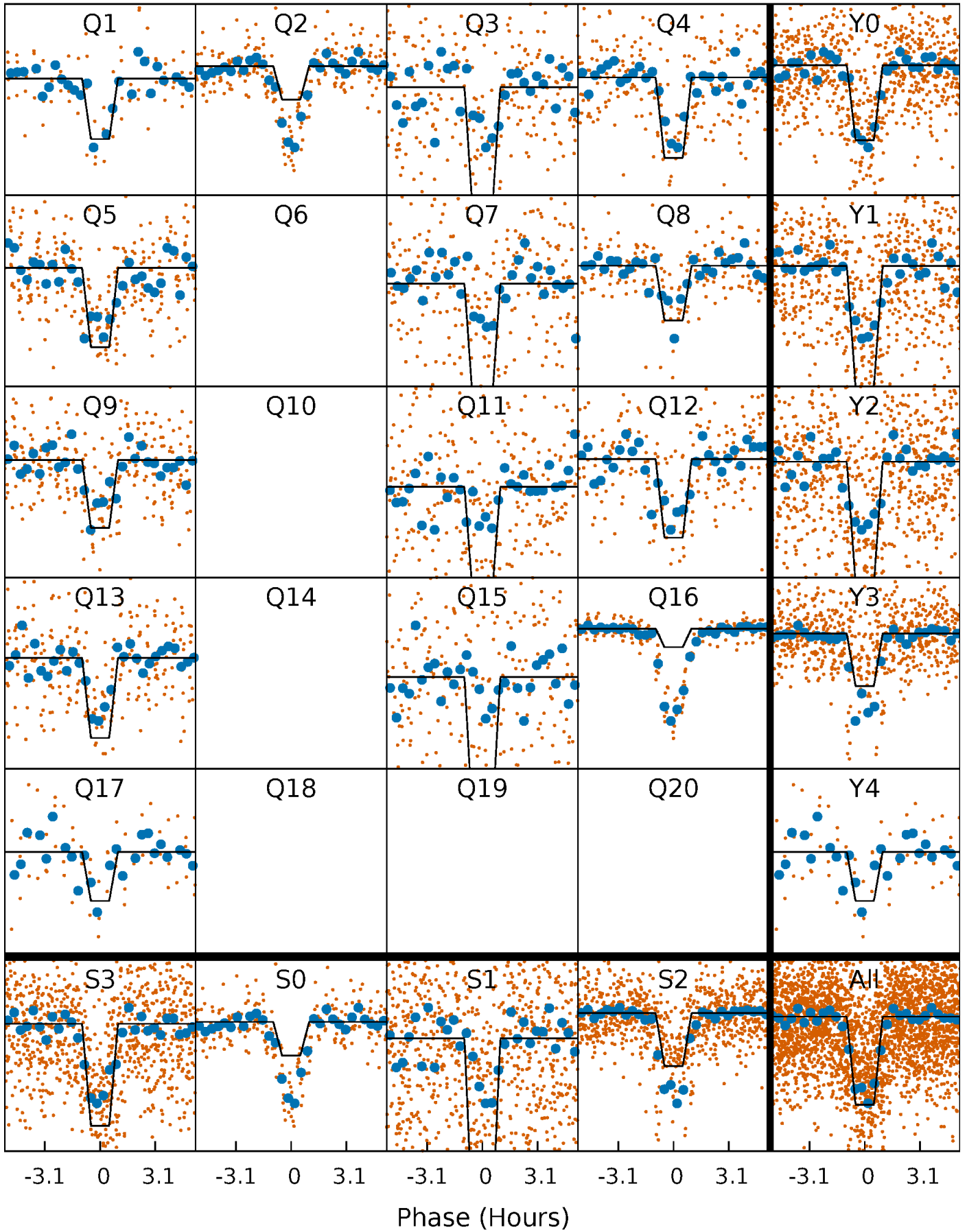
DV Quarter-Phased Transit Curves

TCE 005546277-01 P= 7.500257 Days $T_0=137.388538$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

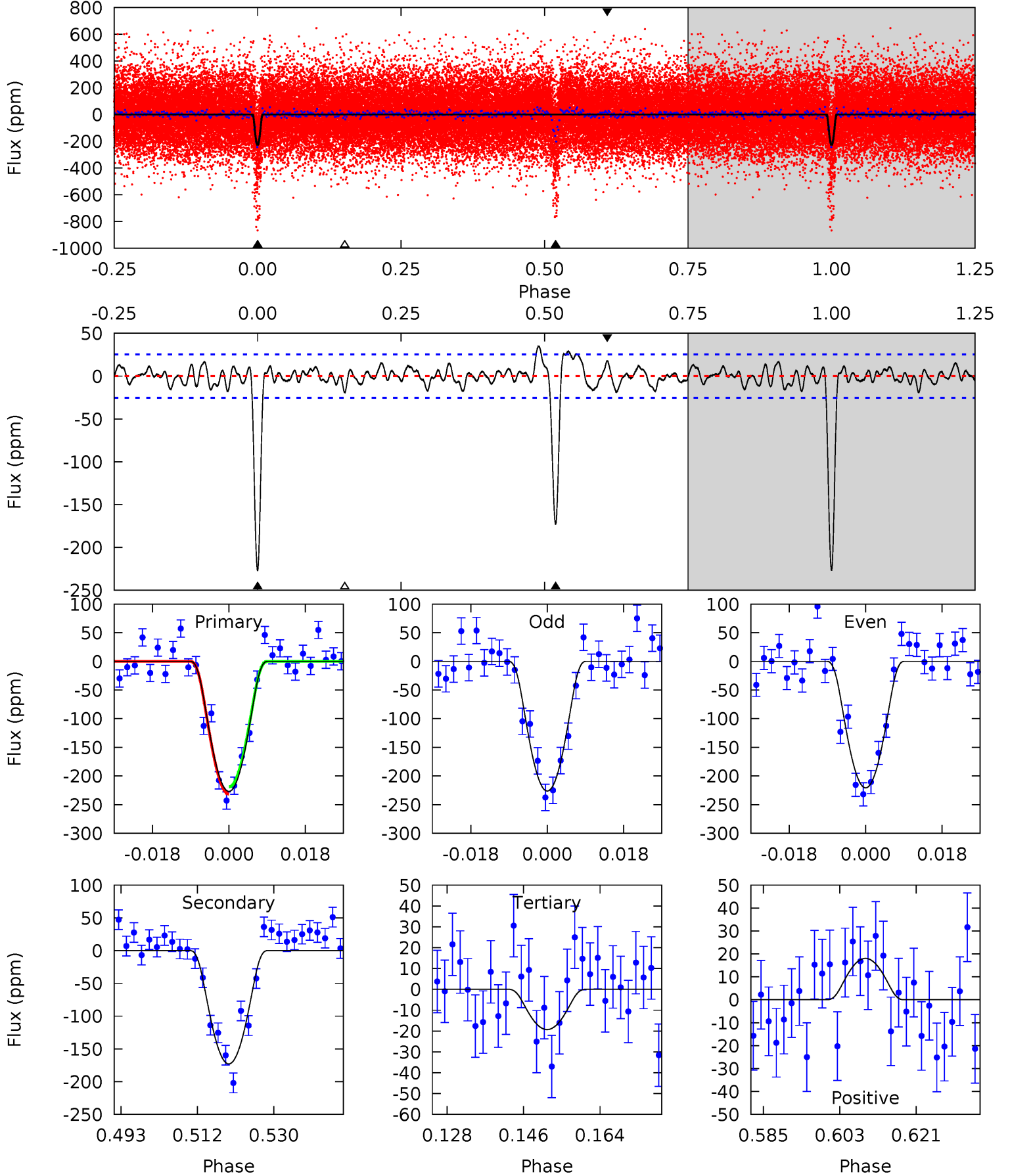
TCE 005546277-01 P= 7.500258 Days $T_0=137.386749$ (BKJD)



DV Model-Shift Uniqueness Test

005546277-01, P = 7.500257 Days, E = 129.888281 Days

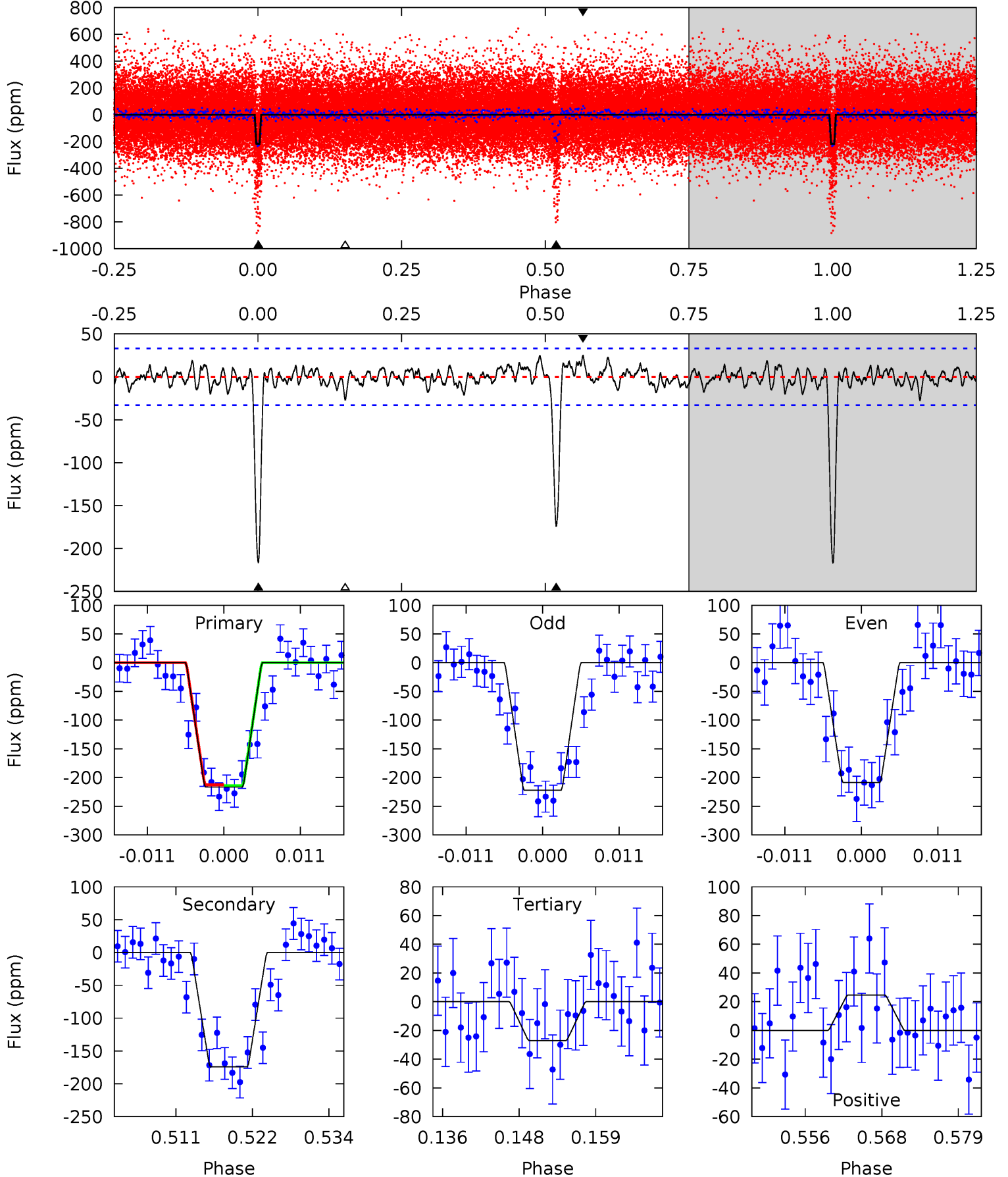
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
43.9	33.5	3.73	3.49	4.91	2.36	1.76	40.2	40.4	29.7	30.0	0.54	1.37	0.13	1.19



Alt Model-Shift Uniqueness Test

005546277-01, P = 7.500258 Days, E = 129.886491 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
32.7	26.3	4.08	3.73	5.00	2.53	1.25	28.7	29.0	22.2	22.6	1.02	1.39	0.10	0.11



Stellar Parameters For KIC 005546277

	$T_{\text{eff}} (K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5849^{+140}_{-175}	$4.517^{+0.037}_{-0.200}$	$-0.020^{+0.250}_{-0.300}$	$0.919^{+0.278}_{-0.087}$	$1.014^{+0.116}_{-0.127}$	$1.839^{+0.371}_{-0.957}$
	+2%/-3%	+1%/-4%	+1250%/-1500%	+30%/-9%	+11%/-13%	+20%/-52%
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 005546277-01 / KOI 3797.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-173 ± 5	$3.48^{+2.98}_{-2.23}$	1289^{+87}_{-56}	4018^{+2206}_{-741}	43^{+286}_{-29}
Alt.	-174 ± 7	$3.12^{+2.69}_{-2.07}$	1291^{+90}_{-59}	4166^{+2709}_{-789}	55^{+444}_{-39}

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

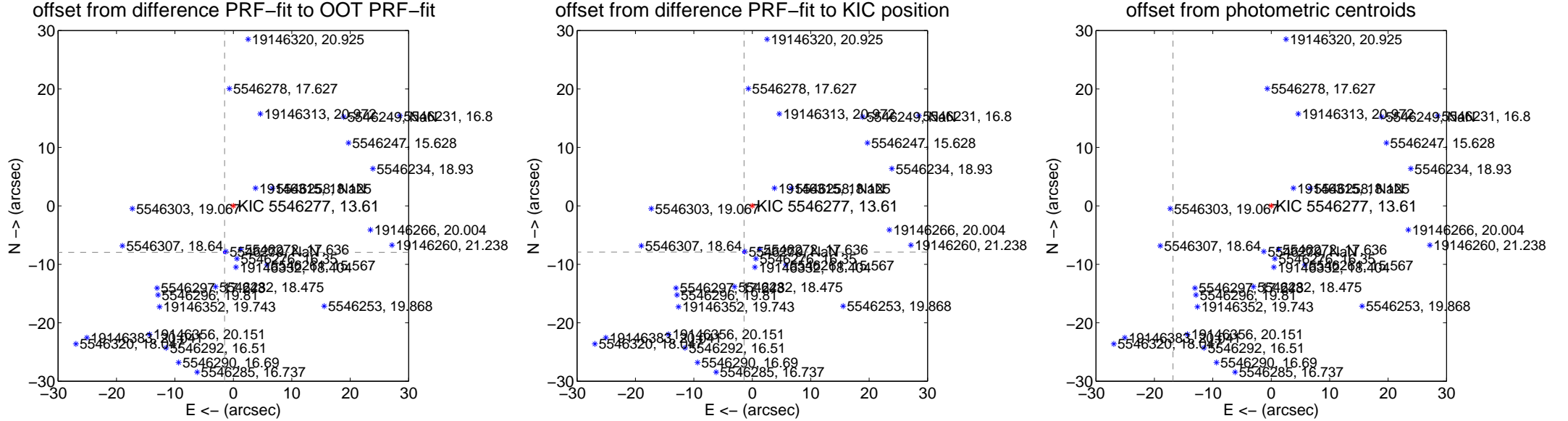
DV Centroid Data

Supplemental centroid analysis for 005546277-01. Kepler magnitude: 13.61. Transit SNR 23.15

There are 9 quarters with good PRF difference image offsets

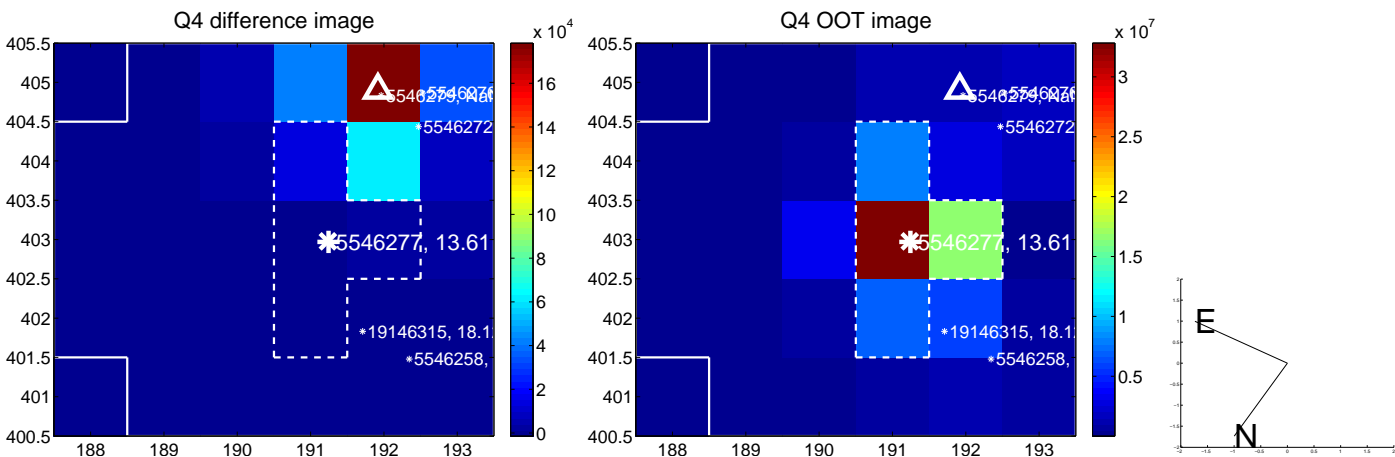
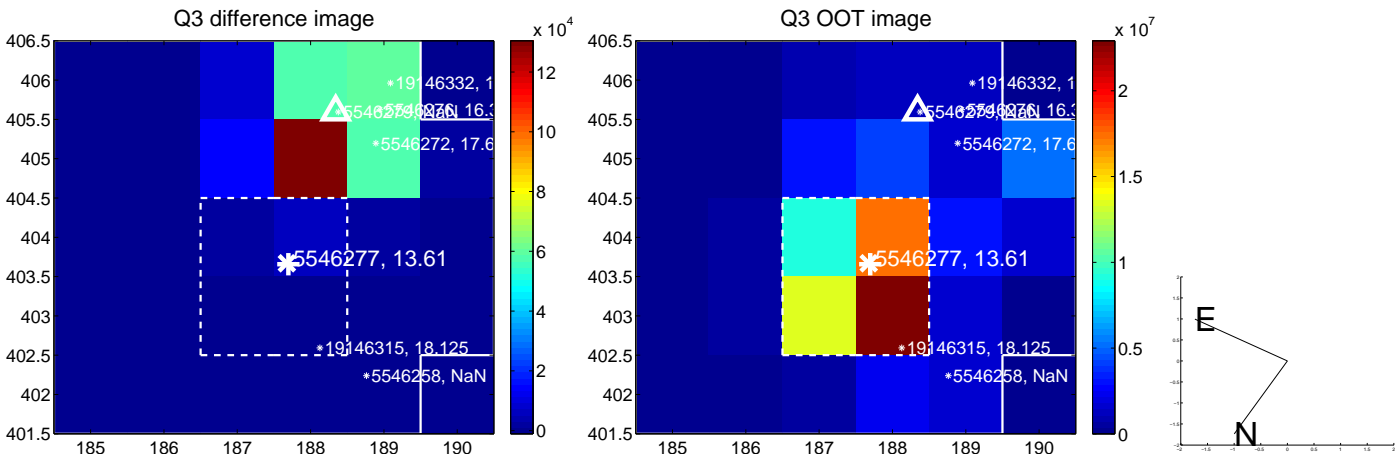
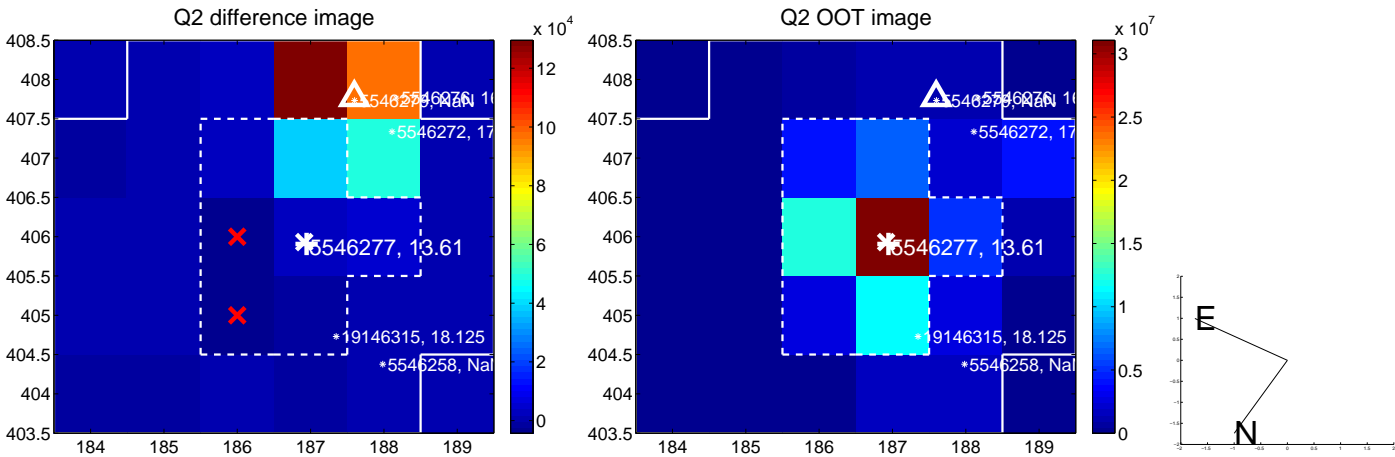
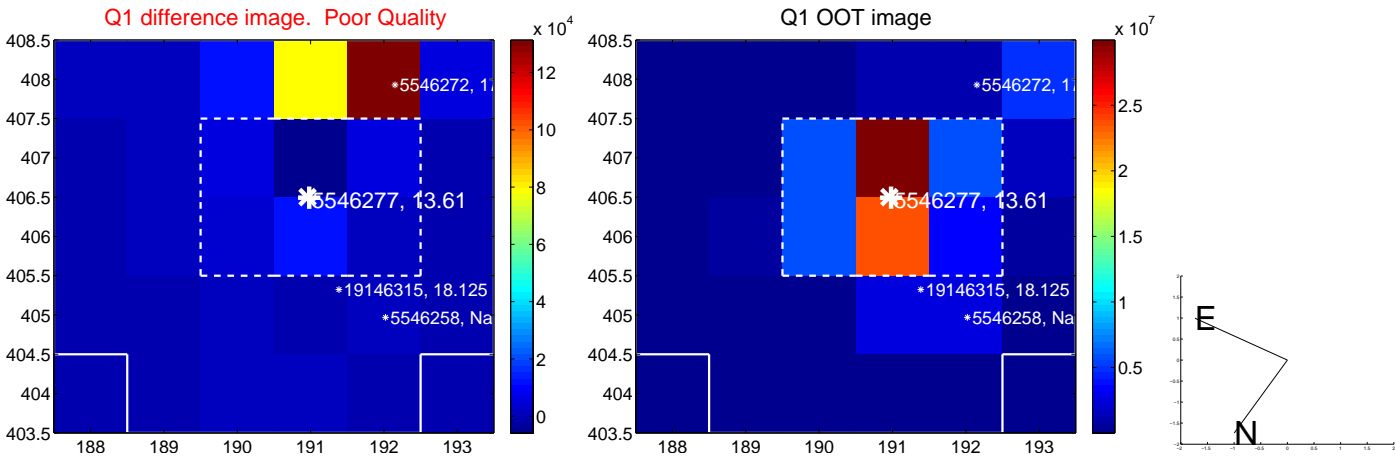
The direct PRF centroid is offset from the target star catalog position by about 0.13 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	8.098 ± 0.072	112.73	1.501 ± 0.069	-7.958 ± 0.071
PRF-fit source offset from KIC position	8.047 ± 0.073	109.57	1.415 ± 0.071	-7.922 ± 0.072
photometric centroid source offset	84.46 ± 0.47	177.94	16.82 ± 0.44	-82.77 ± 0.48

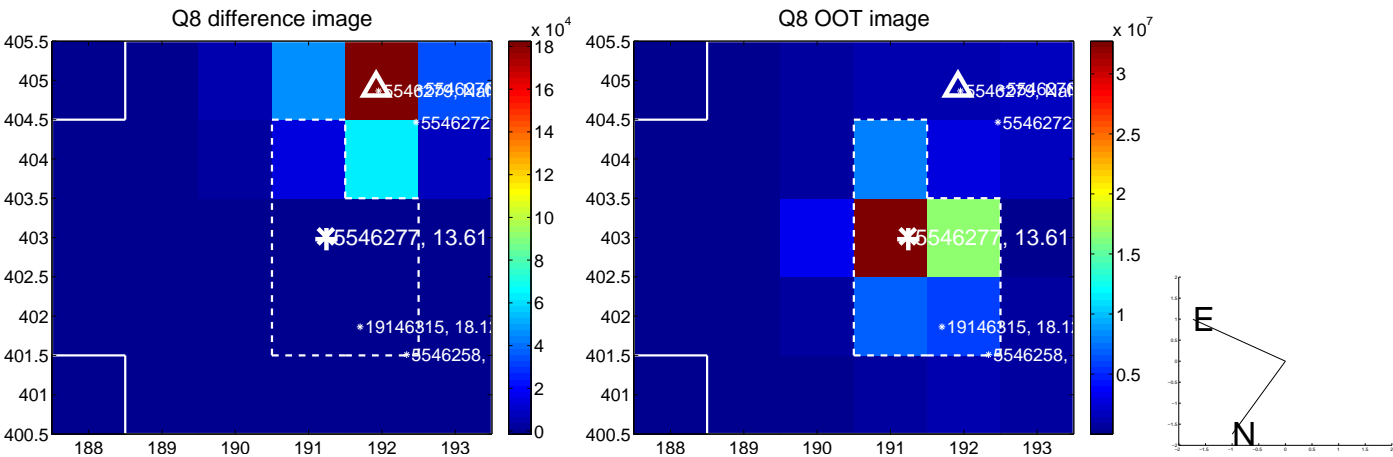
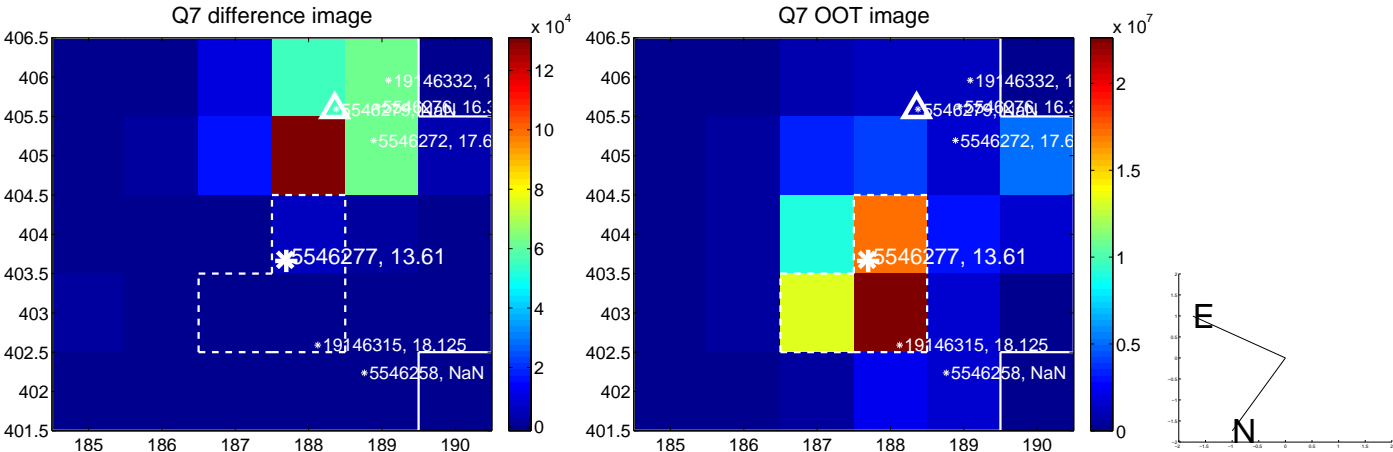
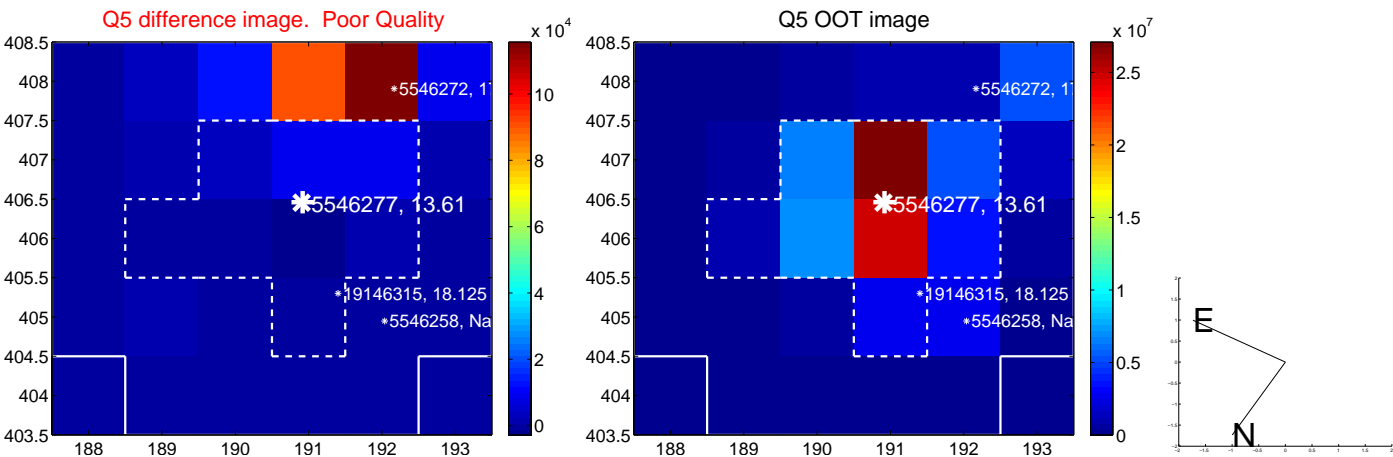


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

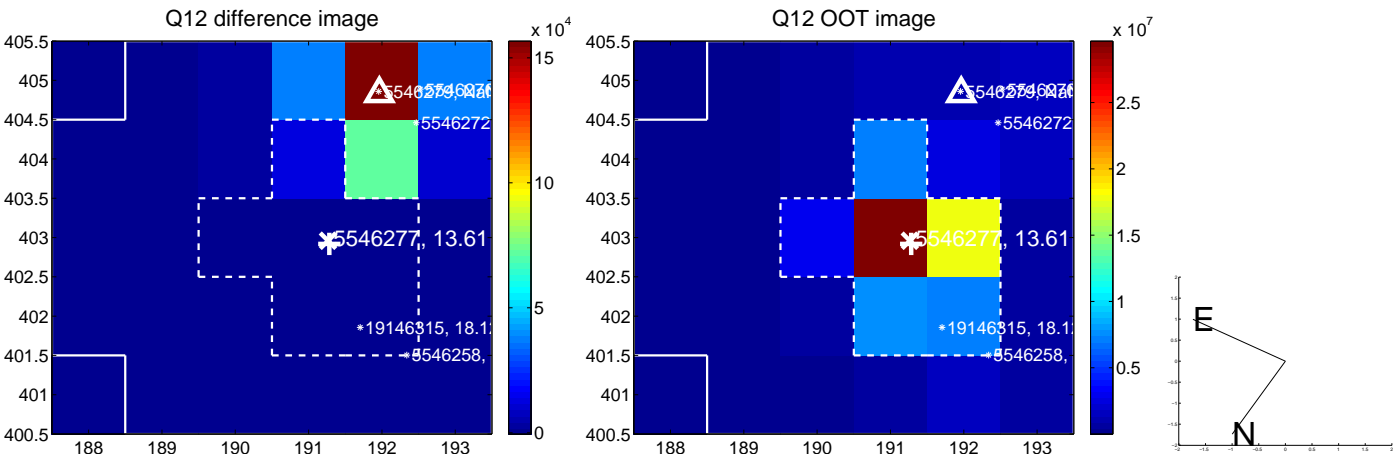
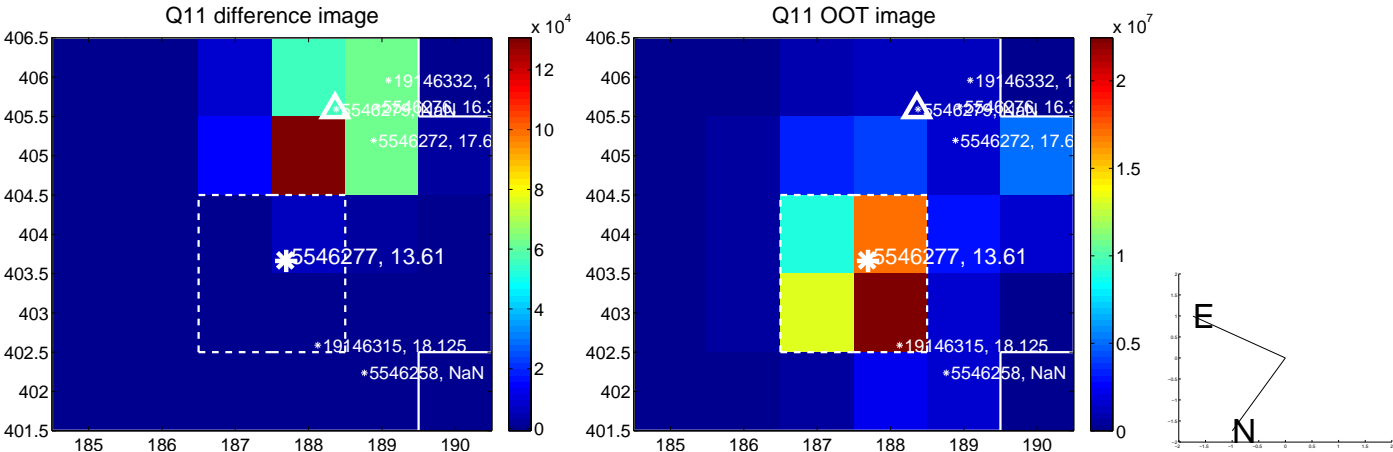
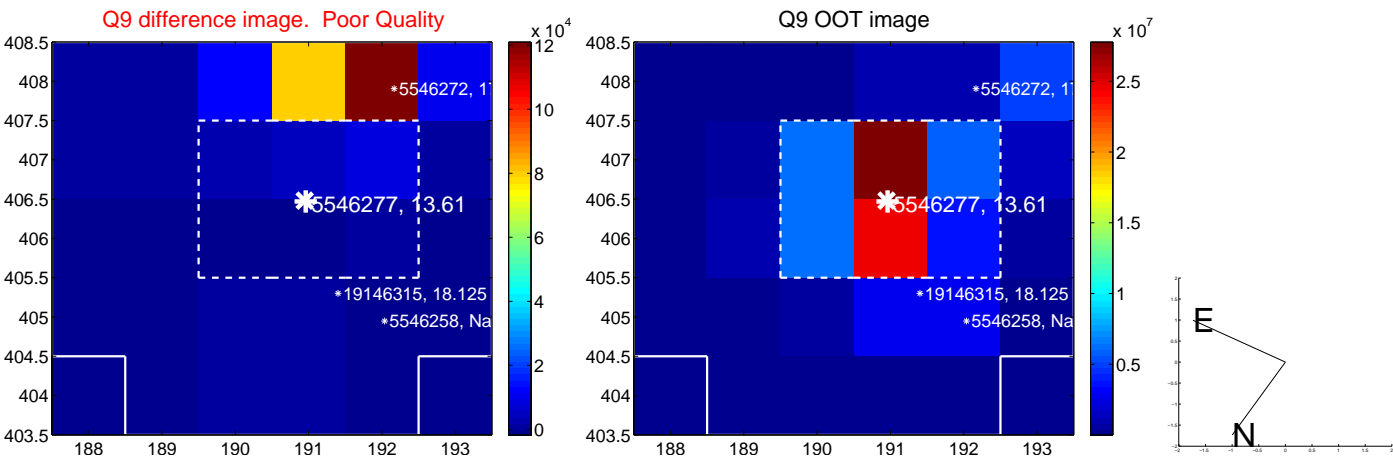
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



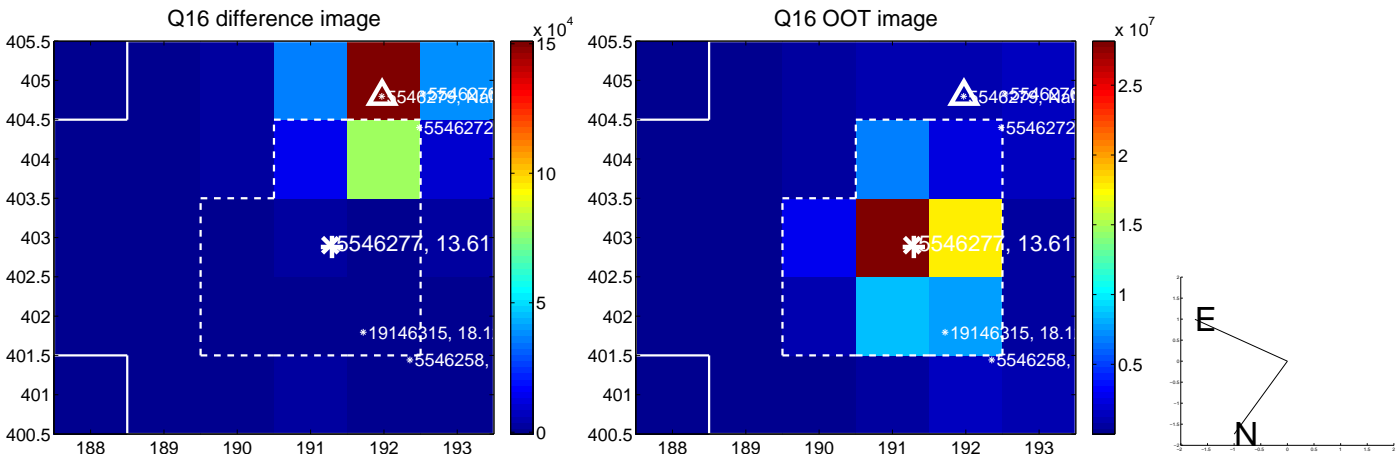
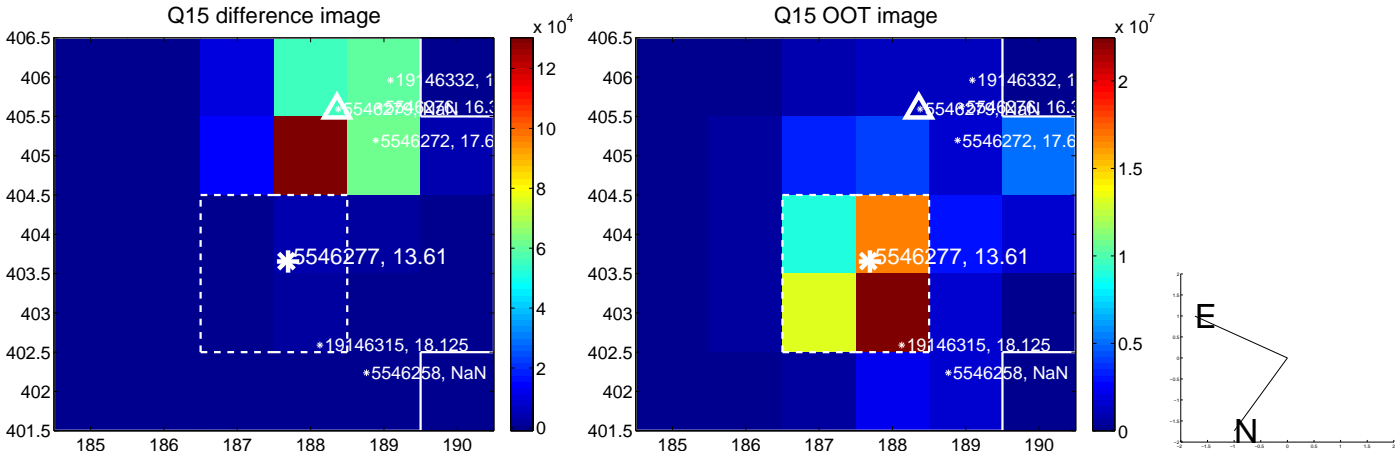
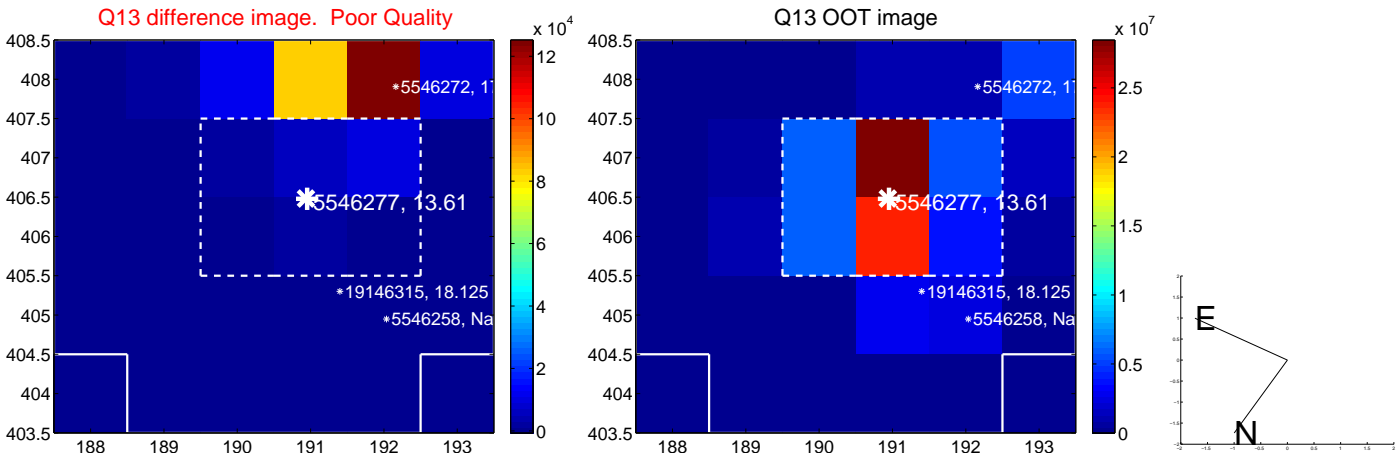
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



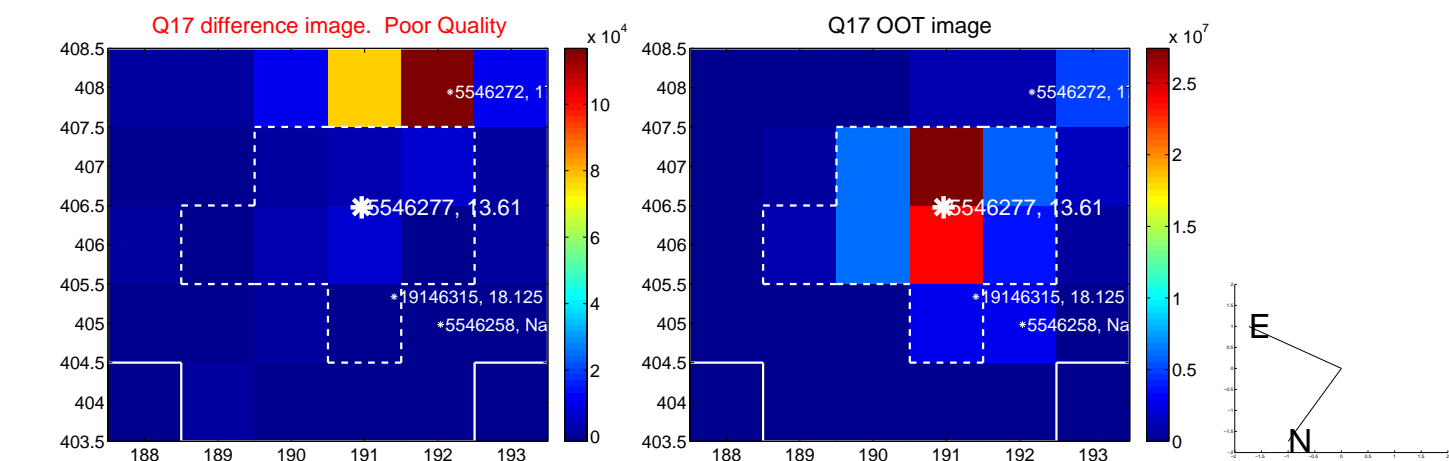
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



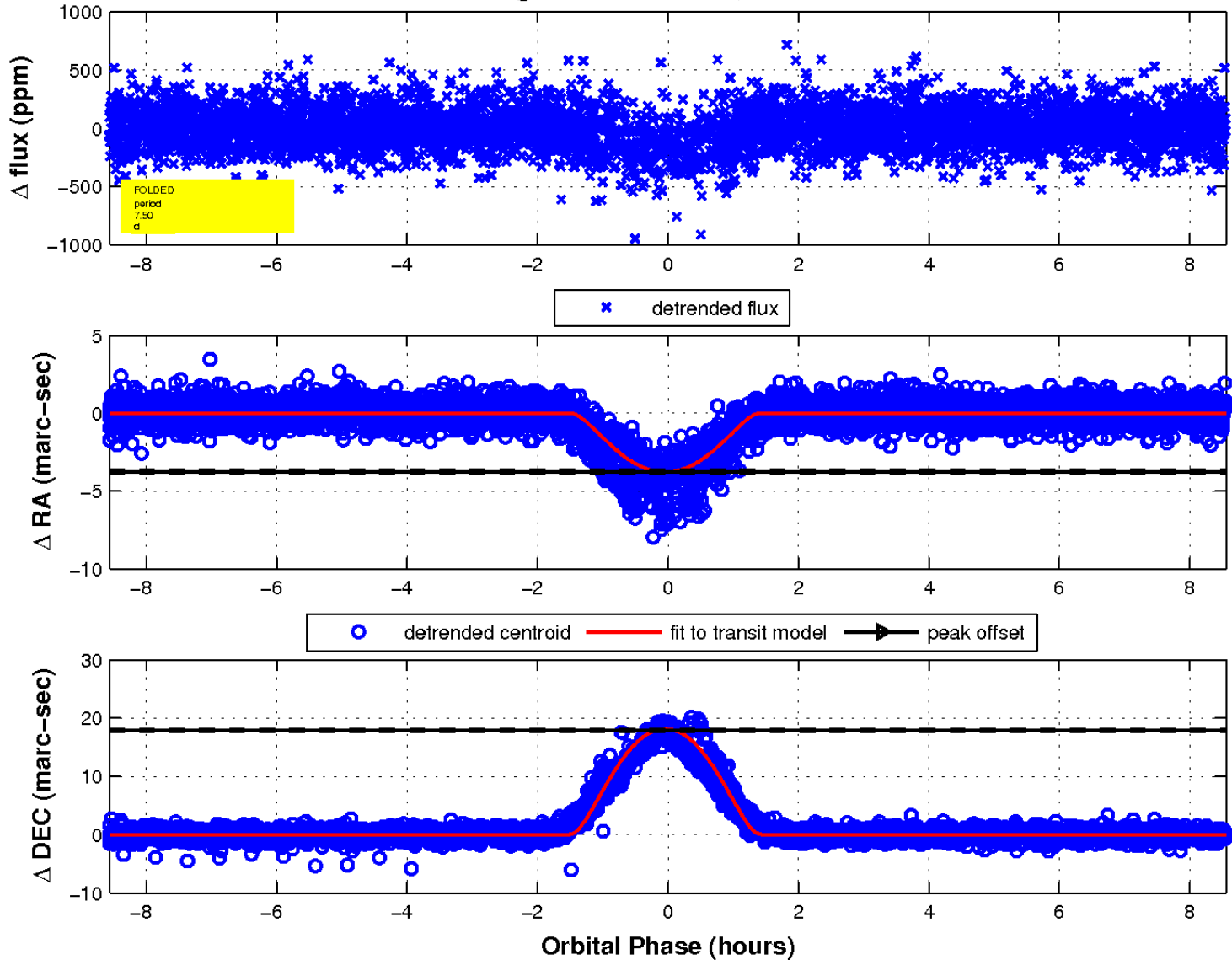
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

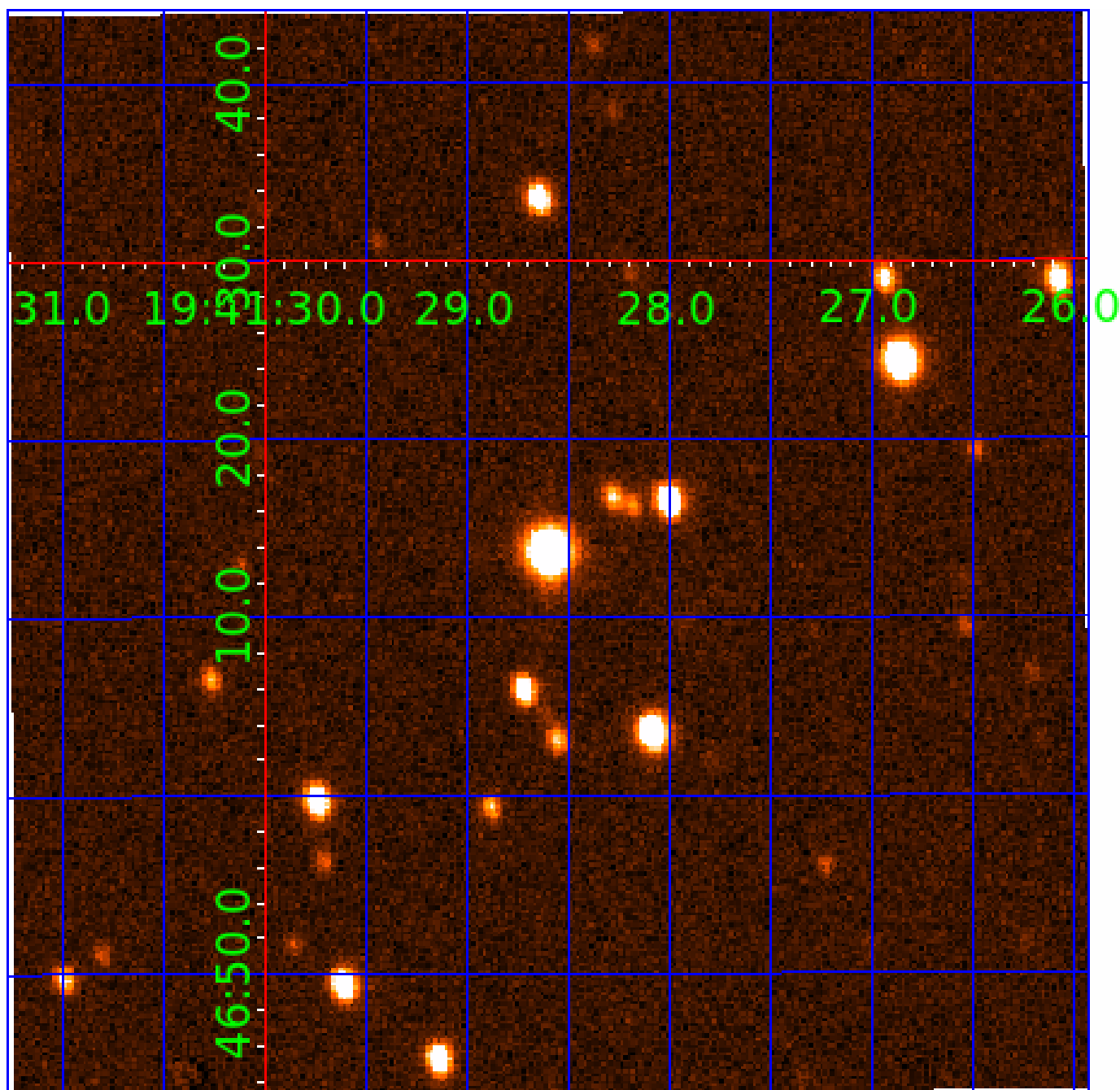


fluxWeightedCentroids, Planet 1 of 2



UKIRT Image

Declination



KIC 005546277

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})
005546277-01	OBS	3797.01	7.500257	137.388538	216.8	2.854	33.8	23.1	0.92	5849	2.48	156.07
005546277-02	OBS	No	7.500309	133.782105	156.9	2.334	24.9	19.2	0.92	5849	1.37	156.07

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005546277-01	OBS	FP	0.00	0	1	1	0	MOD_SEC_DV—MOD_SEC_ALT—HAS_SEC_TCE—CENT_RESOLVED_OFFSET
005546277-02	OBS	FP	0.00	1	1	1	0	IS_SEC_TCE—CENT_RESOLVED_OFFSET

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.

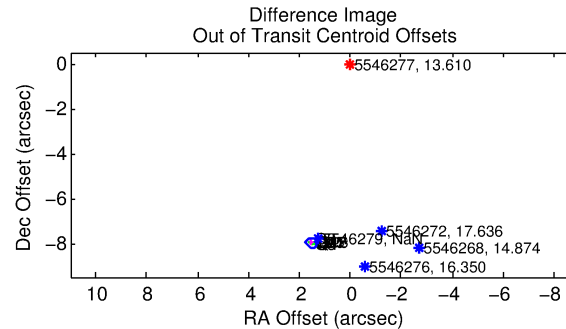
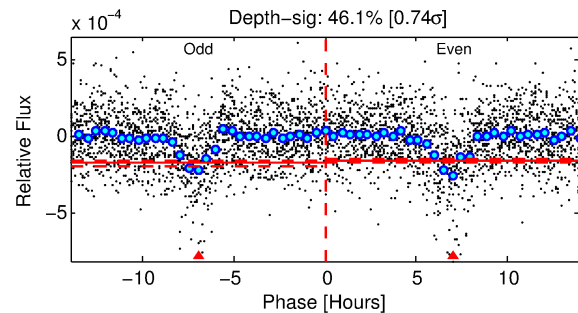
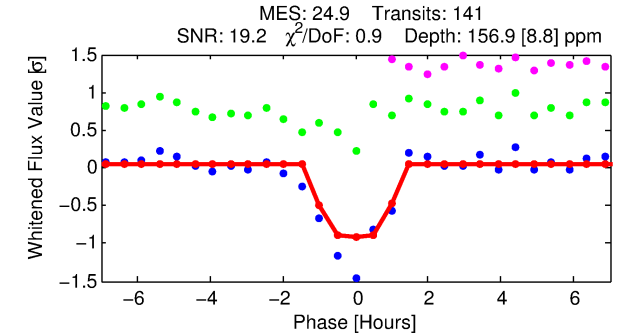
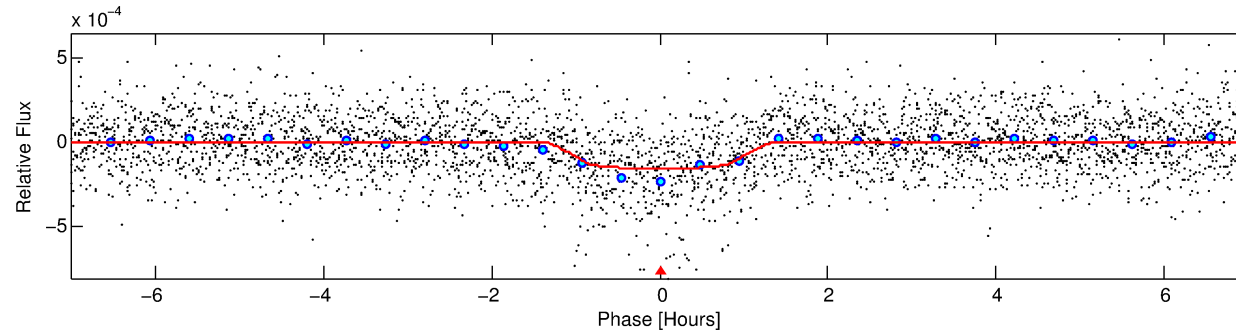
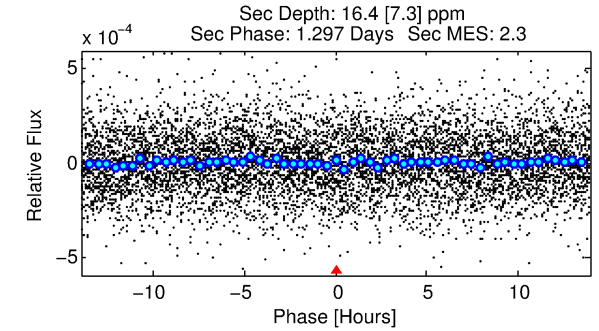
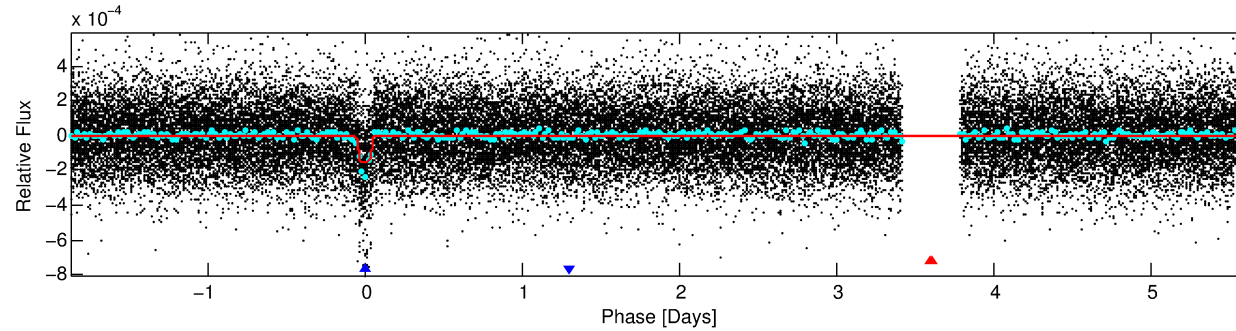
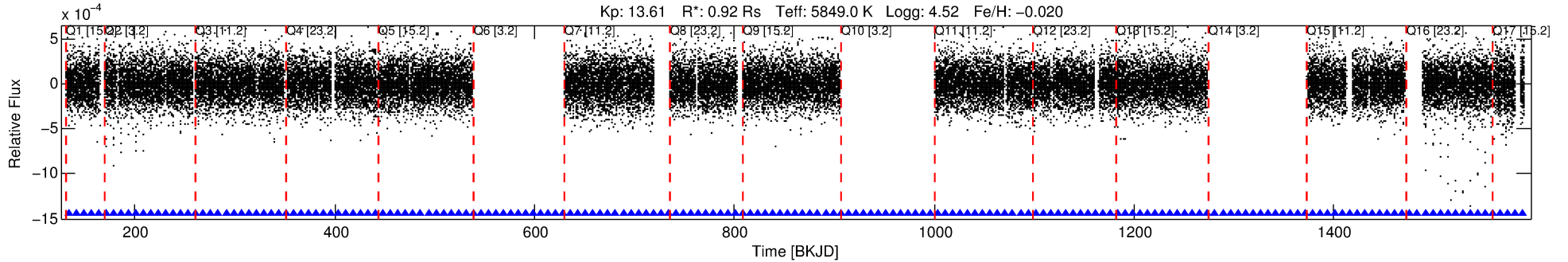
Ephemeris Match Information For 005546277-02

No Significant Match Found

DV One-Page Summary

KIC: 5546277 Candidate: 2 of 2 Period: 7.500 d
KOI: K03797 Corr: No Ephemeris Match

Kp: 13.61 R*: 0.92 Rs Teff: 5849.0 K Logg: 4.52 Fe/H: -0.020



DV Fit Results:

Period = 7.50031 [0.00002] d
Epoch = 133.7821 [0.0025] BKJD
Rp/R* = 0.0136 [0.0052]
a/R* = 11.47 [21.24]
b = 0.90 [0.40]
Seff = 156.07 [60.30]
Teq = 901 [87] K
Rp = 1.37 [0.66] Re
a = 0.0753 [0.0191] AU
Ag = 27.31 [26.08] [1.01σ]
Teff = 3186 [708] K [3.20σ]

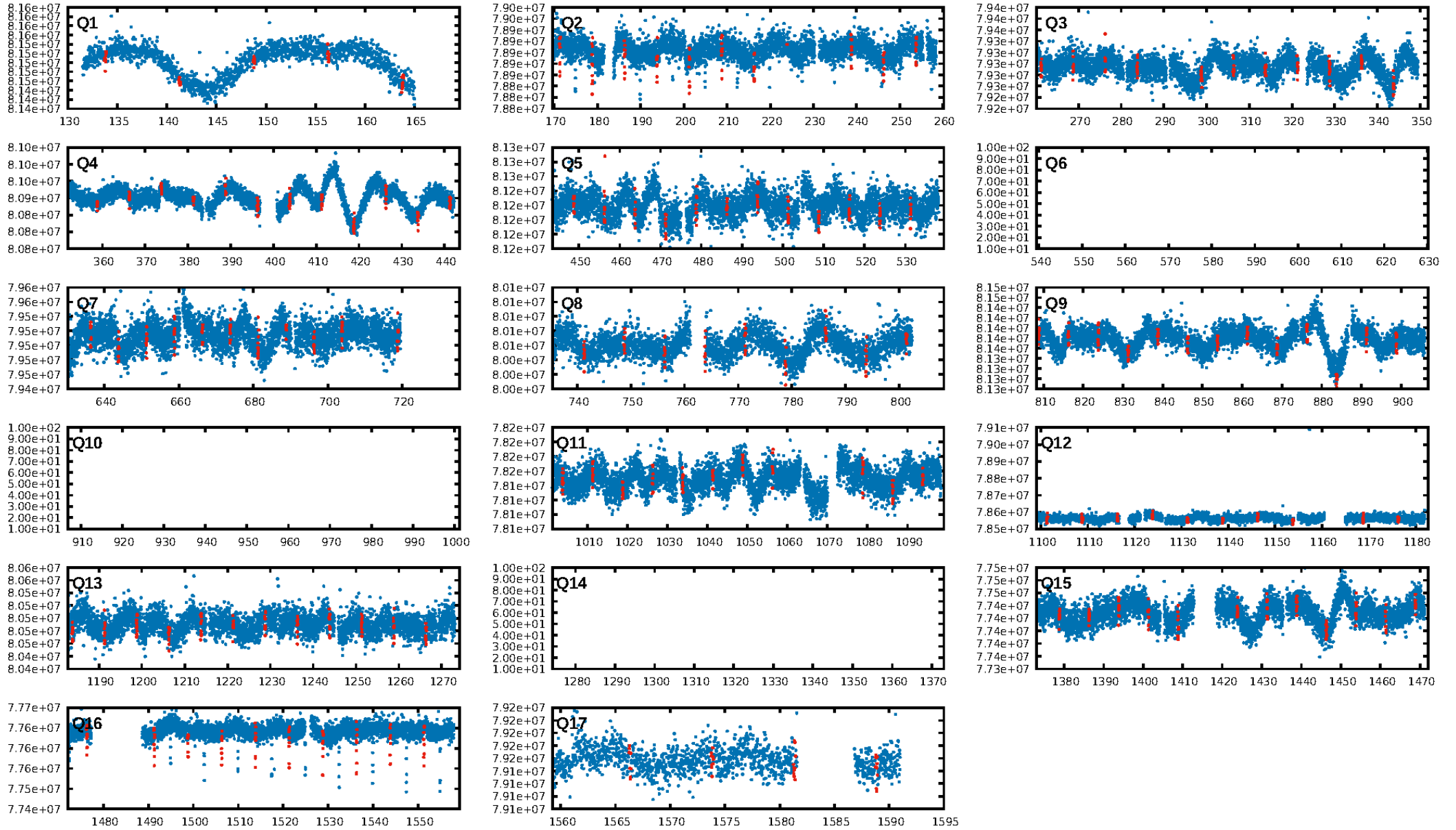
DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.2%
ModelChiSquareGoF-sig: 100.0%
Bootstrap-pfa: 5.01e-135
RollingBand-fgt: 1.00 [132/132]
GhostDiagnostic-chr: -0.4838
Centroid-sig: 0.0%
Centroid-so: 87.830 arcsec [154.15σ]
OotOffset-rm: 8.130 arcsec [112.72σ]
KicOffset-rm: 8.068 arcsec [111.15σ]
OotOffset-st: 1/4/4/0 [9]
KicOffset-st: 1/4/4/0 [9]
DiffImageQuality-fgm: 1.00 [9/9]
DiffImageOverlap-fno: 1.00 [14/14]

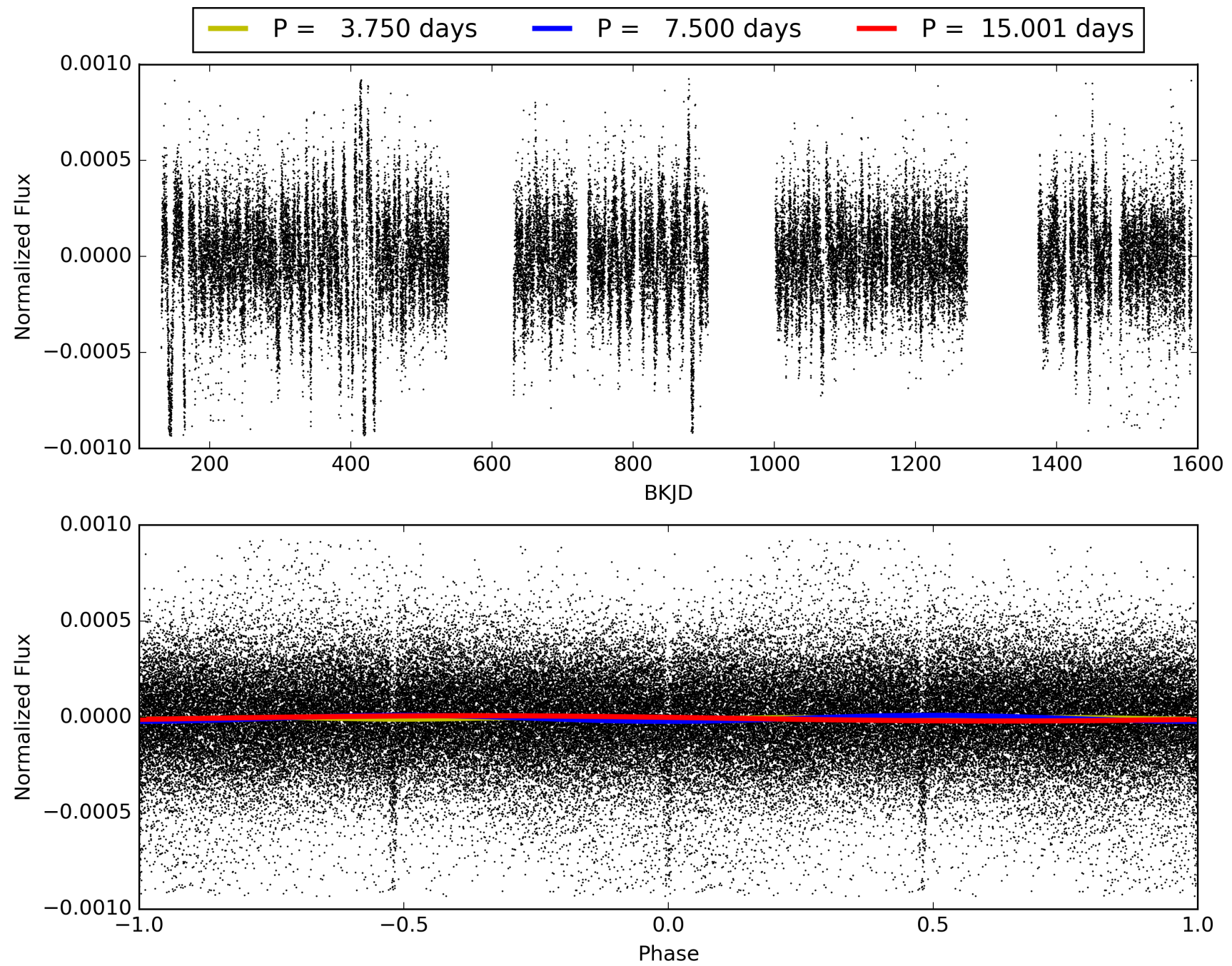
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 05:10:07 Z

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

TCE 005546277-02, PDC Light Curves

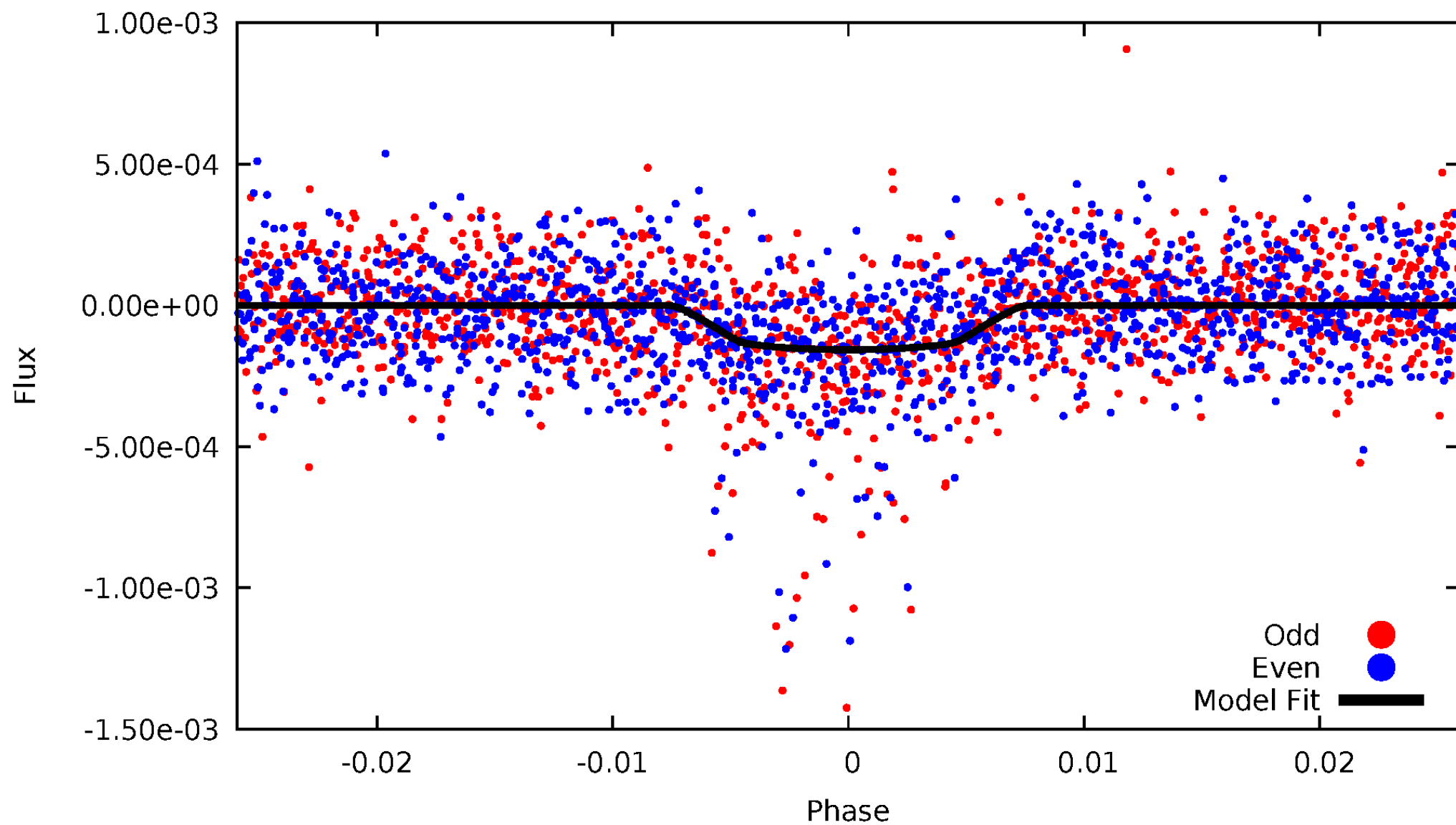


TCE 005546277-02



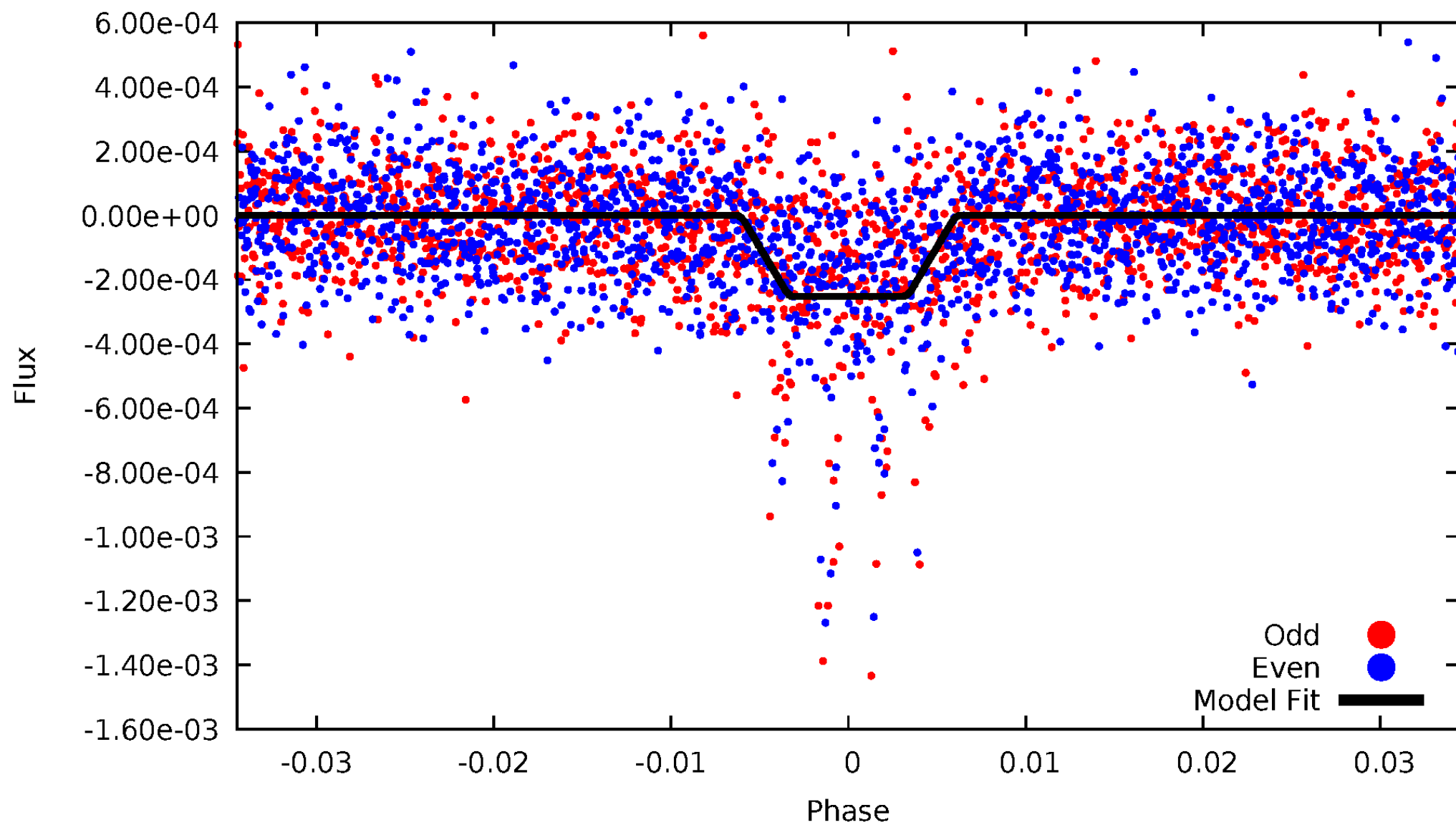
DV Odd/Even

TCE 005546277-02



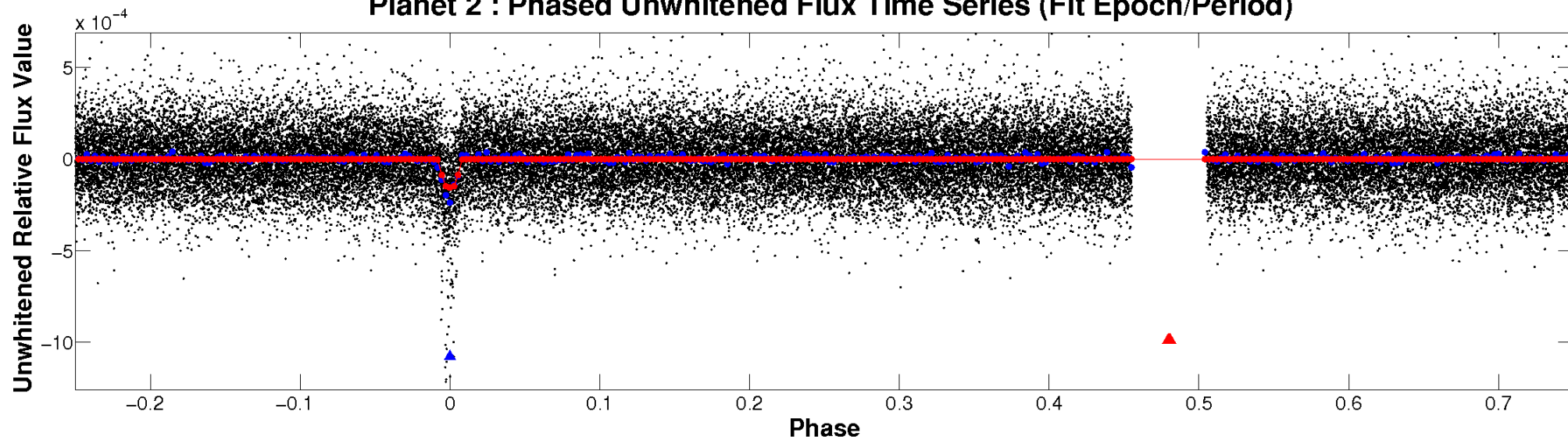
ALT Odd/Even

TCE 005546277-02

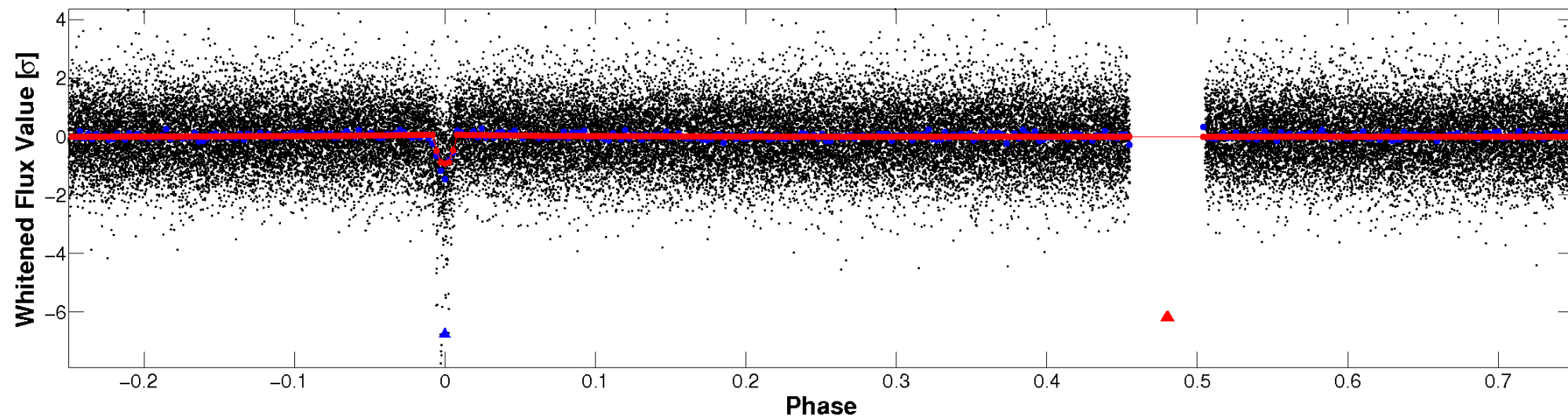


Non-Whitened Vs. Whitened Light Curve

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

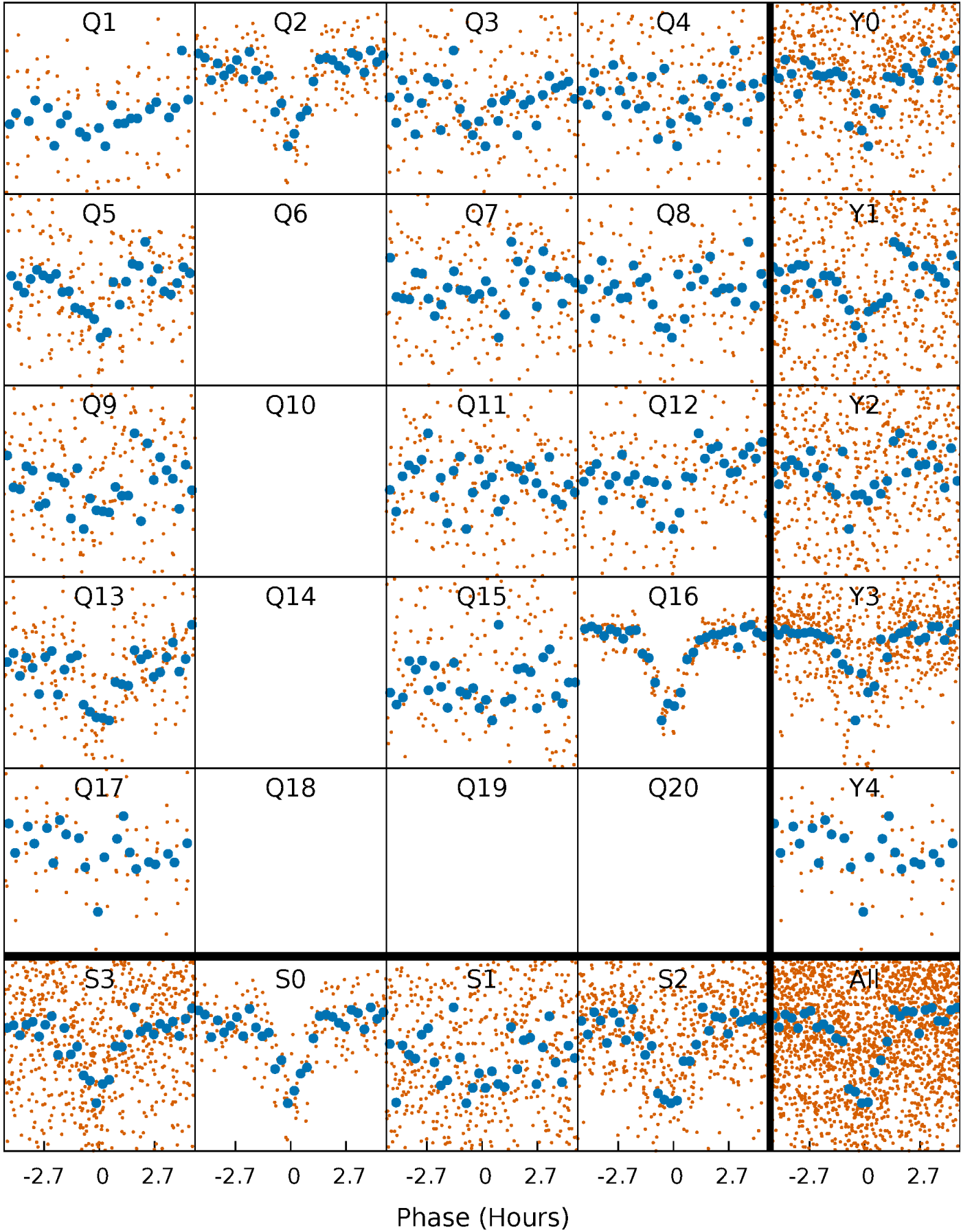


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



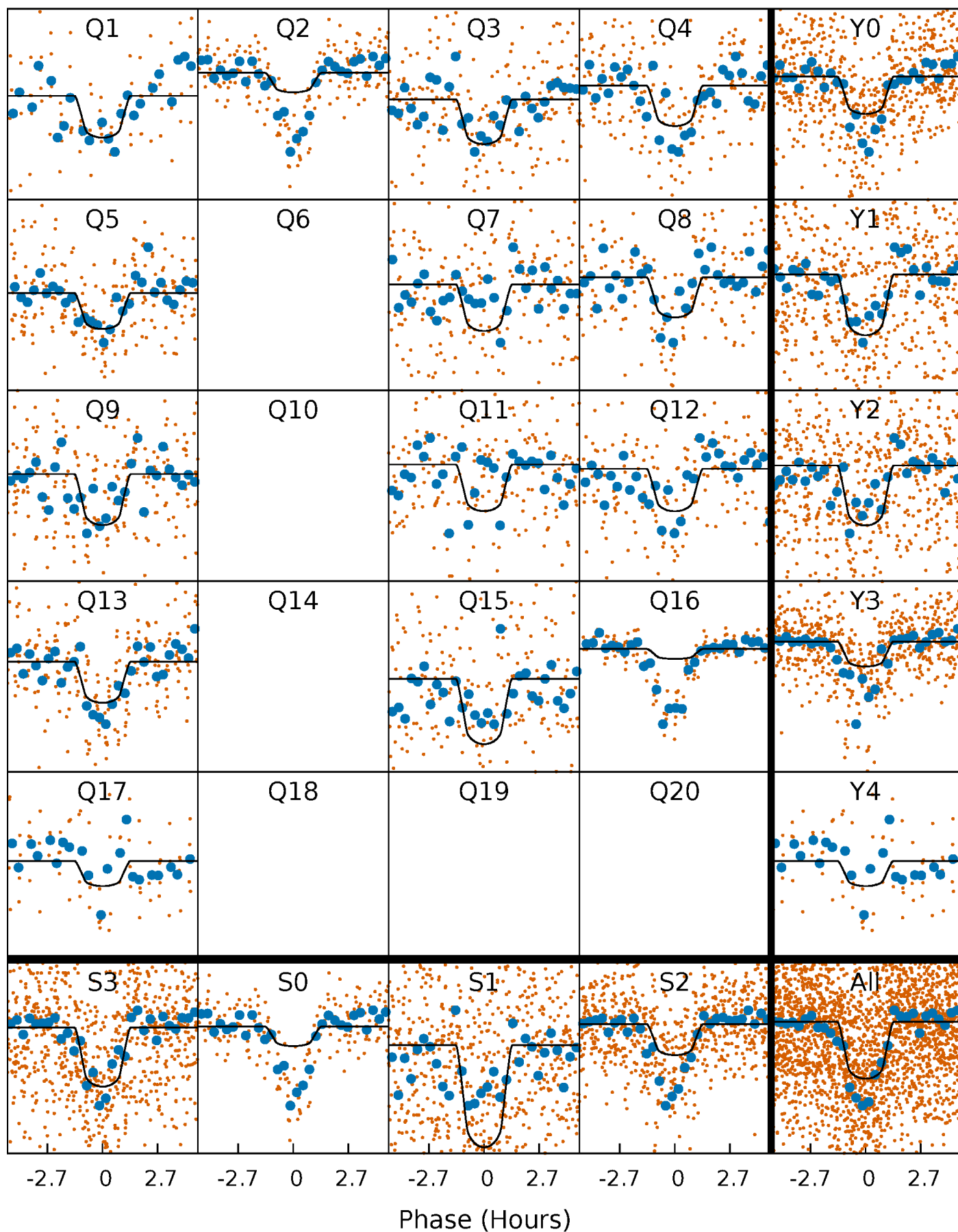
PDC Quarter-Phased Transit Curves

TCE 005546277-02 P= 7.500309 Days $T_0=133.782105$ (BKJD)



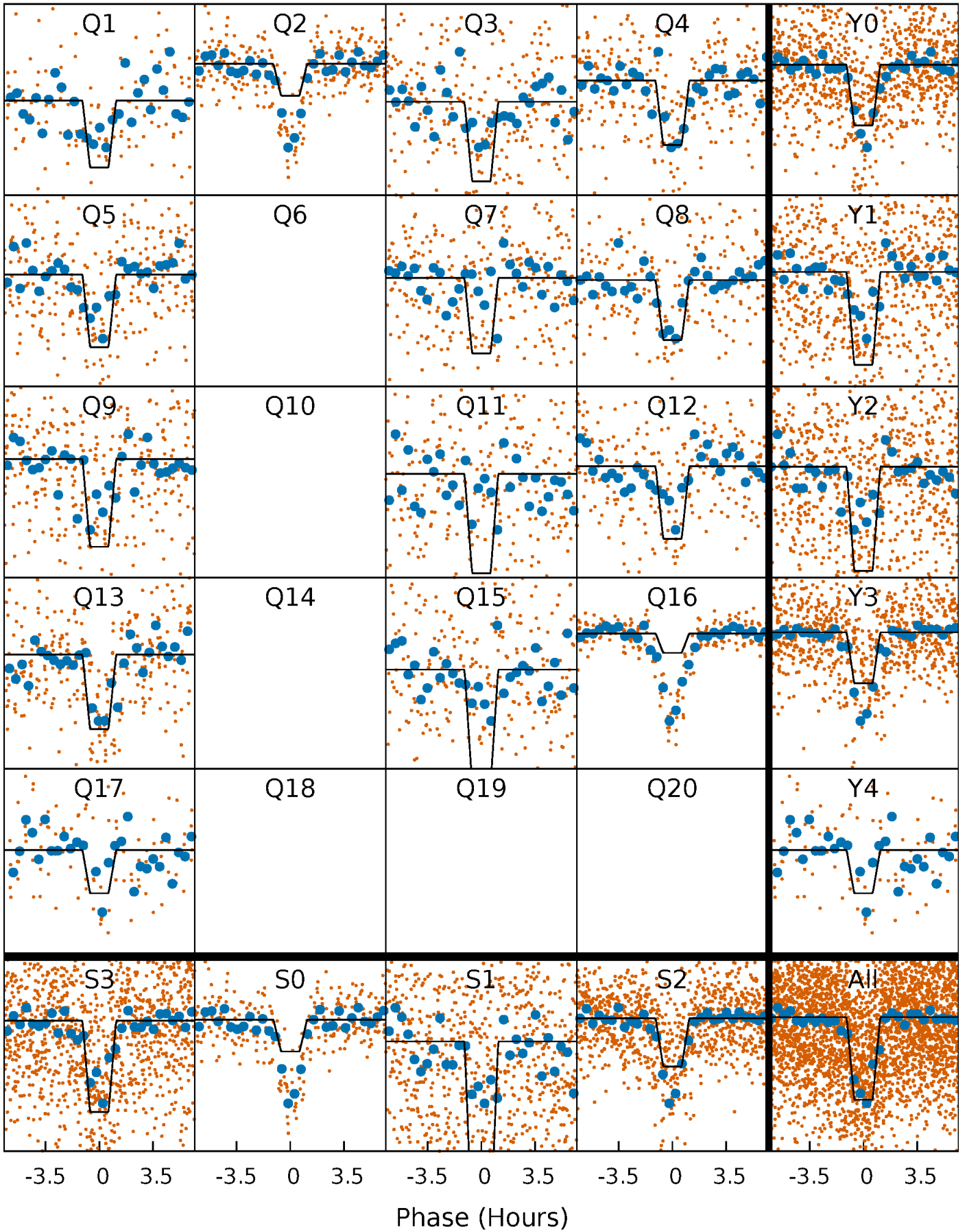
DV Quarter-Phased Transit Curves

TCE 005546277-02 P= 7.500309 Days $T_0=133.782105$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

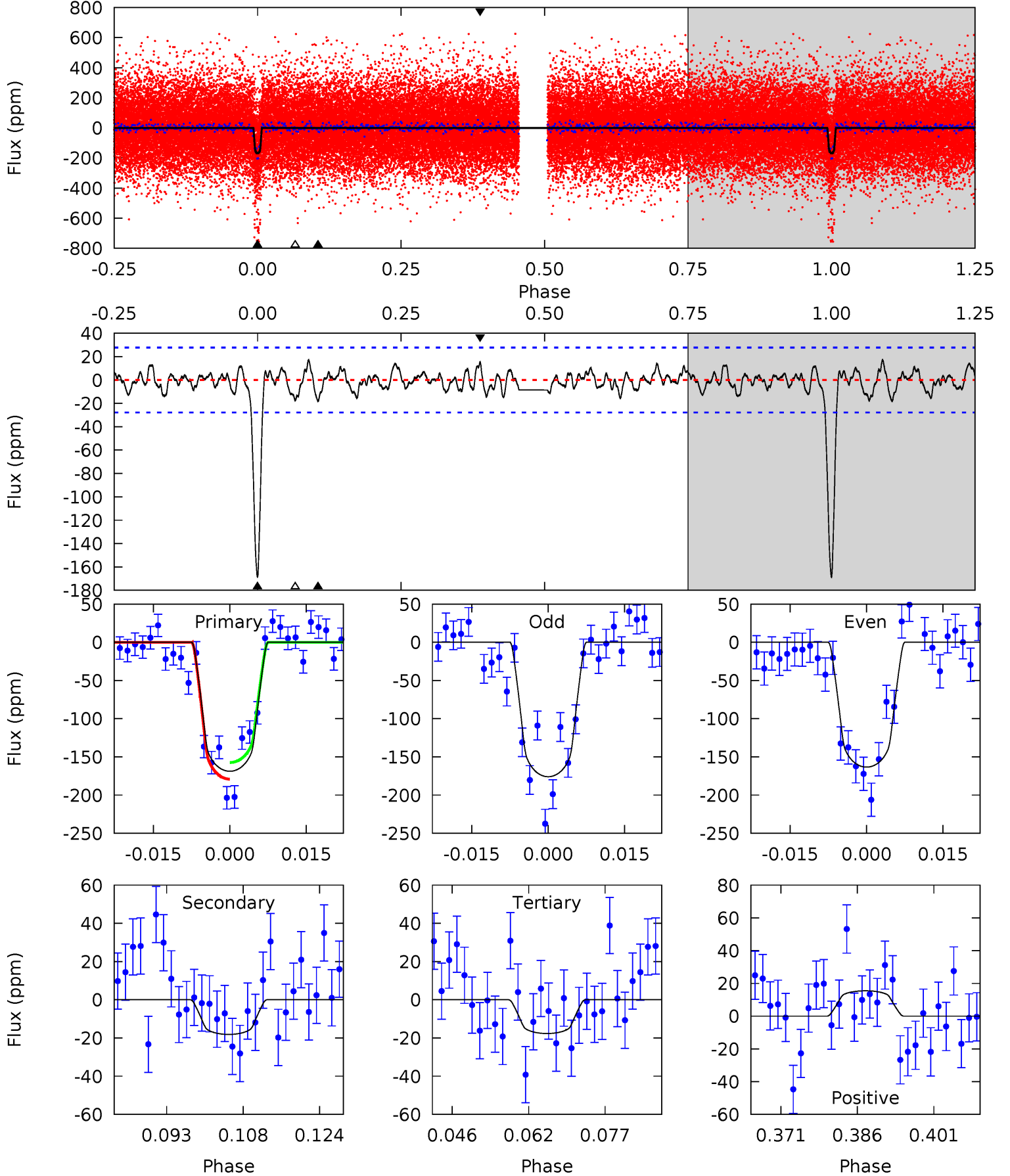
TCE 005546277-02 $P = 7.500262$ Days $T_0 = 133.780659$ (BKJD)



DV Model-Shift Uniqueness Test

005546277-02, P = 7.500309 Days, E = 126.281796 Days

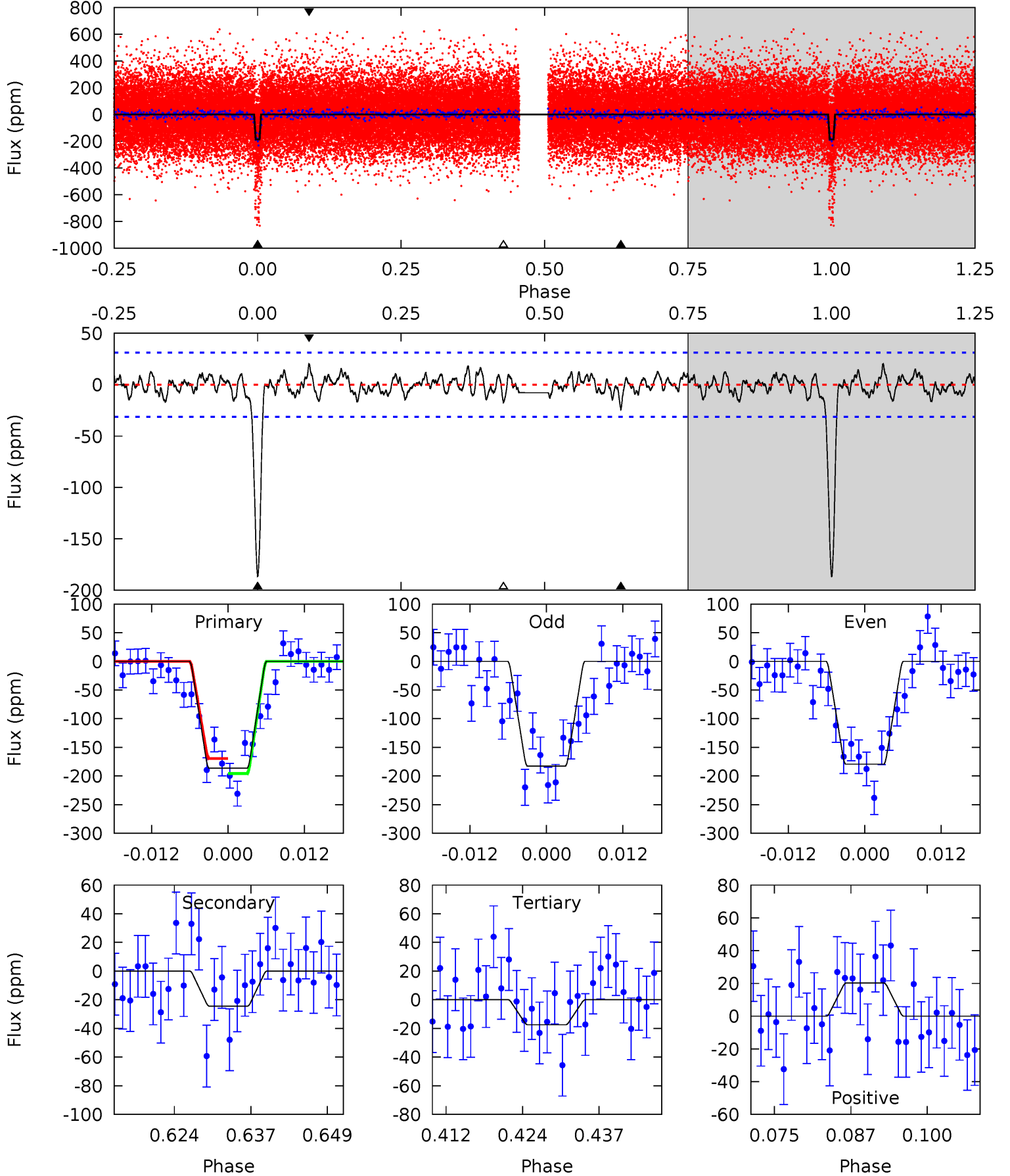
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
30.0	3.23	3.14	2.75	4.94	2.42	1.12	26.9	27.3	0.08	0.47	1.12	1.33	0.09	1.93



Alt Model-Shift Uniqueness Test

005546277-02, P = 7.500262 Days, E = 126.280397 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
29.7	3.91	2.78	3.21	4.98	2.50	1.12	27.0	26.5	1.13	0.69	0.25	1.42	0.10	2.07



Stellar Parameters For KIC 005546277

	$T_{\text{eff}} (K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (g \cdot \text{cm}^{-3})$
	5849^{+140}_{-175}	$4.517^{+0.037}_{-0.200}$	$-0.020^{+0.250}_{-0.300}$	$0.919^{+0.278}_{-0.087}$	$1.014^{+0.116}_{-0.127}$	$1.839^{+0.371}_{-0.957}$
	+2%/-3%	+1%/-4%	+1250%/-1500%	+30%/-9%	+11%/-13%	+20%/-52%
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 005546277-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-18 ± 6	$1.44^{+0.54}_{-0.60}$	1291^{+81}_{-57}	3698^{+714}_{-435}	27^{+51}_{-15}
Alt.	-25 ± 6	$1.68^{+0.60}_{-0.56}$	1288^{+86}_{-56}	3663^{+606}_{-348}	26^{+33}_{-12}

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

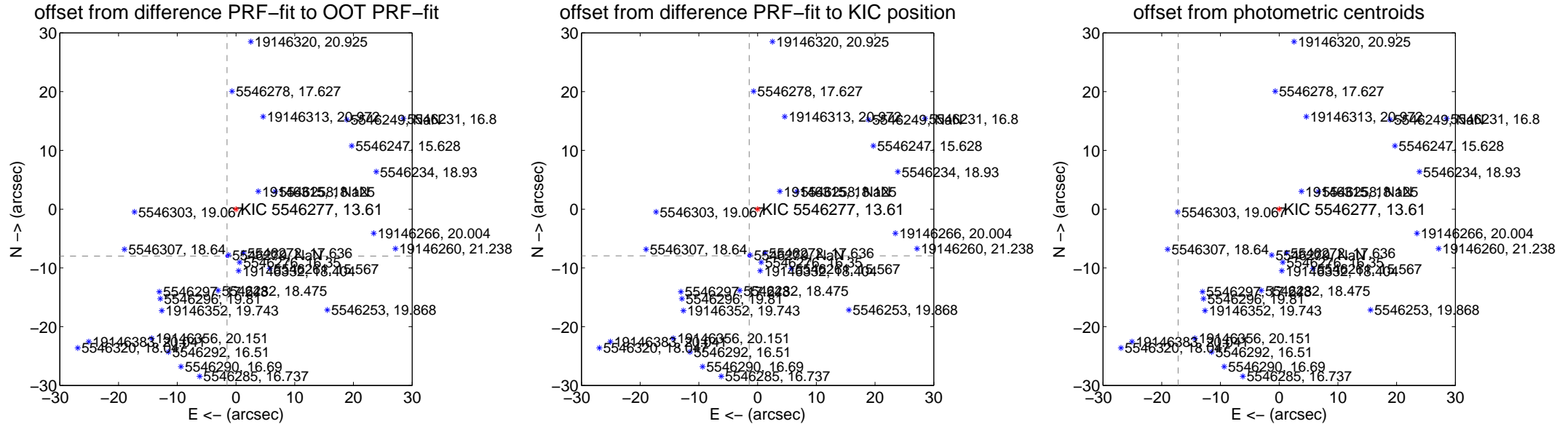
DV Centroid Data

Supplemental centroid analysis for 005546277-02. Kepler magnitude: 13.61. Transit SNR 19.20

There are 9 quarters with good PRF difference image offsets

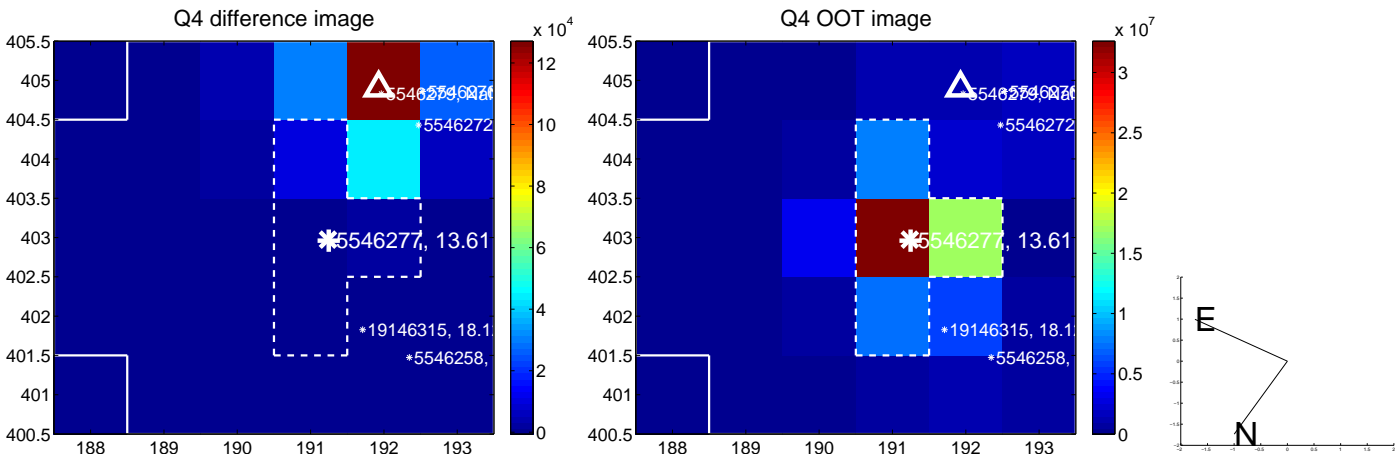
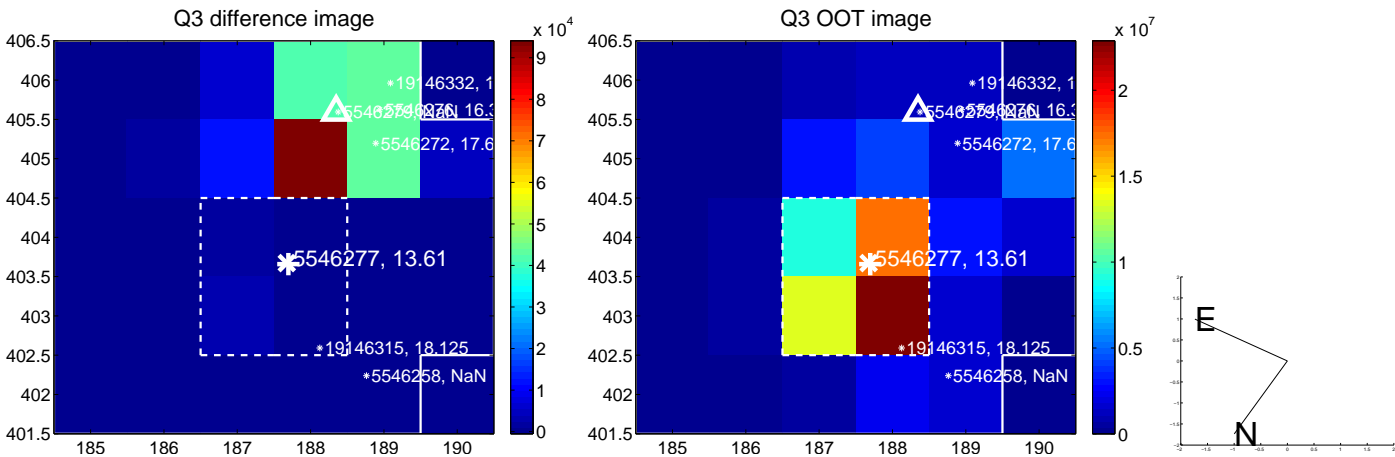
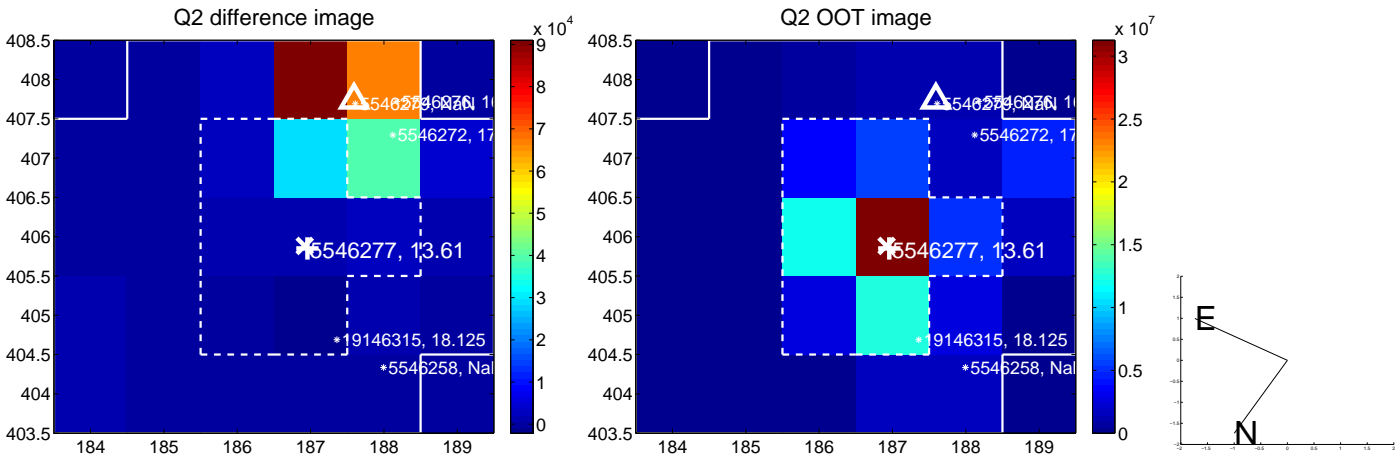
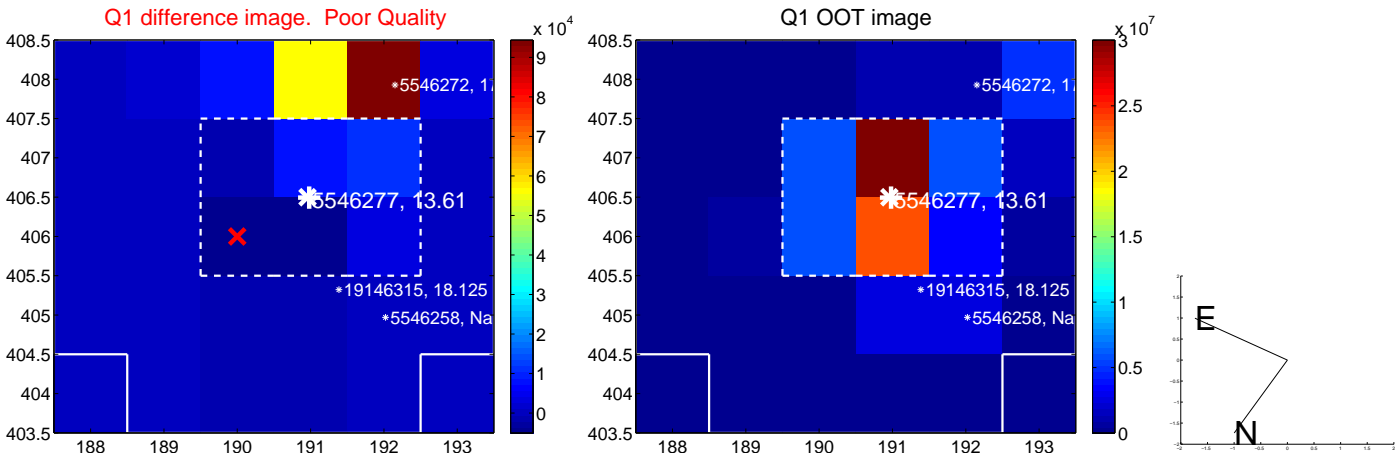
The direct PRF centroid is offset from the target star catalog position by about 0.16 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	8.130 \pm 0.072	112.72	1.520 \pm 0.068	-7.987 \pm 0.073
PRF-fit source offset from KIC position	8.068 \pm 0.073	111.15	1.423 \pm 0.069	-7.941 \pm 0.072
photometric centroid source offset	87.83 \pm 0.57	154.15	17.21 \pm 0.55	-86.13 \pm 0.57

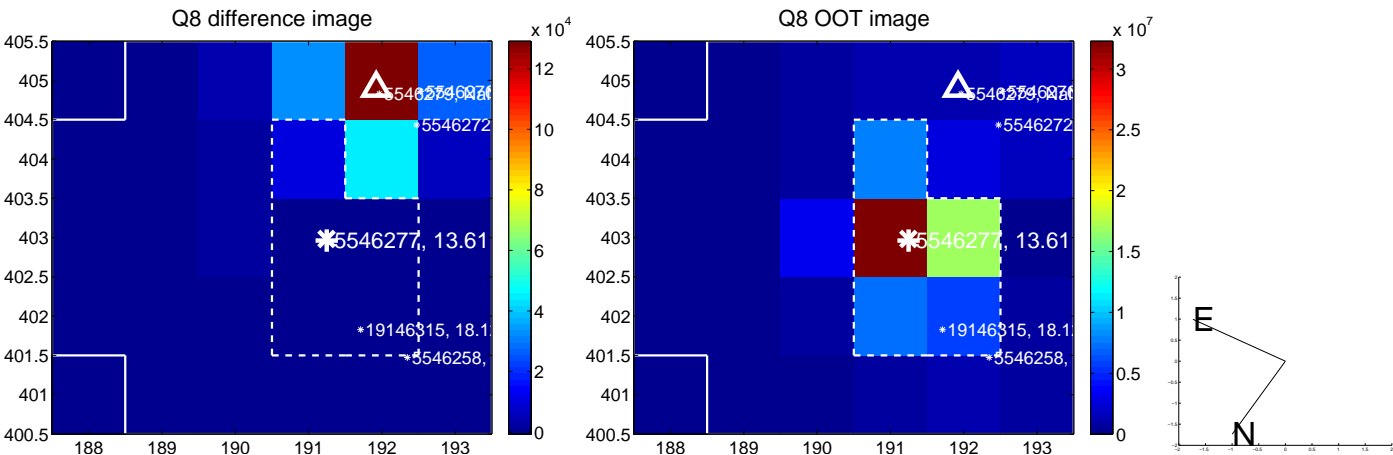
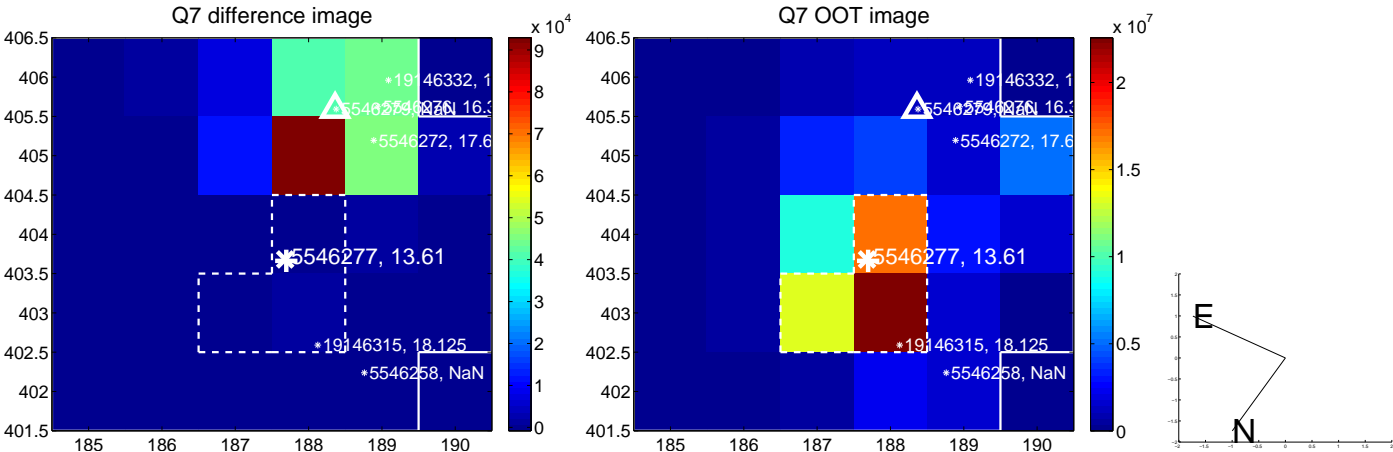
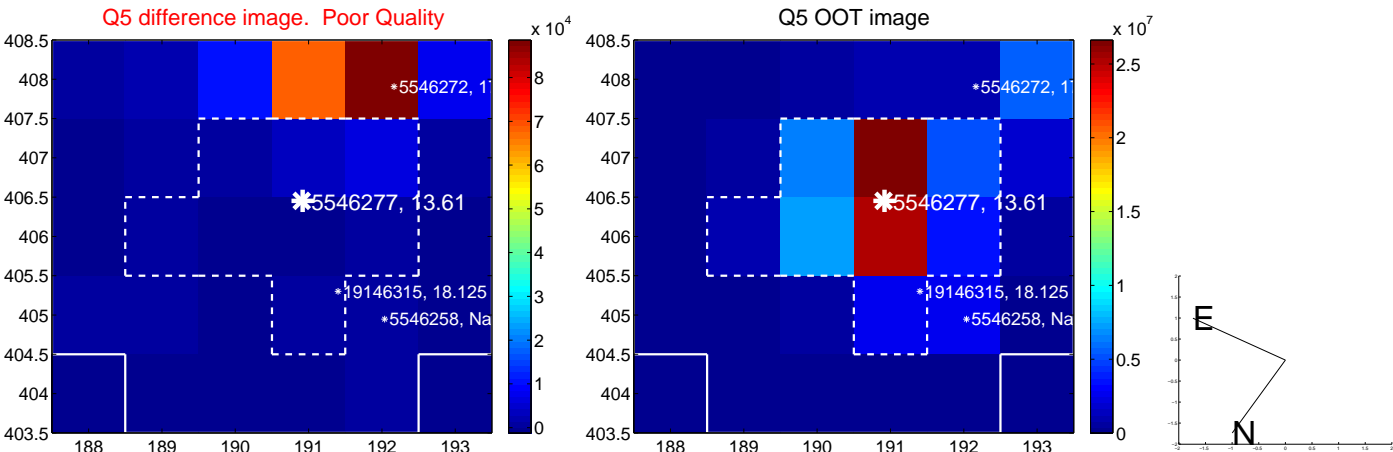


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

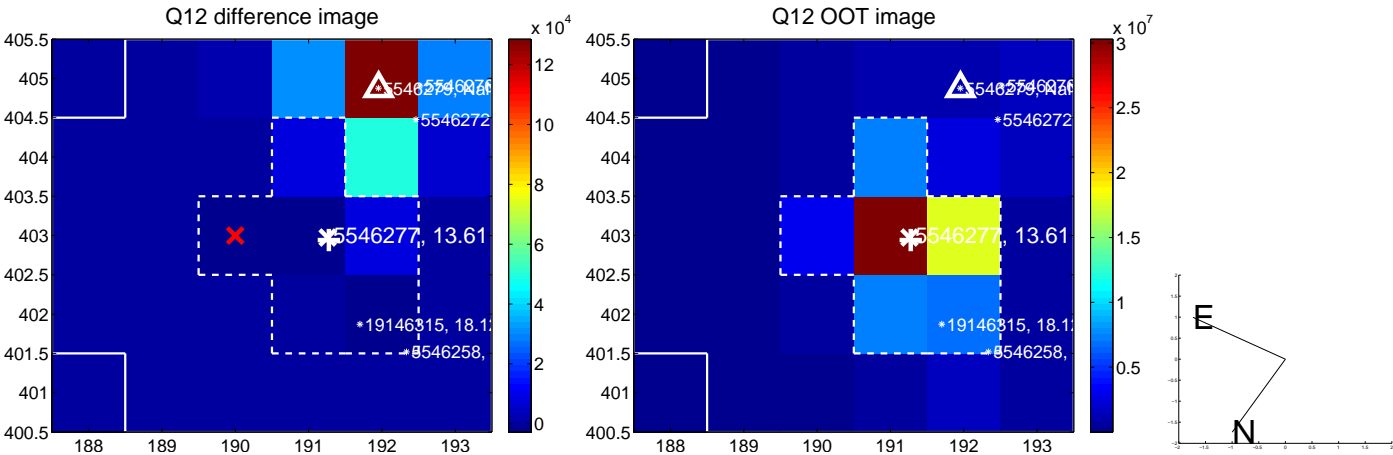
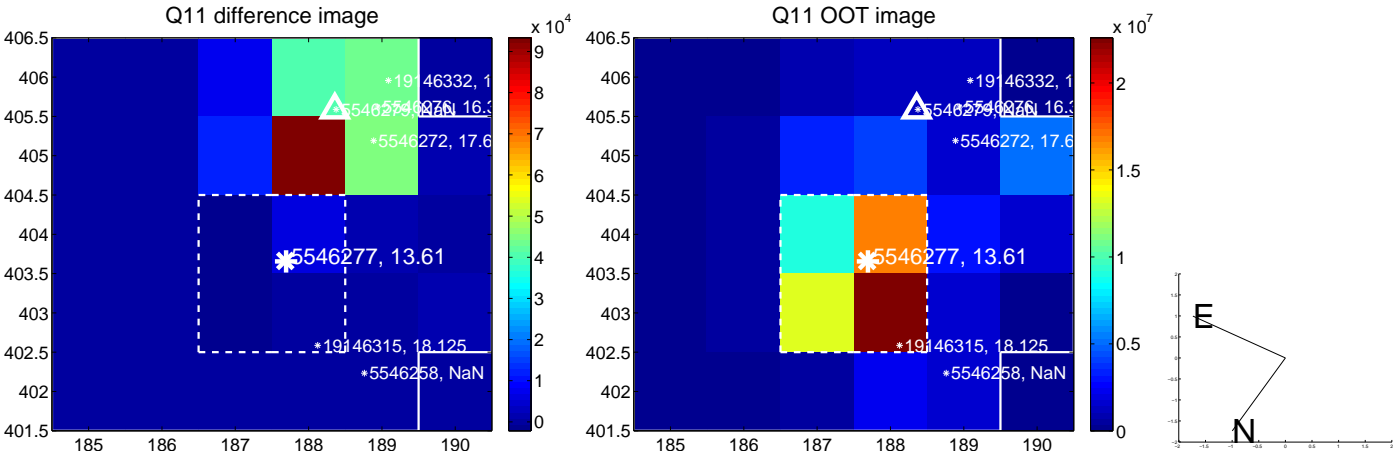
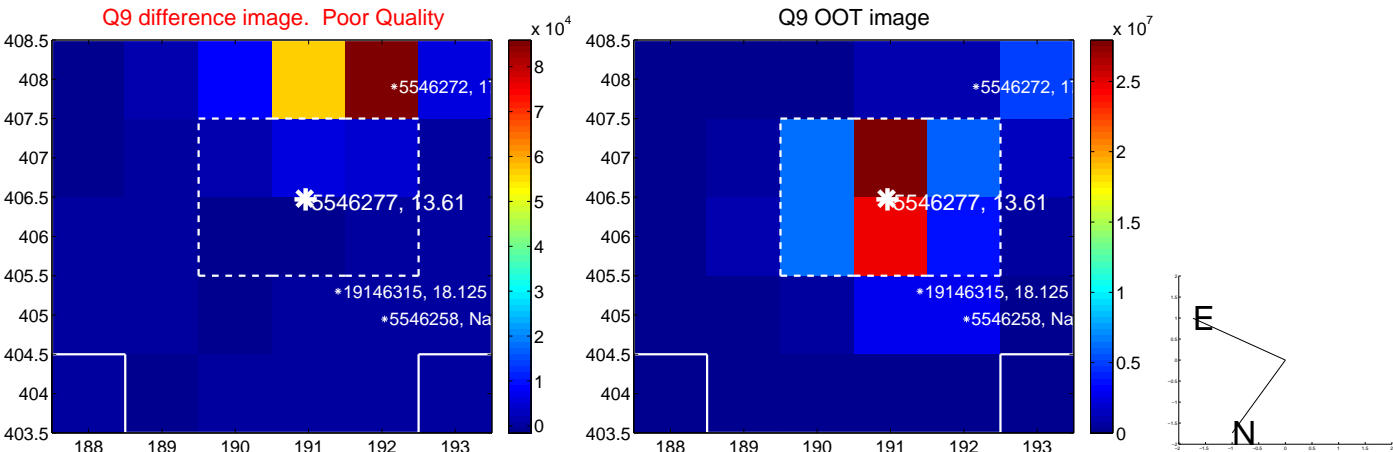
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



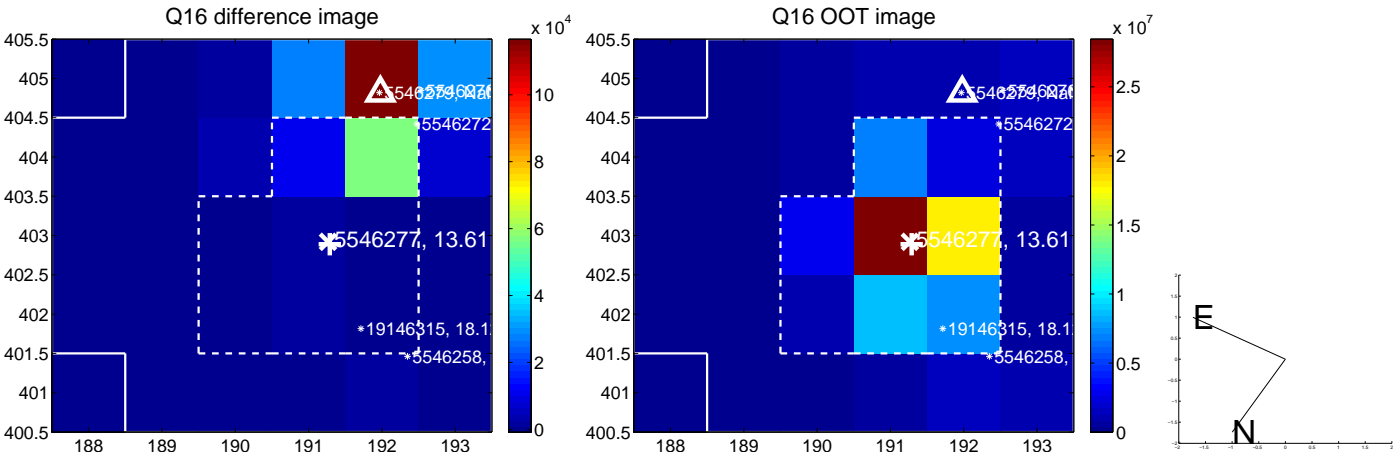
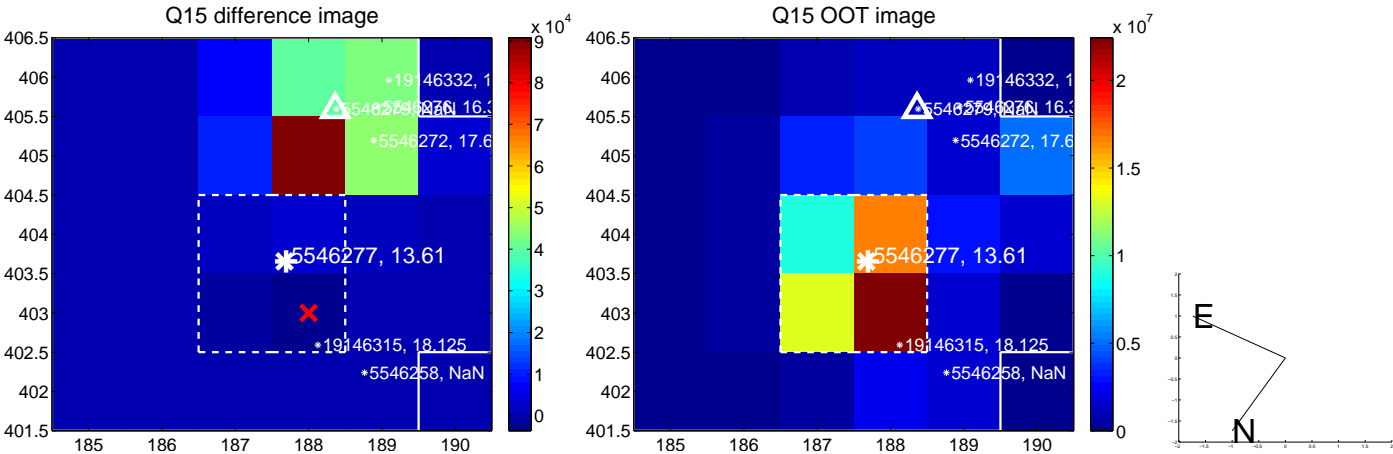
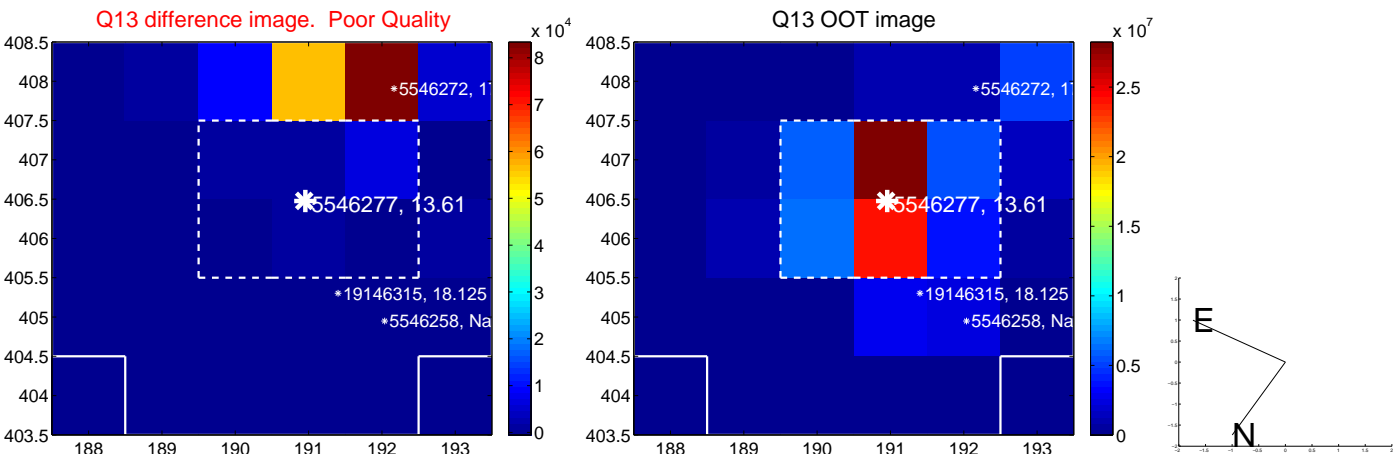
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



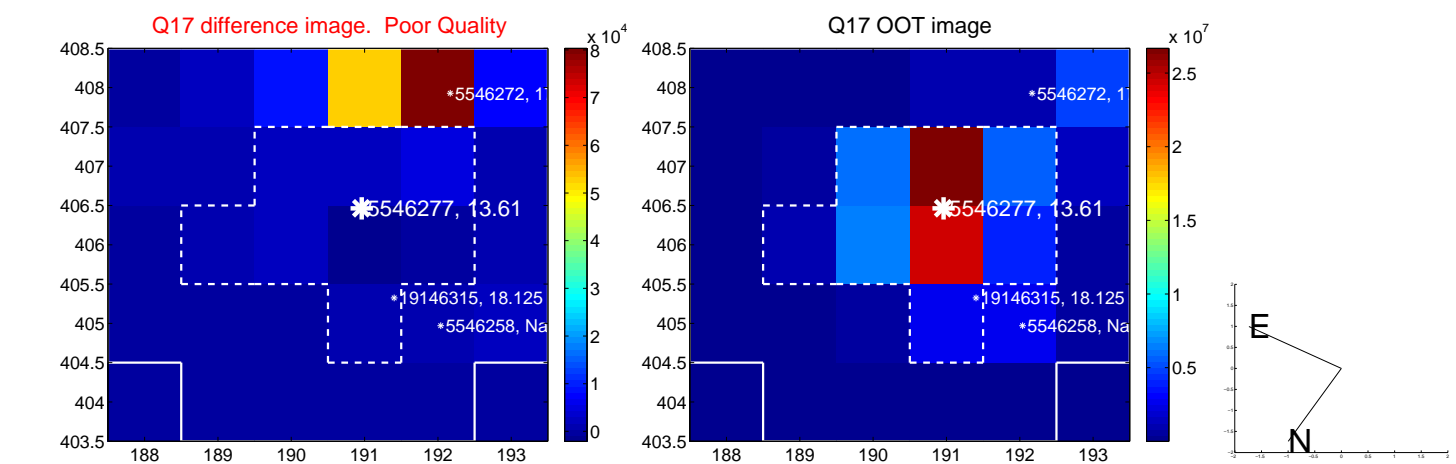
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



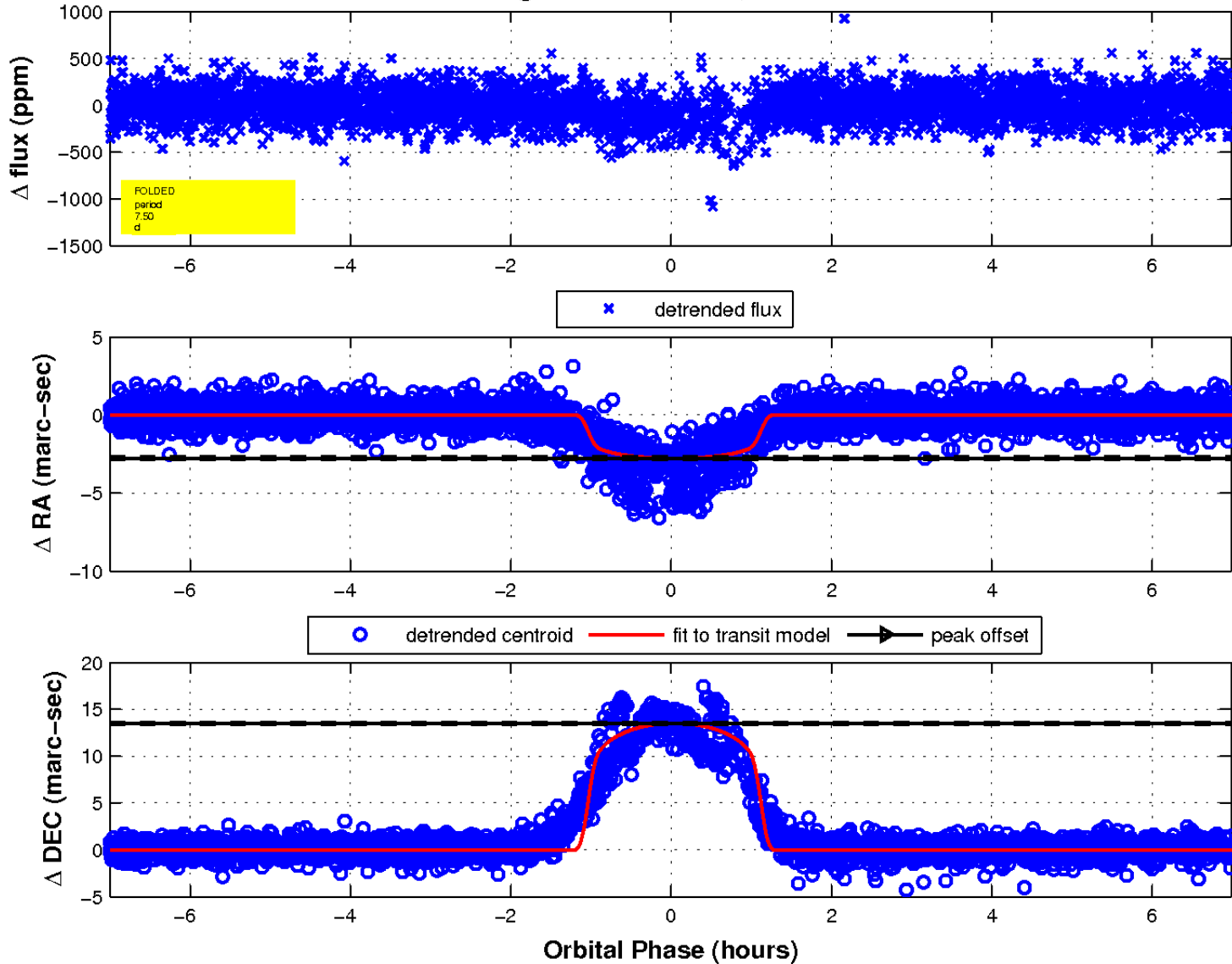
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 2 of 2



UKIRT Image

Declination

