

KIC 005088536

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})
005088536-01	OBS	0282.01	27.508694	154.595320	632.6	5.997	137.7	138.4	1.14	5903	3.10	45.75
005088536-02	OBS	0282.02	8.457441	139.068103	76.0	3.409	24.5	26.9	1.14	5903	1.17	220.48
005088536-03	OBS	0282.03	87.517994	201.156434	127.1	1.971	10.9	11.5	1.14	5903	1.50	9.78

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005088536-01	OBS	PC	1.00	0	0	0	0	NO_COMMENT
005088536-02	OBS	PC	1.00	0	0	0	0	NO_COMMENT
005088536-03	OBS	PC	0.89	0	0	0	0	NO_COMMENT

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

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

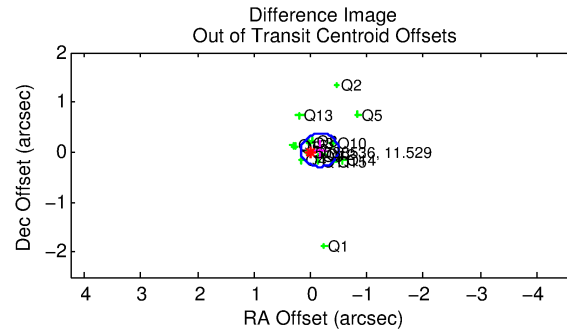
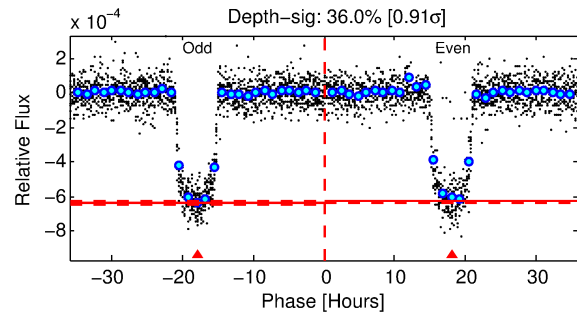
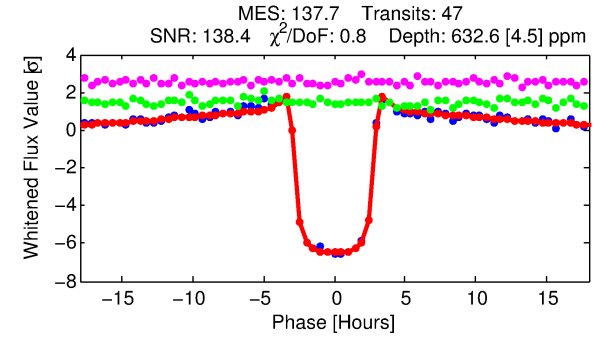
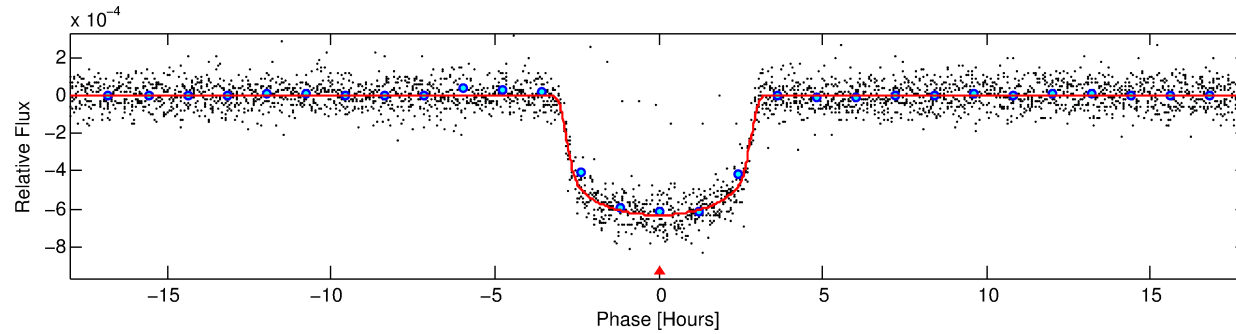
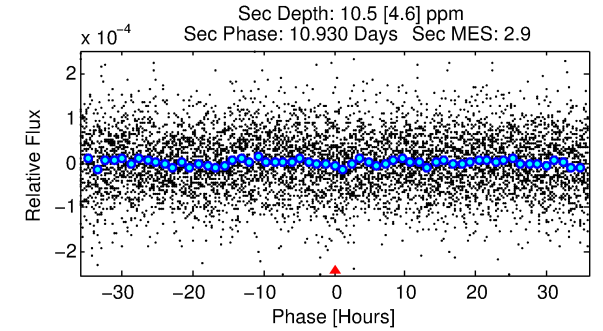
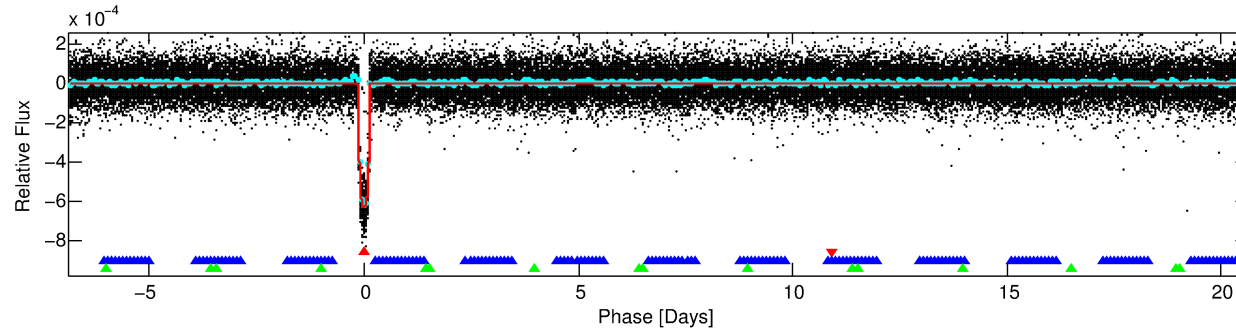
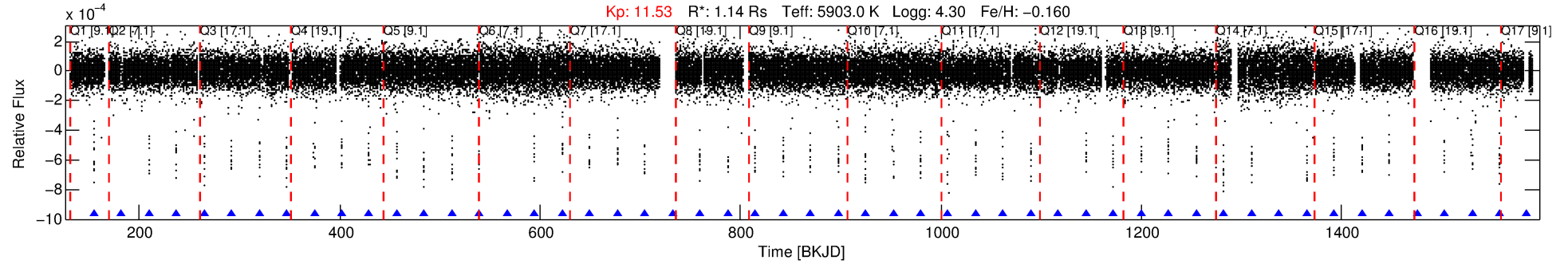
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005088536-01

No Significant Match Found

DV One-Page Summary

KIC: 5088536 Candidate: 1 of 3 Period: 27.509 d
KOI: K00282.01 Name: Kepler-130c Corr: 0.987



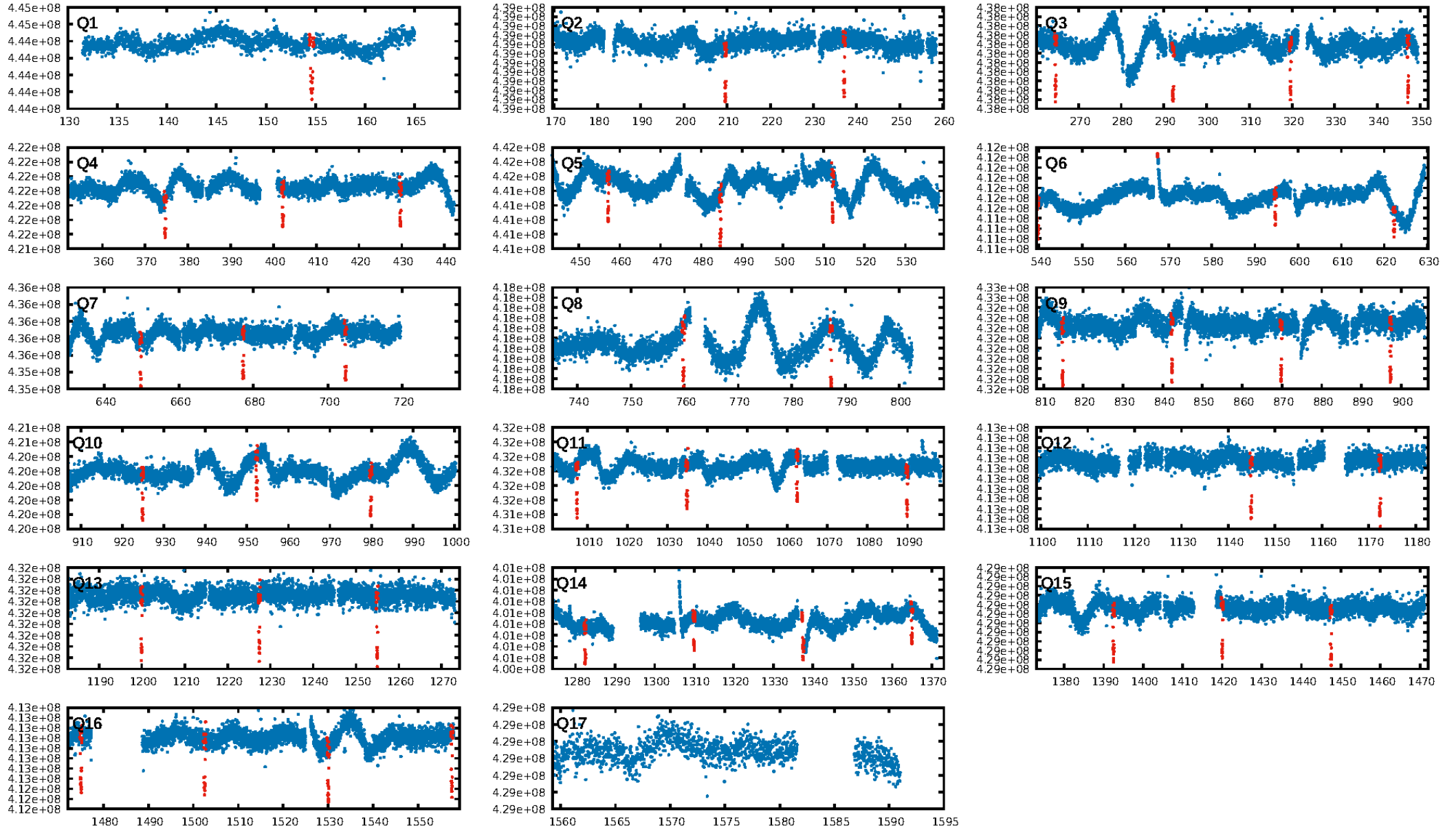
DV Fit Results:

Period = 27.50869 [0.00002] d
Epoch = 154.5953 [0.0007] BKJD
Rp/R* = 0.0250 [0.0007]
a/R* = 24.80 [3.45]
b = 0.74 [0.09]
Seff = 45.75 [3.13]
Teff = 663 [11] K
Rp = 3.10 [0.16] Re
a = 0.1753 [0.0058] AU
Ag = 18.54 [8.22] [2.13σ]
Teffp = 2128 [236] K [6.19σ]

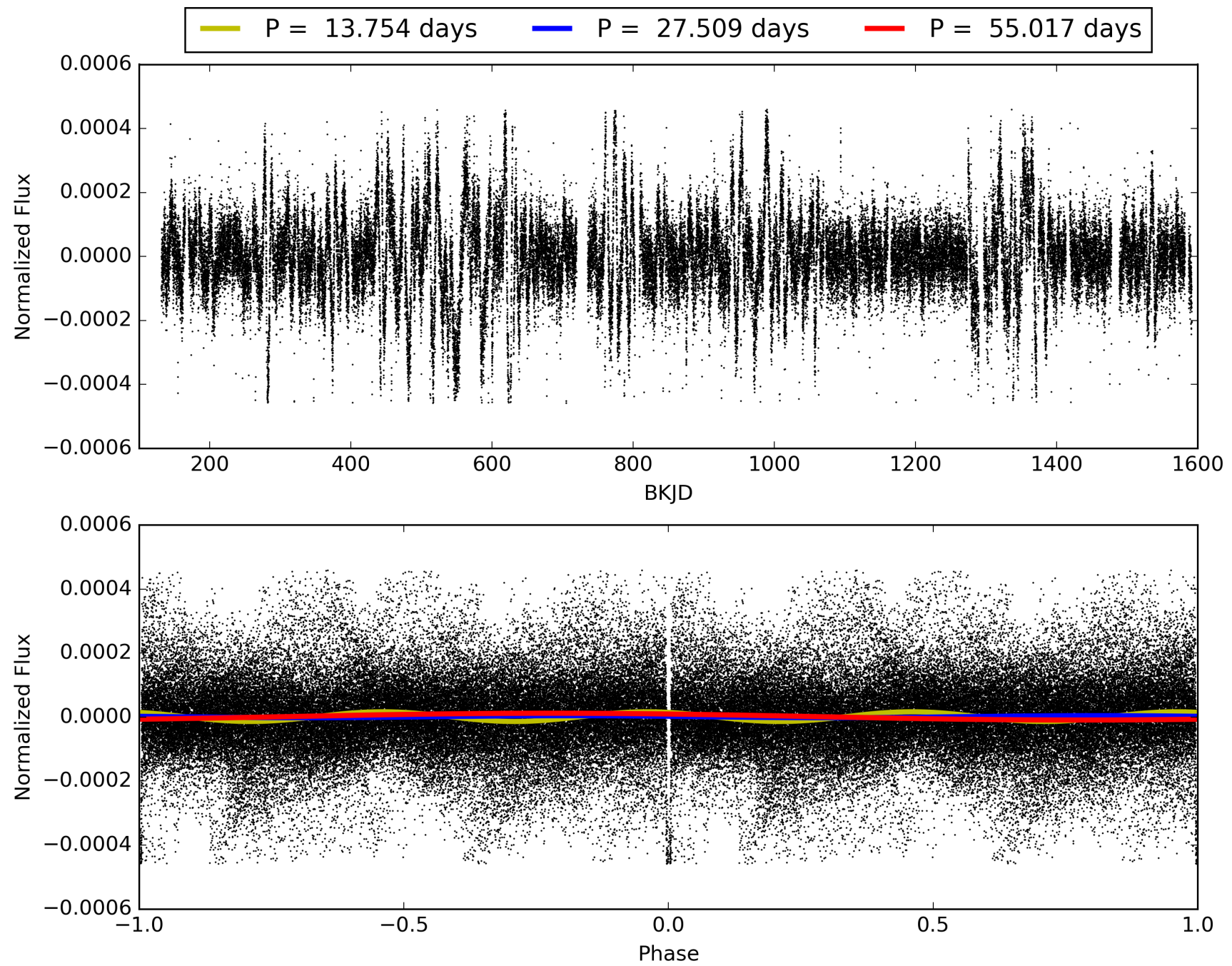
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [66.28σ]
LongPeriod-sig: 100.0% [228.14σ]
ModelChiSquare2-sig: 35.5%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 1.00 [46/46]
GhostDiagnostic-chr: 8.456
Centroid-sig: 72.8%
Centroid-so: 0.314 arcsec [4.95σ]
OotOffset-rm: 0.166 arcsec [1.50σ]
KicOffset-rm: 0.339 arcsec [2.58σ]
OotOffset-st: 4/4/4/4 [16]
KicOffset-st: 4/4/4/4 [16]
DiffImageQuality-fgm: 1.00 [16/16]
DiffImageOverlap-fno: 1.00 [16/16]

TCE 005088536-01, PDC Light Curves

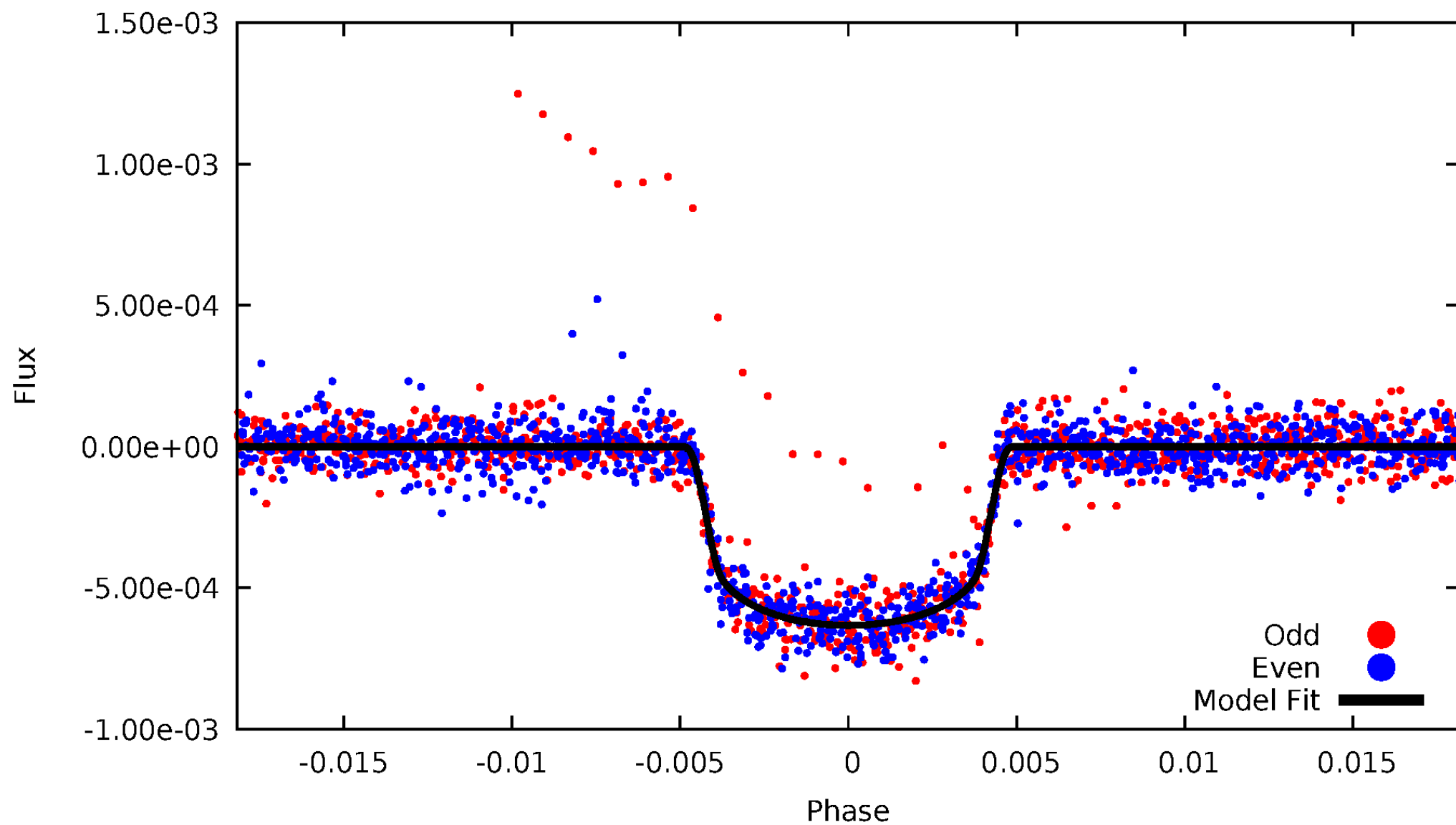


TCE 005088536-01



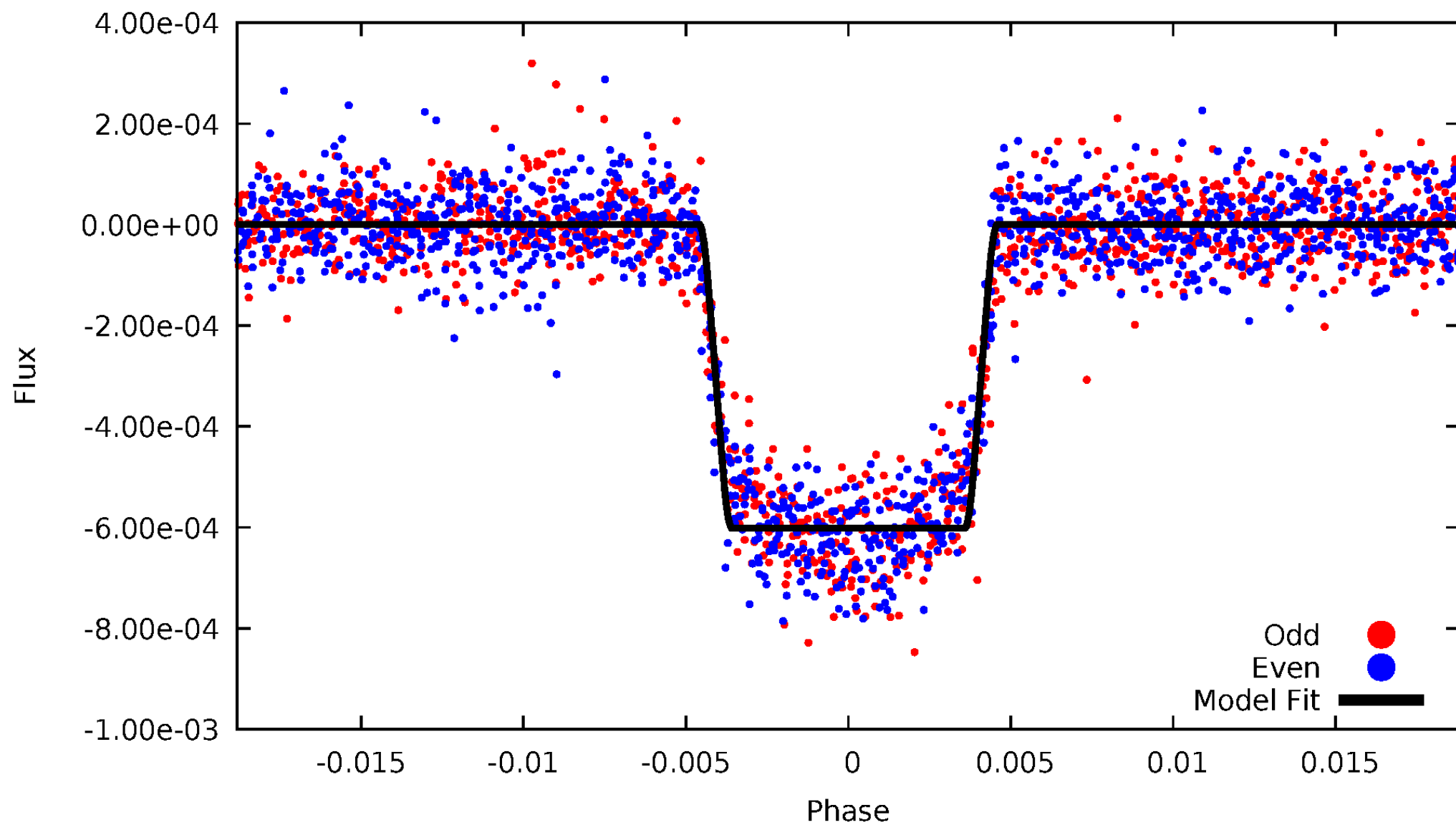
DV Odd/Even

TCE 005088536-01



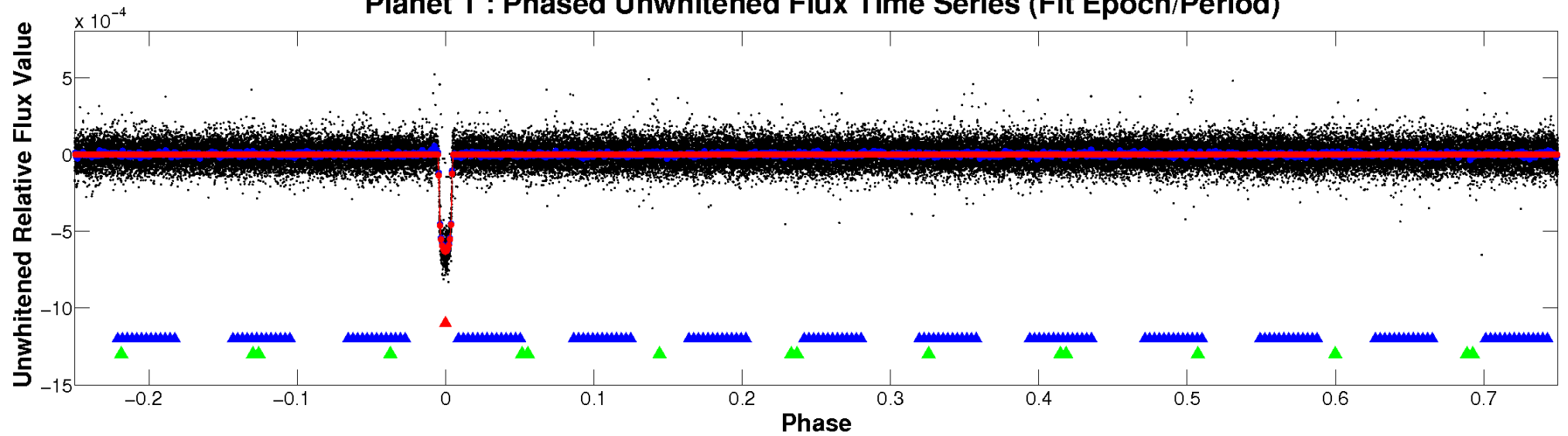
ALT Odd/Even

TCE 005088536-01

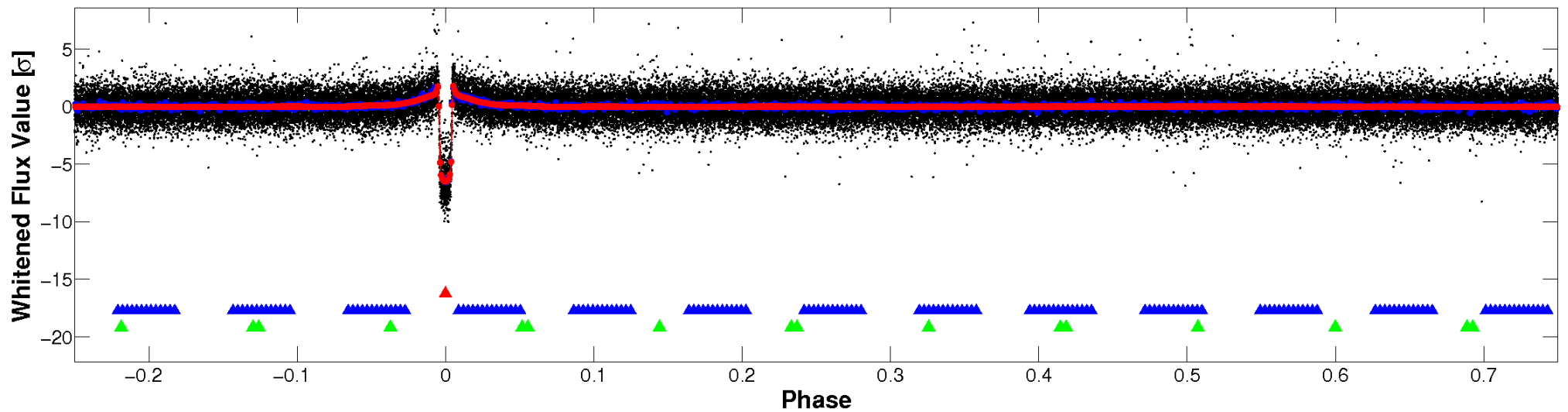


Non-Whitened Vs. Whitened Light Curve

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

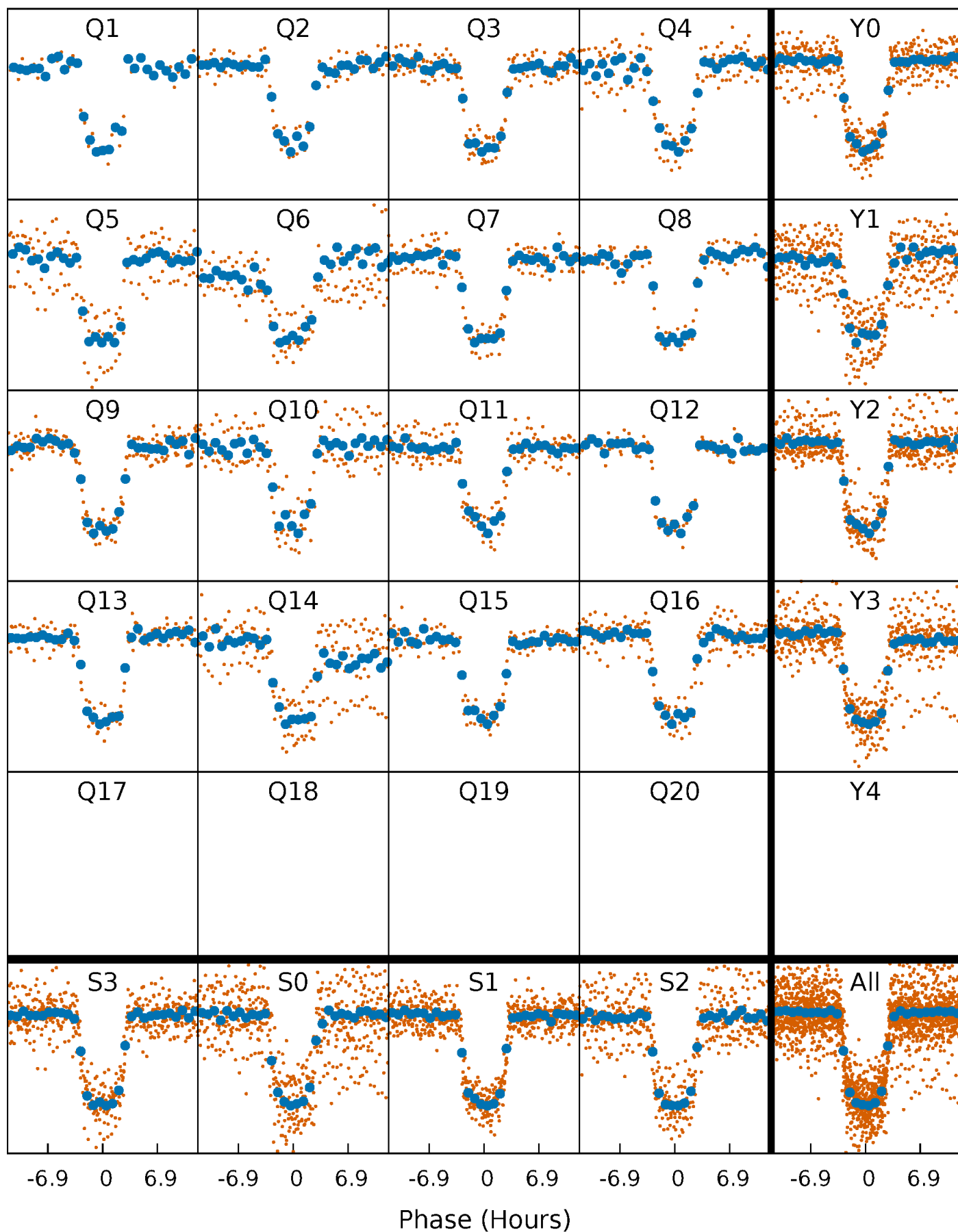


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



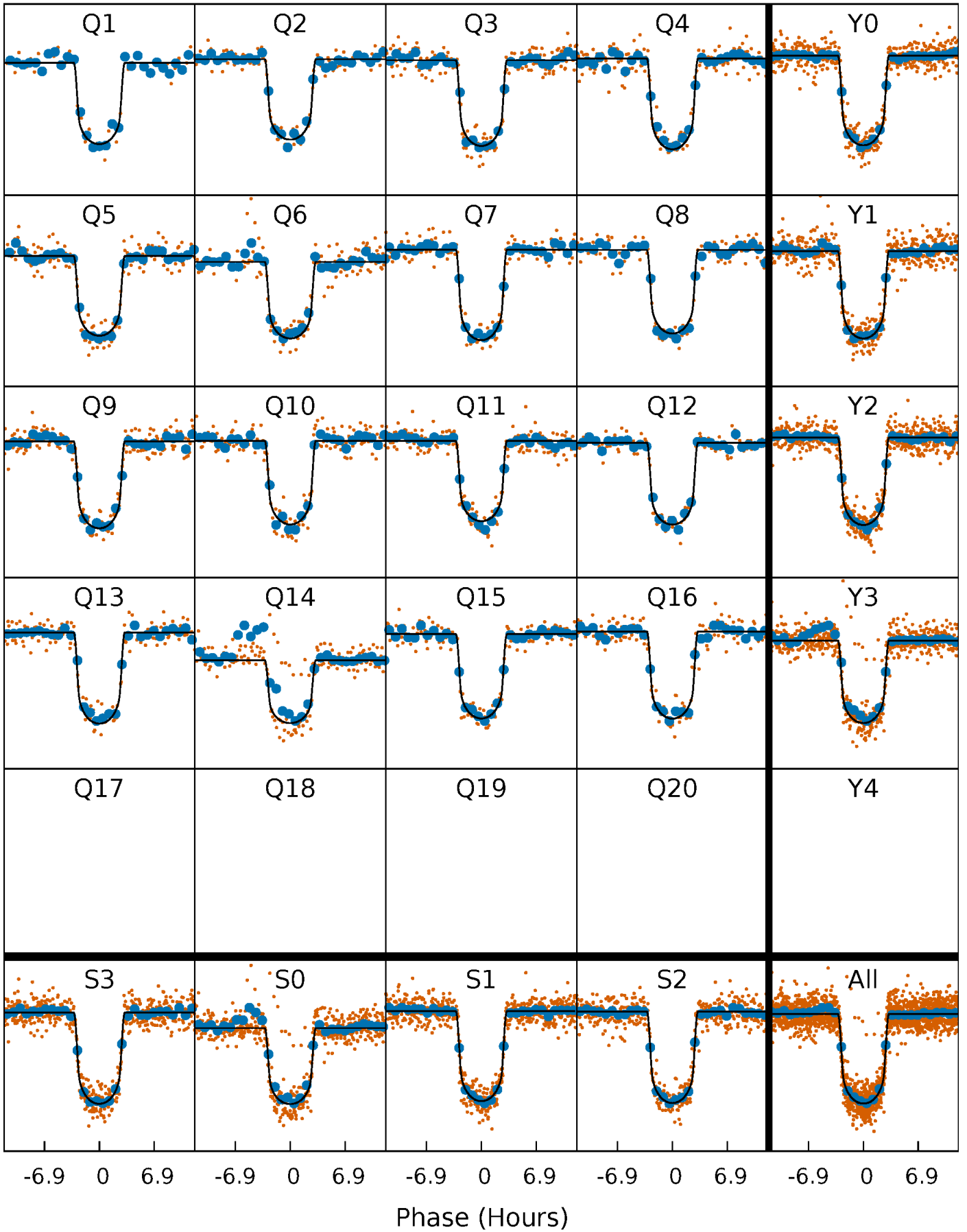
PDC Quarter-Phased Transit Curves

TCE 005088536-01 P= 27.508694 Days $T_0=154.595320$ (BKJD)



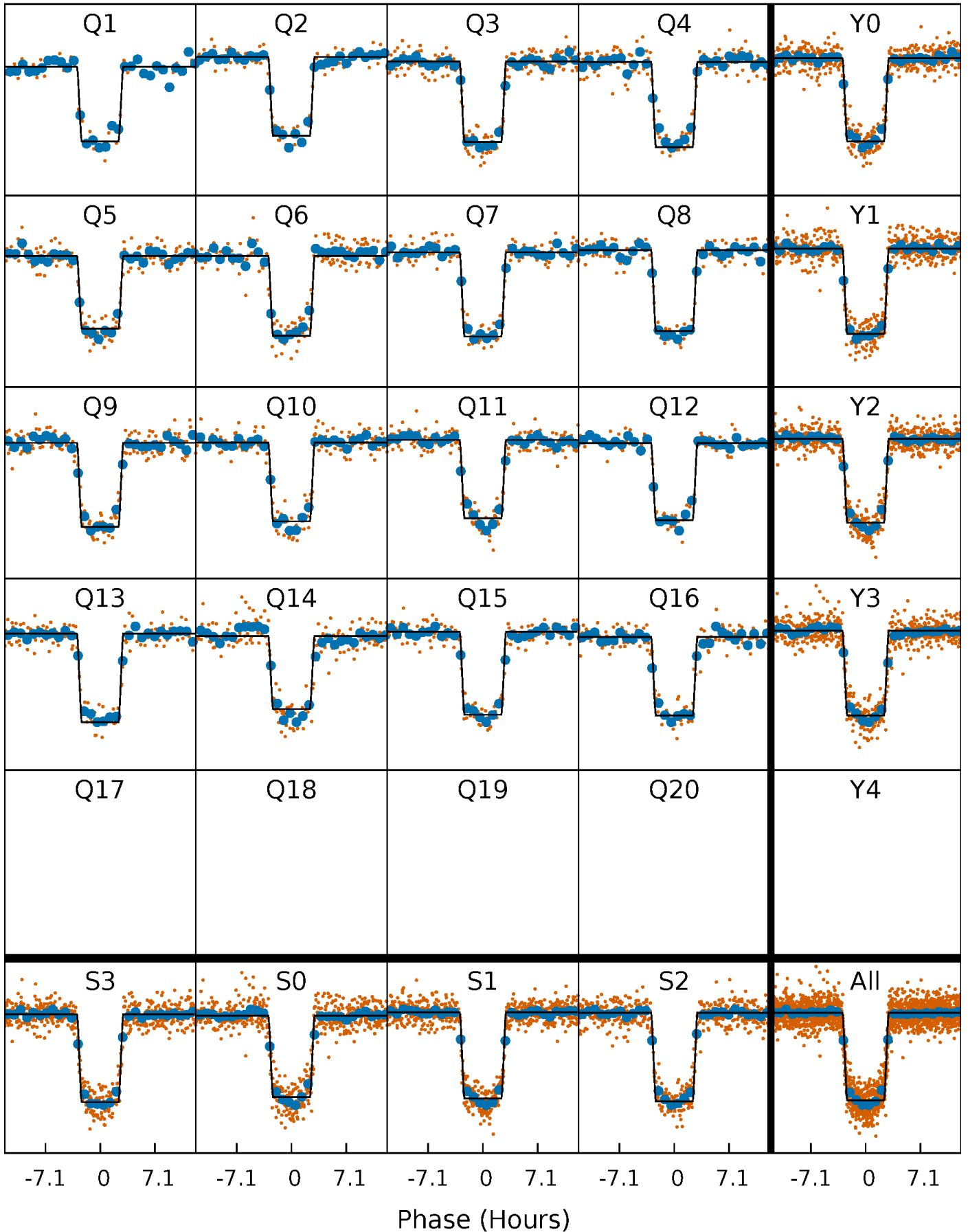
DV Quarter-Phased Transit Curves

TCE 005088536-01 P= 27.508694 Days $T_0=154.595320$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

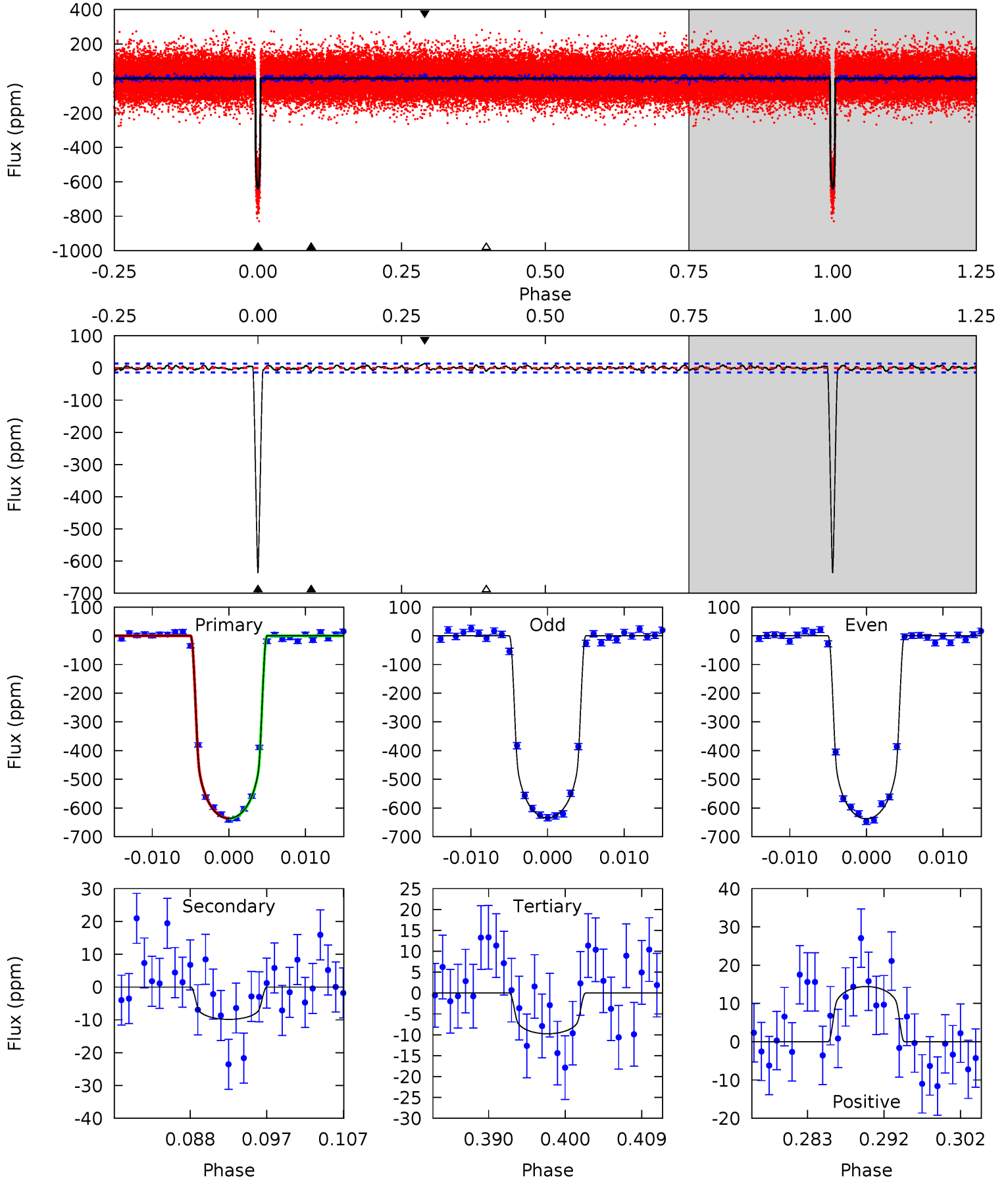
TCE 005088536-01 P= 27.508593 Days $T_0=154.597562$ (BKJD)



DV Model-Shift Uniqueness Test

005088536-01, P = 27.508694 Days, E = 127.086626 Days

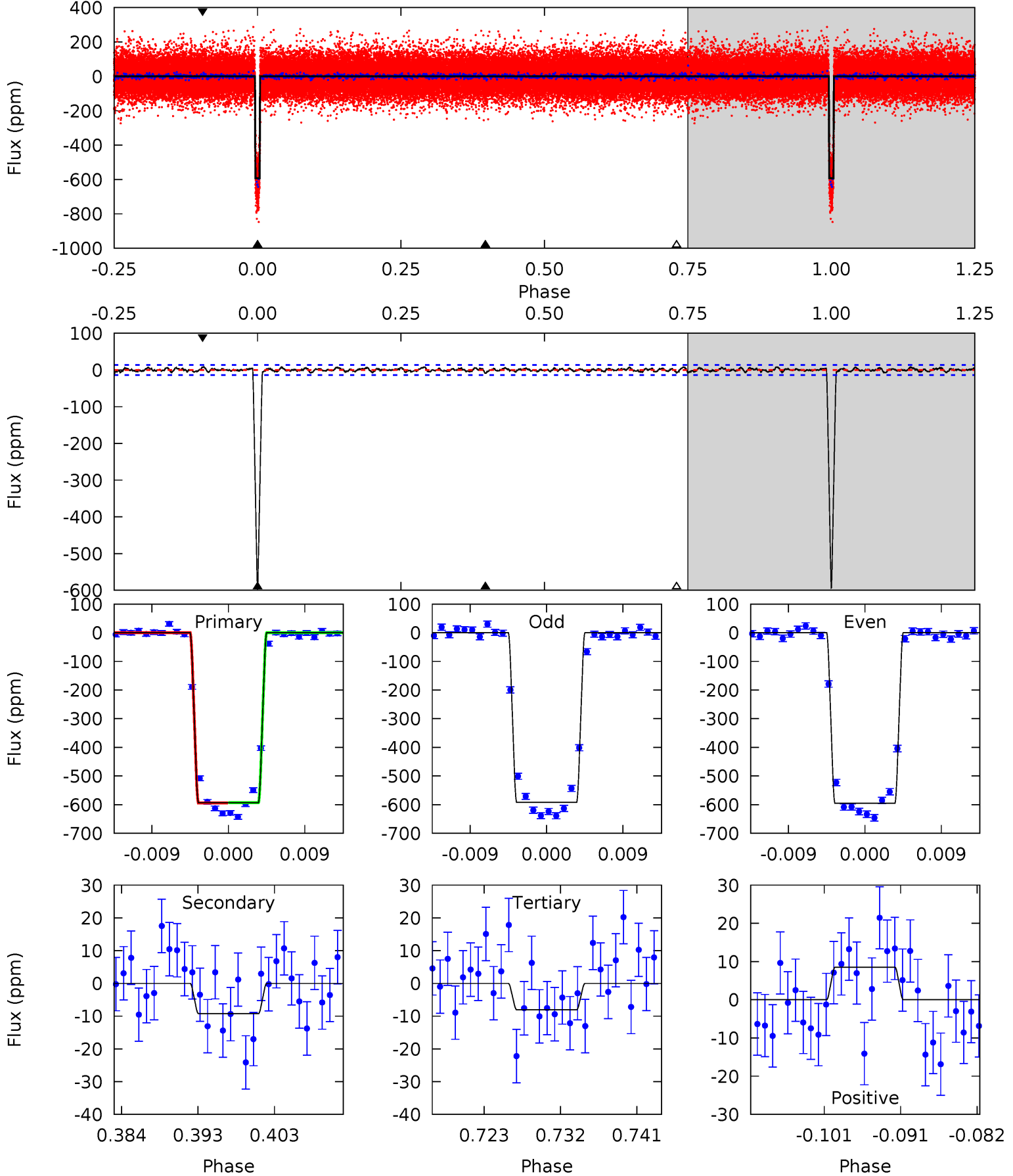
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
233.2	3.61	3.58	5.28	5.03	2.58	1.48	229.7	227.9	0.03	-1.67	0.59	0.98	0.02	0.25



Alt Model-Shift Uniqueness Test

005088536-01, P = 27.508593 Days, E = 127.088969 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
218.7	3.41	2.97	3.14	5.04	2.61	1.12	215.7	215.6	0.44	0.27	0.59	1.01	0.01	0.17



Stellar Parameters For KIC 005088536

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5903^{+70}_{-79}	$4.304^{+0.020}_{-0.018}$	$-0.160^{+0.150}_{-0.150}$	$1.137^{+0.050}_{-0.046}$	$0.950^{+0.068}_{-0.061}$	$0.911^{+0.076}_{-0.063}$
	+1%/-1%	+0%/-0%	+94%/-94%	+4%/-4%	+7%/-6%	+8%/-7%
Source	SPE72	AST8	SPE72	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

Secondary Eclipse Parameters for KIC 005088536-01 / KOI 0282.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-10 ± 3	$3.11^{+0.12}_{-0.12}$	926^{+13}_{-14}	2821^{+103}_{-118}	17^{+5}_{-5}
Alt.	-9 ± 3	$3.05^{+0.12}_{-0.13}$	926^{+14}_{-14}	2814^{+104}_{-123}	17^{+5}_{-5}

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 $A_{\text{obs}} \gg 1.0$

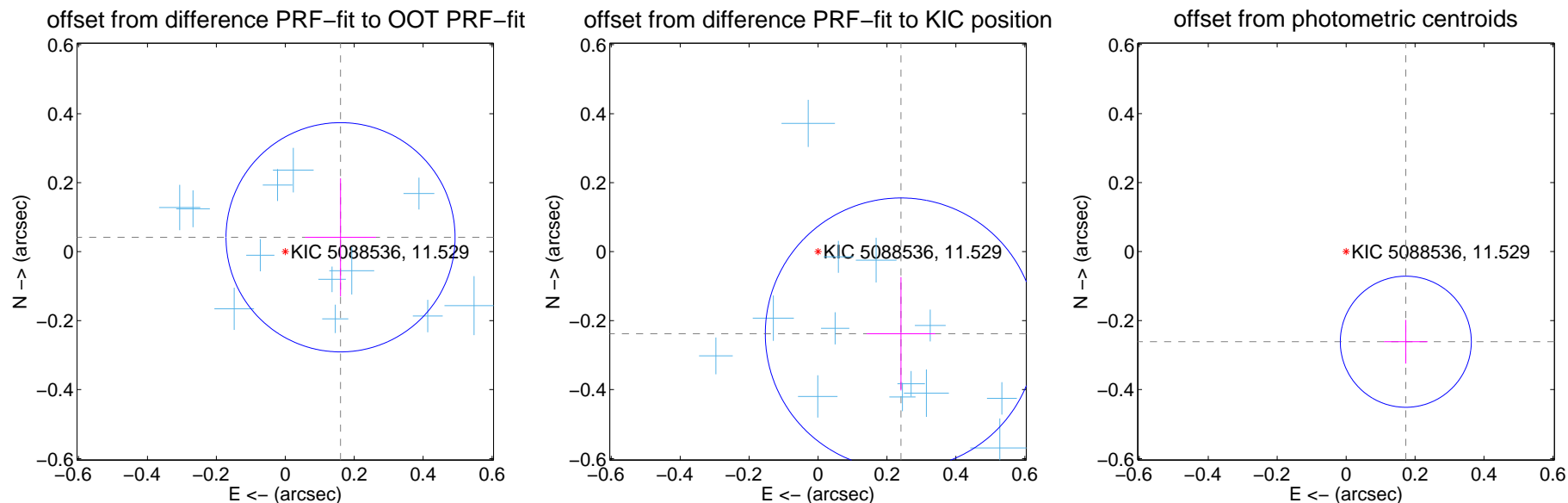
DV Centroid Data

Supplemental centroid analysis for 005088536-01. **Kepler magnitude: 11.53**. Transit SNR 138.36

There are 16 quarters with good PRF difference image offsets

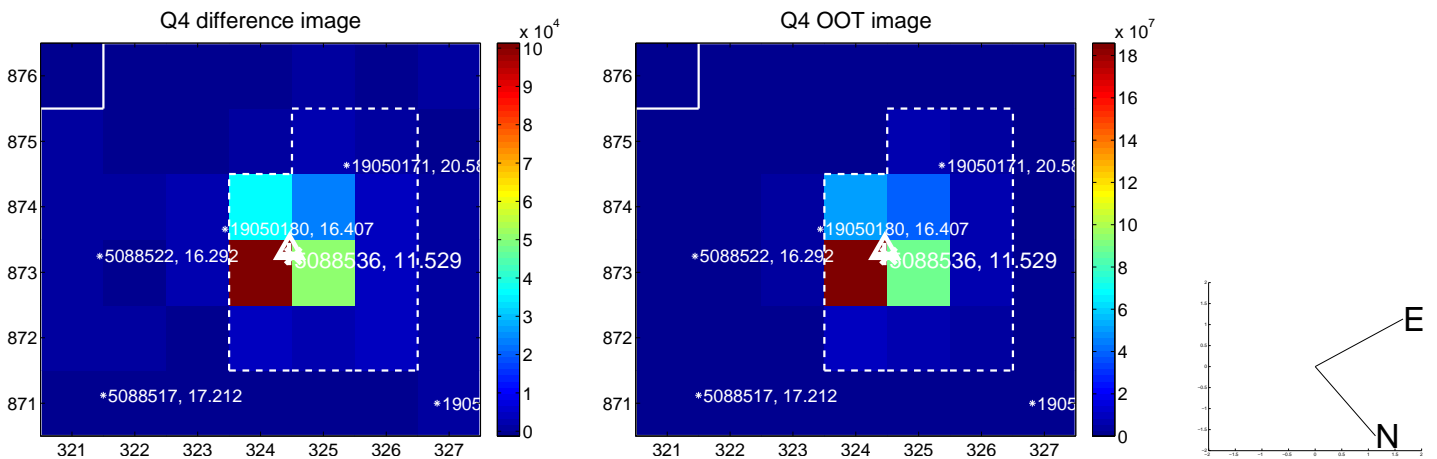
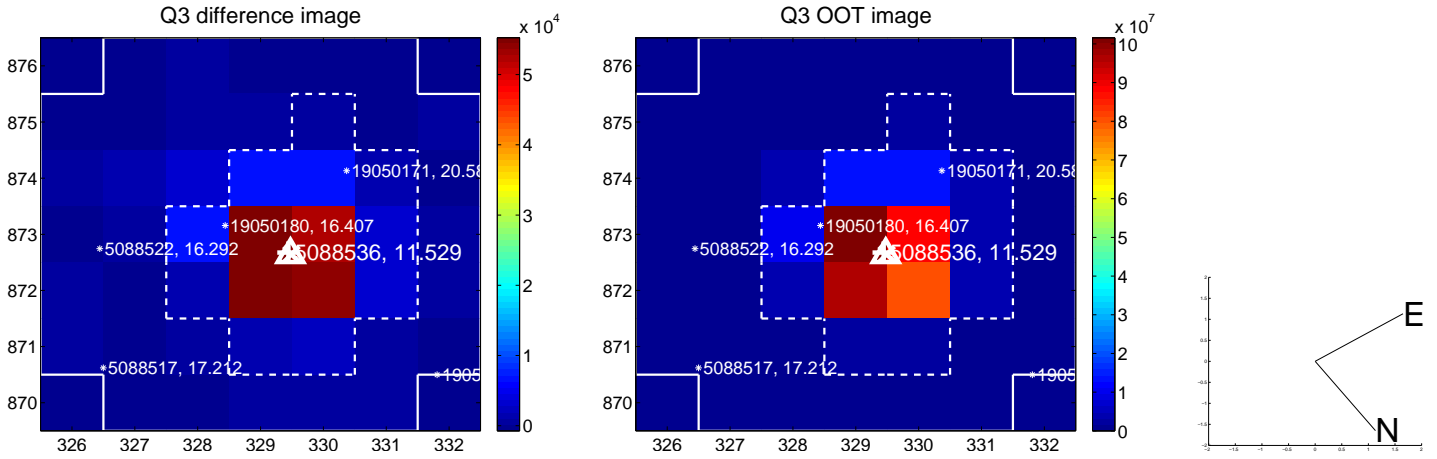
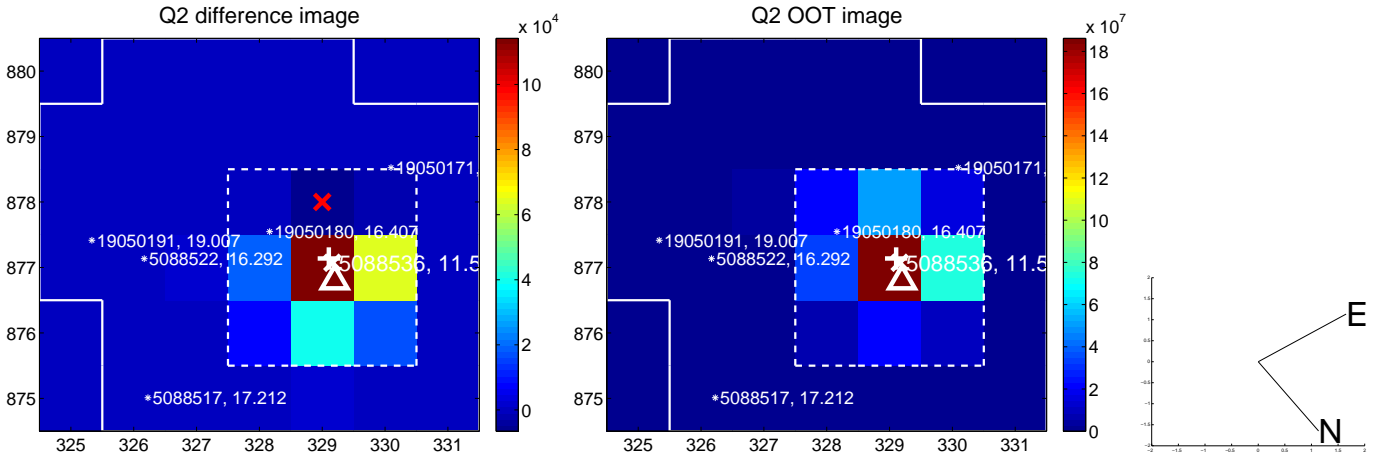
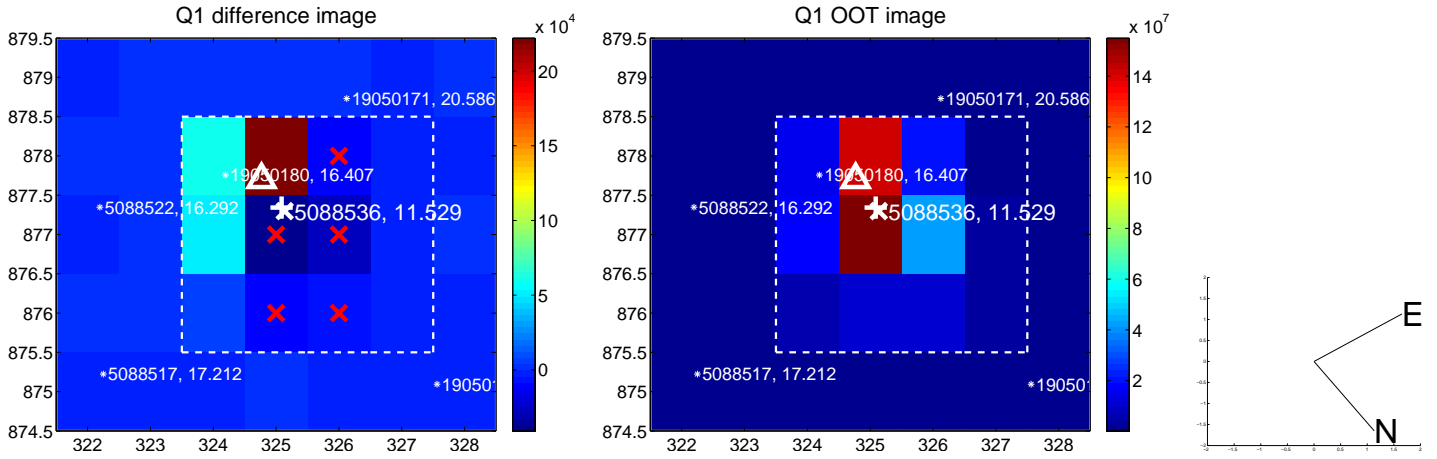
The direct PRF centroid is offset from the target star catalog position by about 0.37 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.166 ± 0.111	1.50	-0.160 ± 0.103	0.042 ± 0.171
PRF-fit source offset from KIC position	0.339 ± 0.131	2.58	-0.241 ± 0.099	-0.238 ± 0.164
photometric centroid source offset	0.31 ± 0.06	4.95	-0.17 ± 0.06	-0.26 ± 0.06

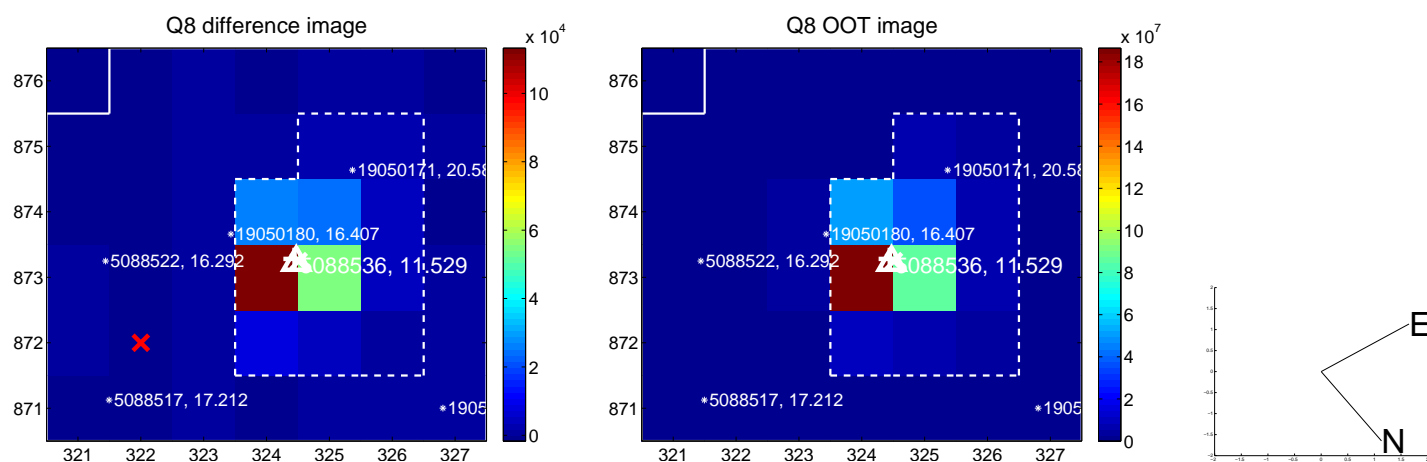
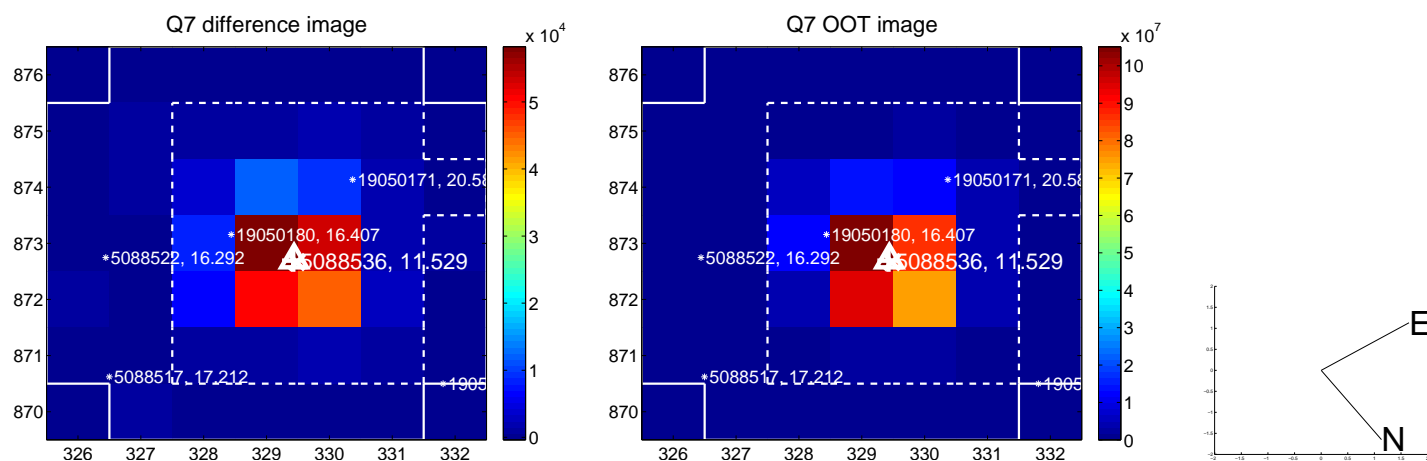
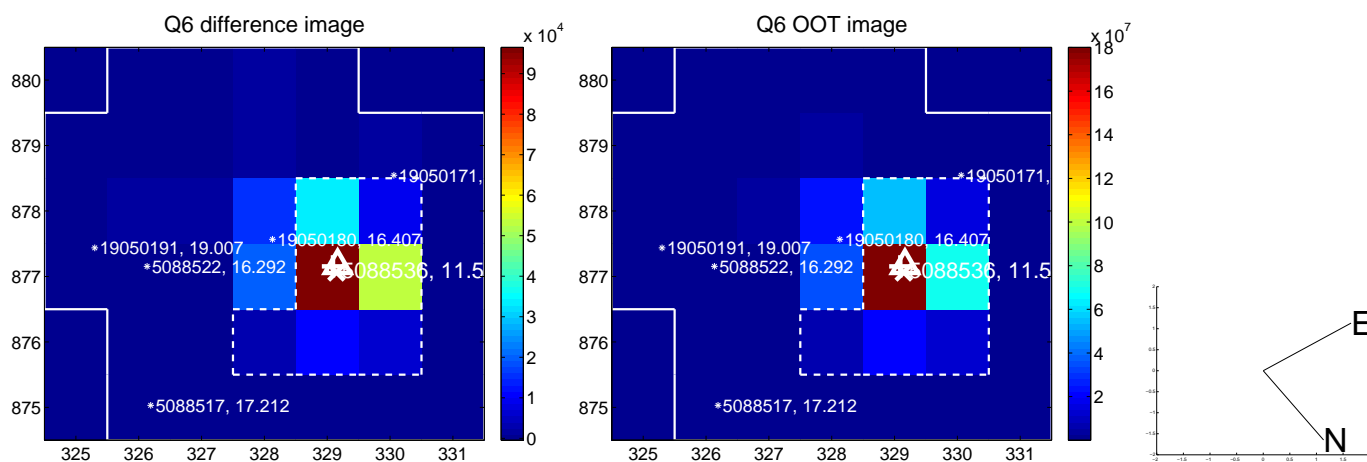
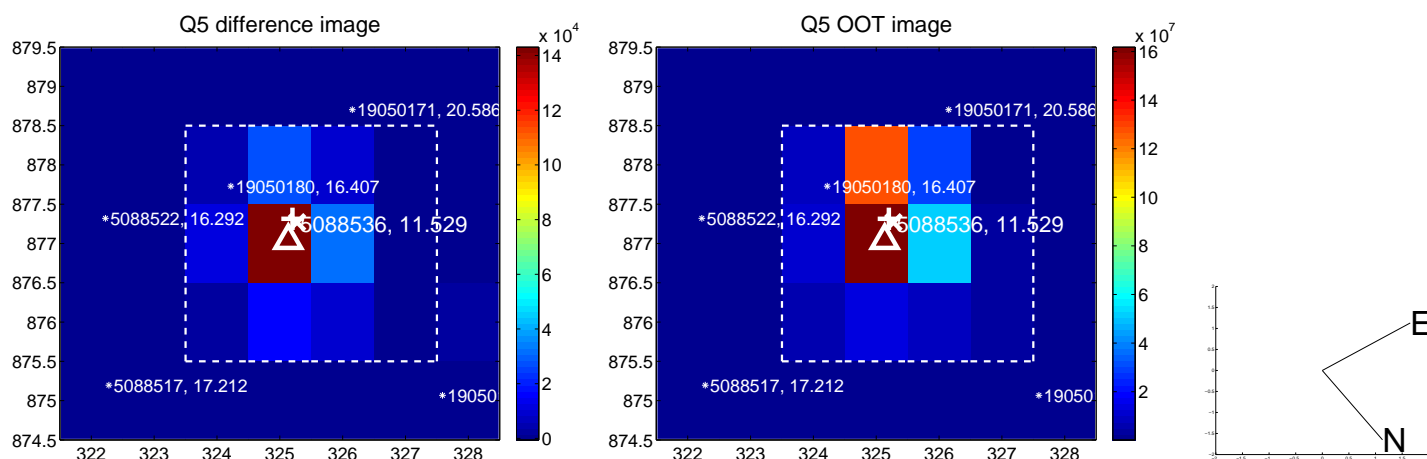


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

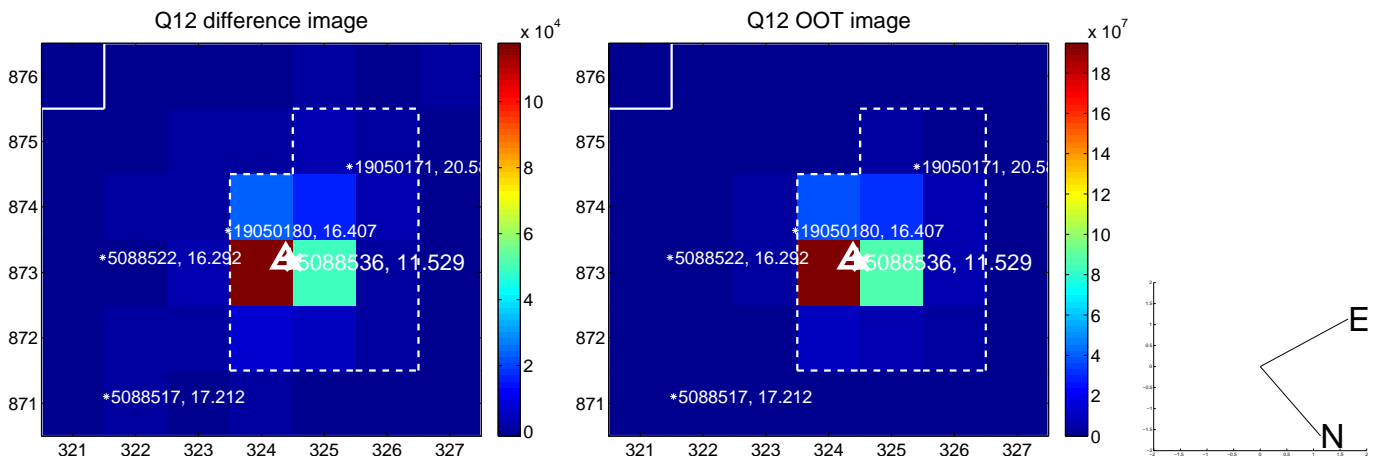
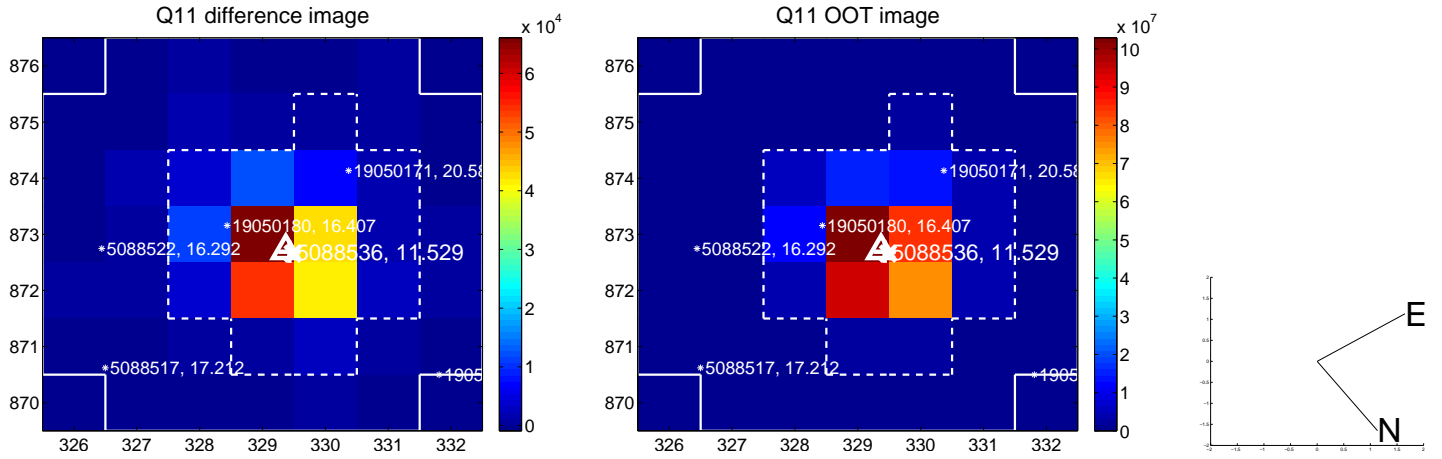
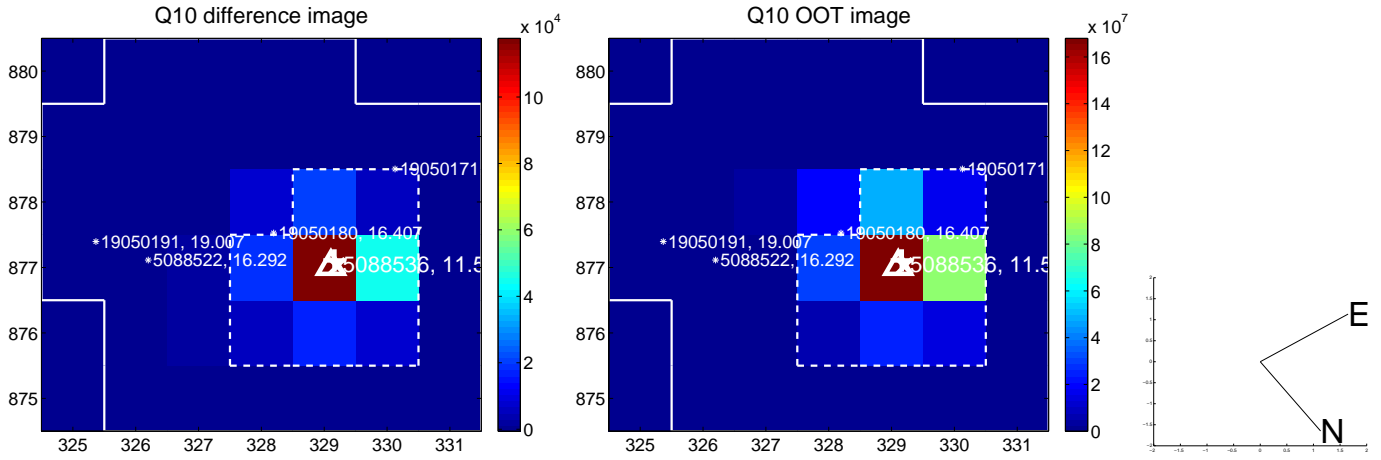
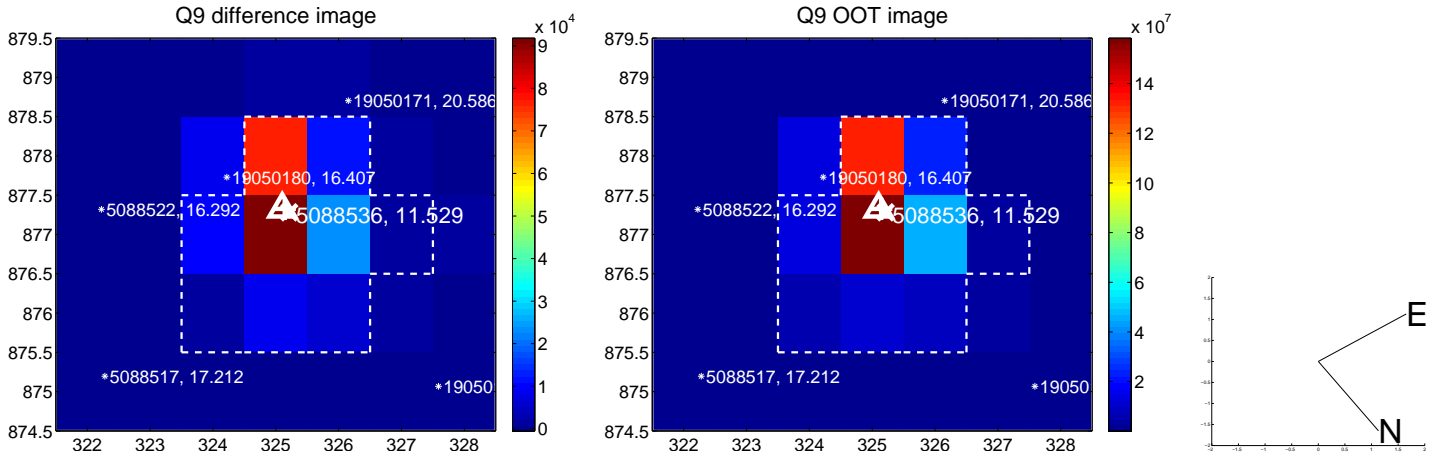
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



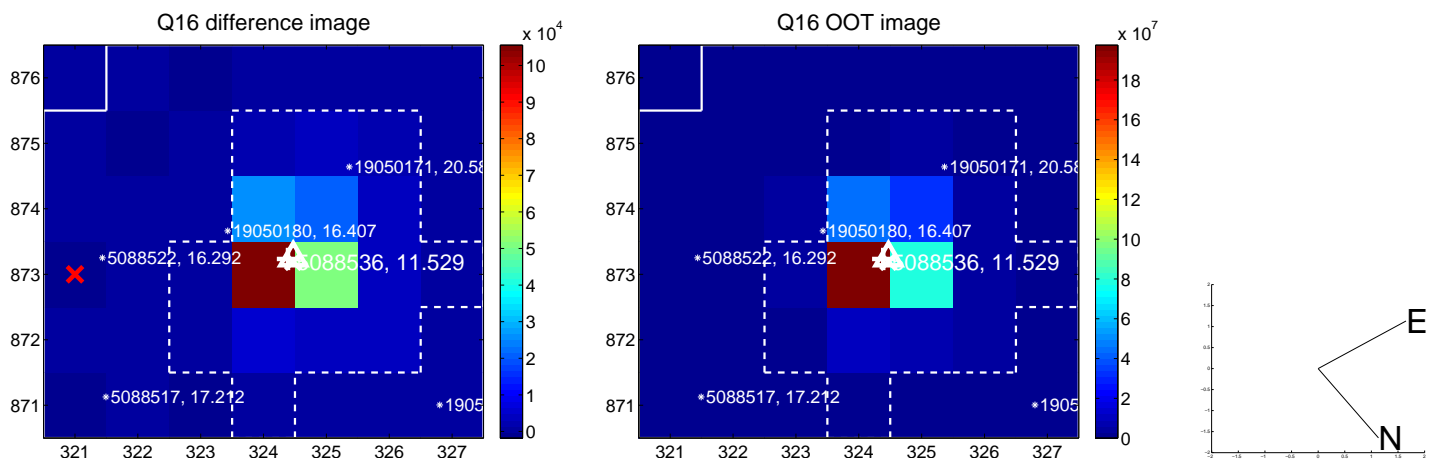
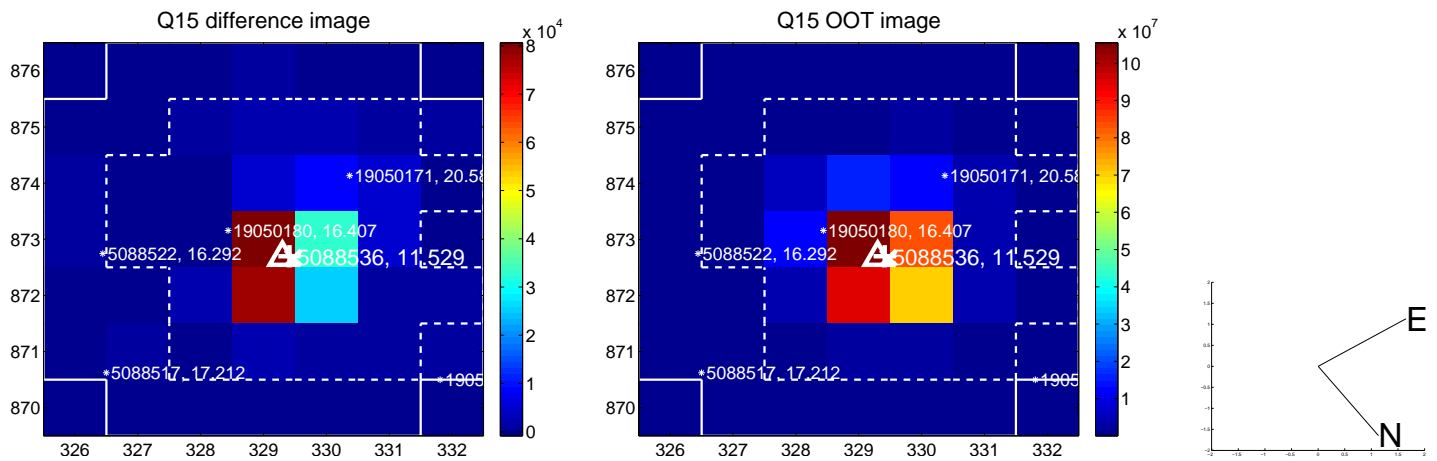
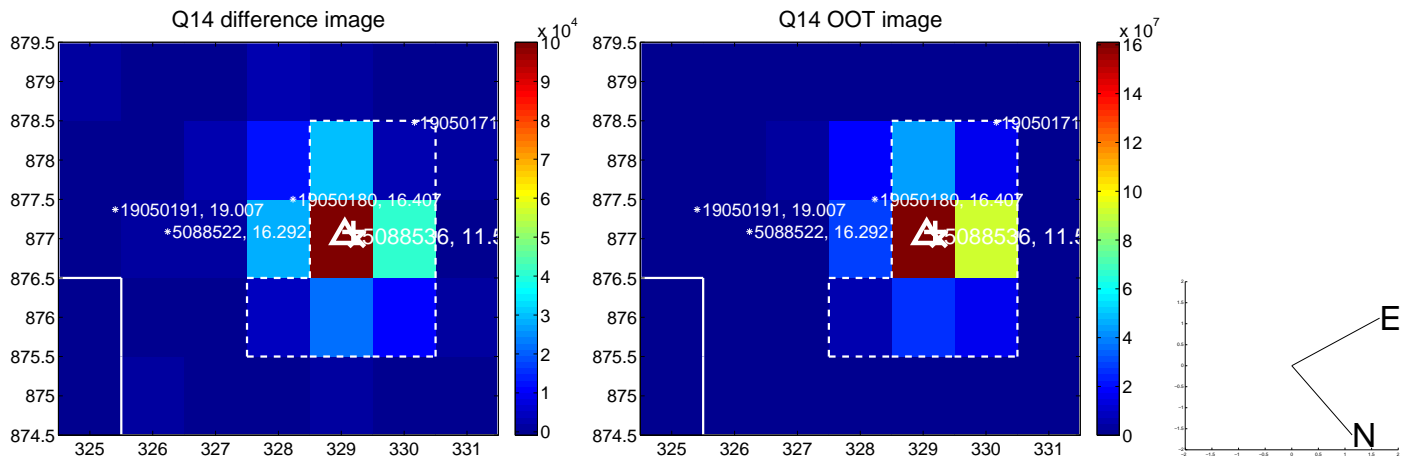
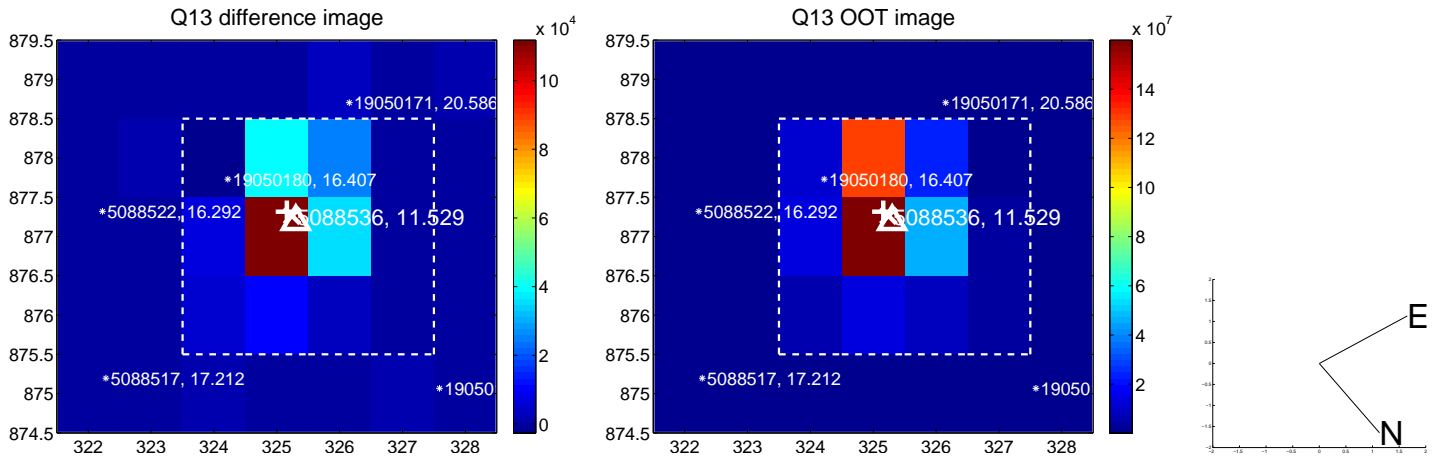
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



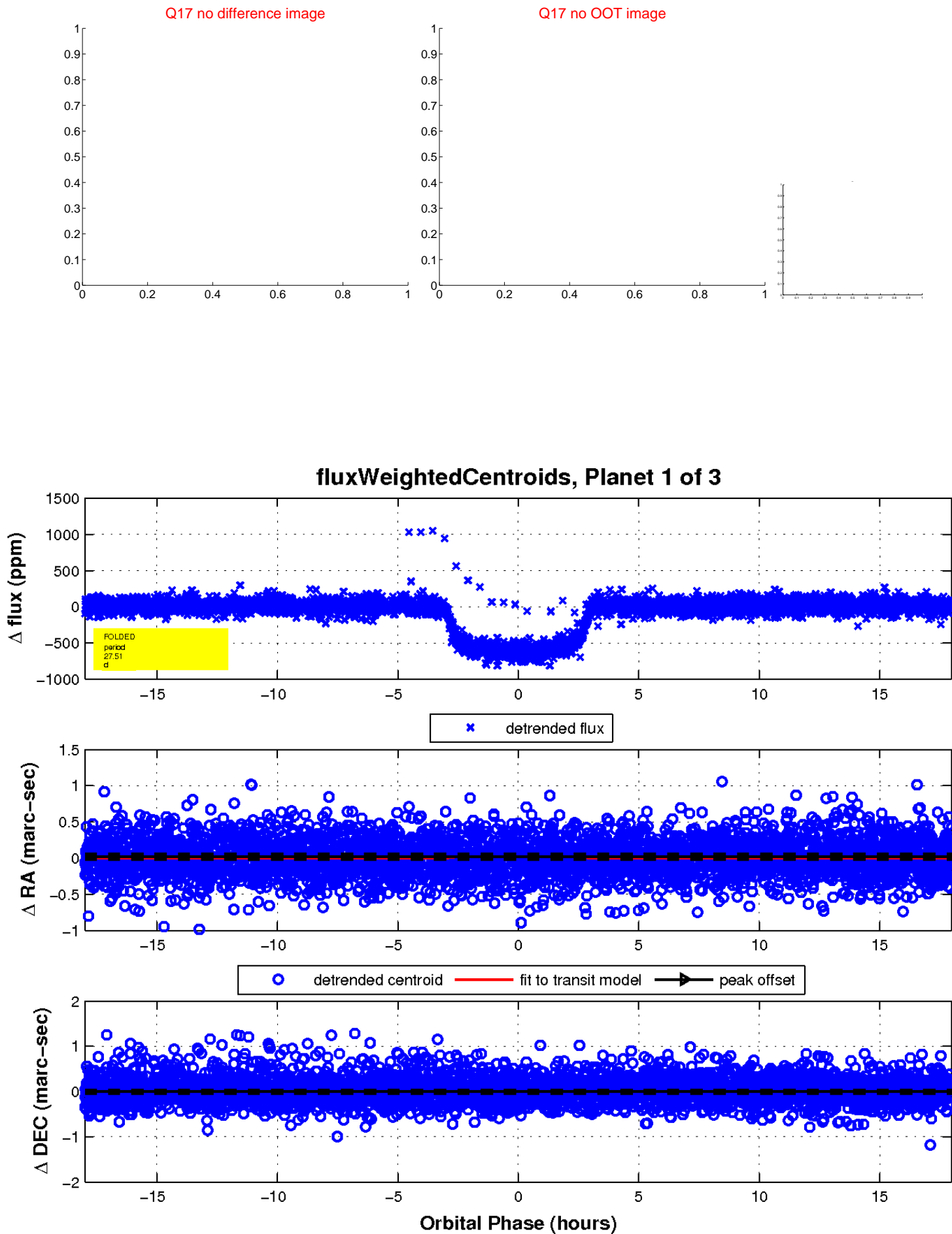
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

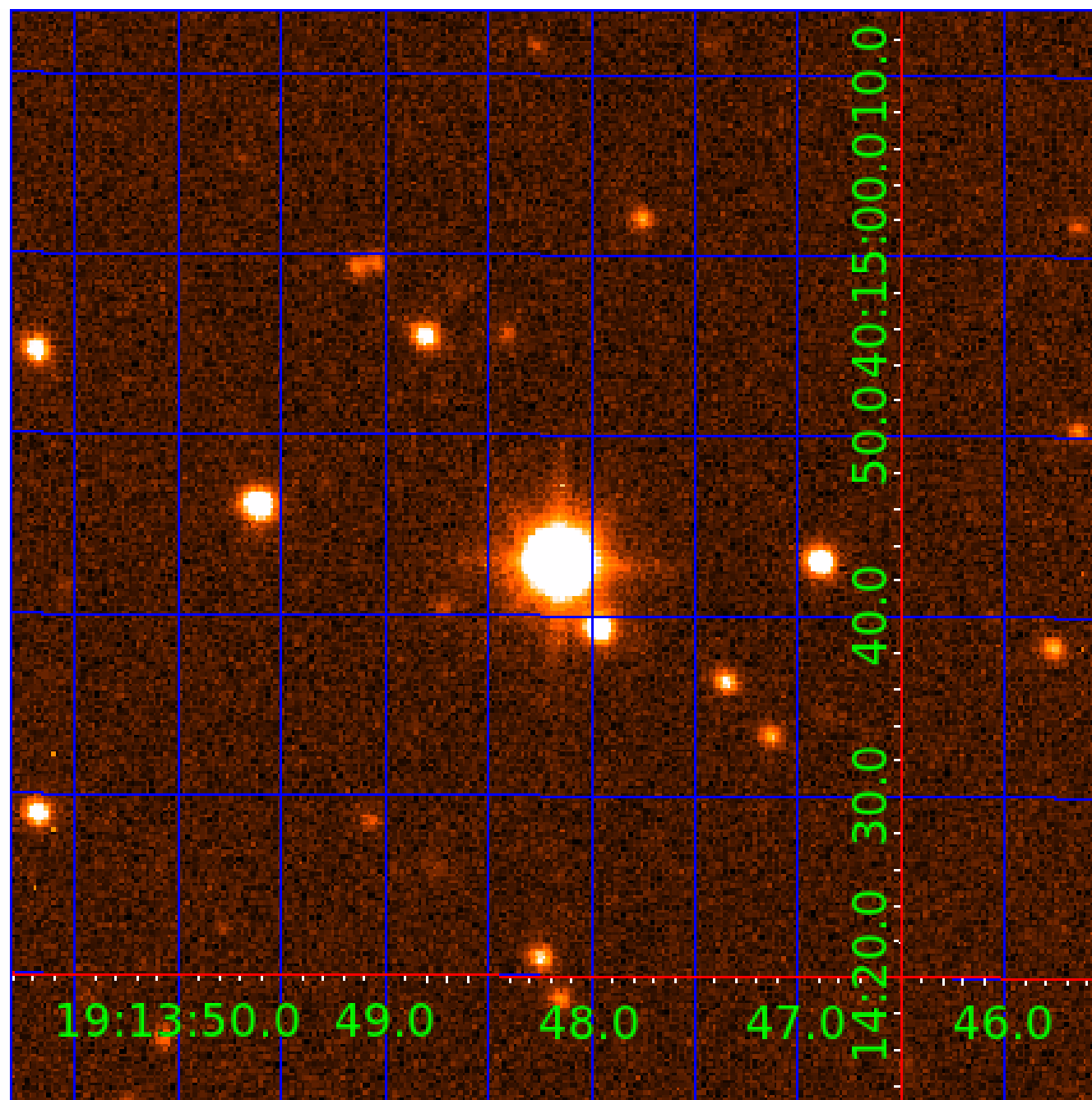


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 005088536

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})
005088536-01	OBS	0282.01	27.508694	154.595320	632.6	5.997	137.7	138.4	1.14	5903	3.10	45.75
005088536-02	OBS	0282.02	8.457441	139.068103	76.0	3.409	24.5	26.9	1.14	5903	1.17	220.48
005088536-03	OBS	0282.03	87.517994	201.156434	127.1	1.971	10.9	11.5	1.14	5903	1.50	9.78

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005088536-01	OBS	PC	1.00	0	0	0	0	NO_COMMENT
005088536-02	OBS	PC	1.00	0	0	0	0	NO_COMMENT
005088536-03	OBS	PC	0.89	0	0	0	0	NO_COMMENT

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.

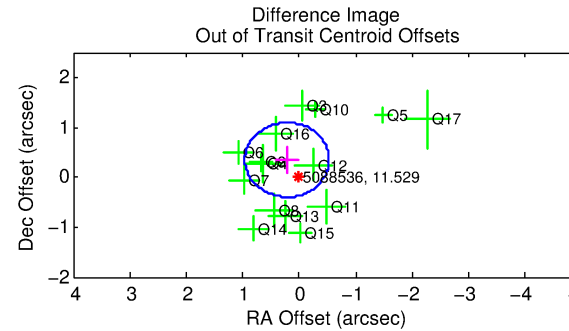
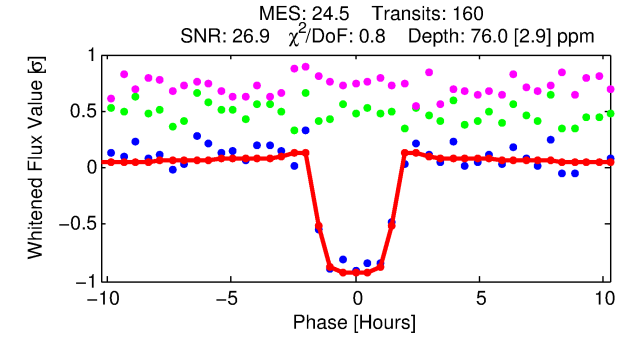
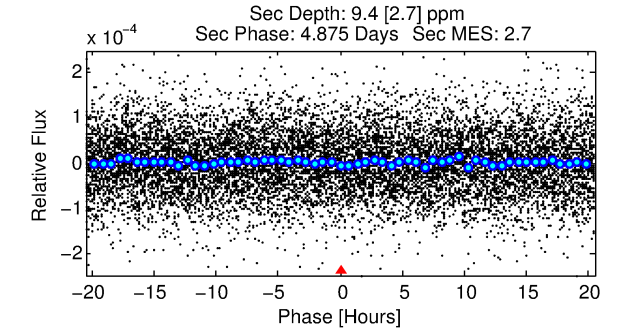
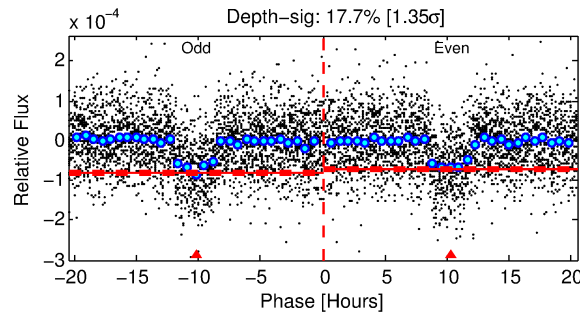
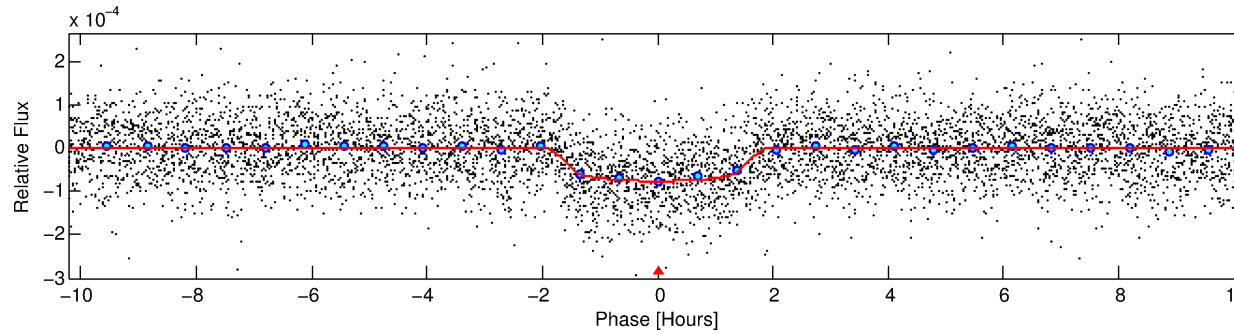
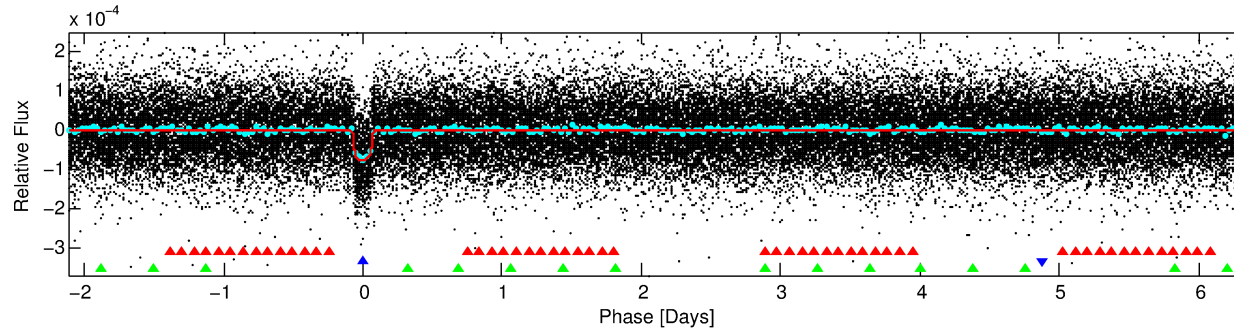
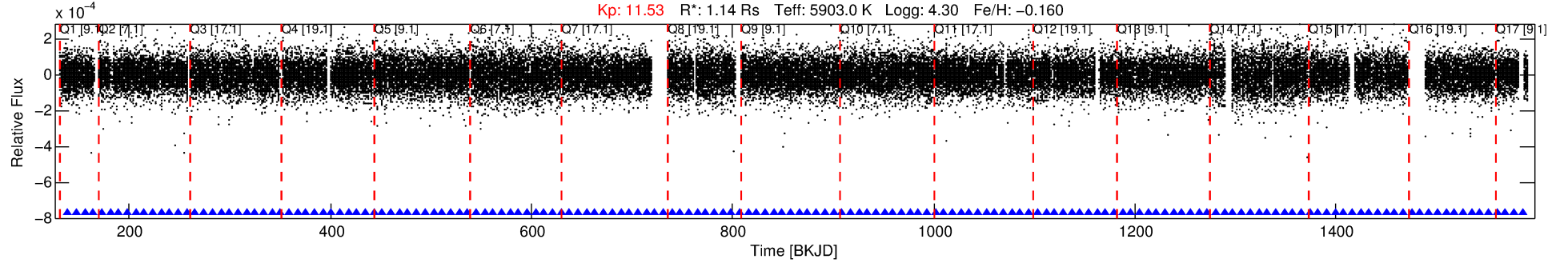
Ephemeris Match Information For 005088536-02

No Significant Match Found

DV One-Page Summary

KIC: 5088536 Candidate: 2 of 3 Period: 8.457 d
KOI: K00282.02 Name: Kepler-130b Corr: 0.989

Kp: 11.53 R*: 1.14 Rs Teff: 5903.0 K Logg: 4.30 Fe/H: -0.160



DV Fit Results:

Period = 8.45744 [0.00002] d
Epoch = 139.0681 [0.0022] BKJD
Rp/R* = 0.0094 [0.0018]
a/R* = 8.72 [8.17]
b = 0.90 [0.20]
Seff = 220.48 [15.06]
Teq = 983 [17] K
Rp = 1.17 [0.23] Re
a = 0.0799 [0.0026] AU
Ag = 24.01 [11.33] [2.03σ]
Teffp = 3363 [398] K [5.98σ]

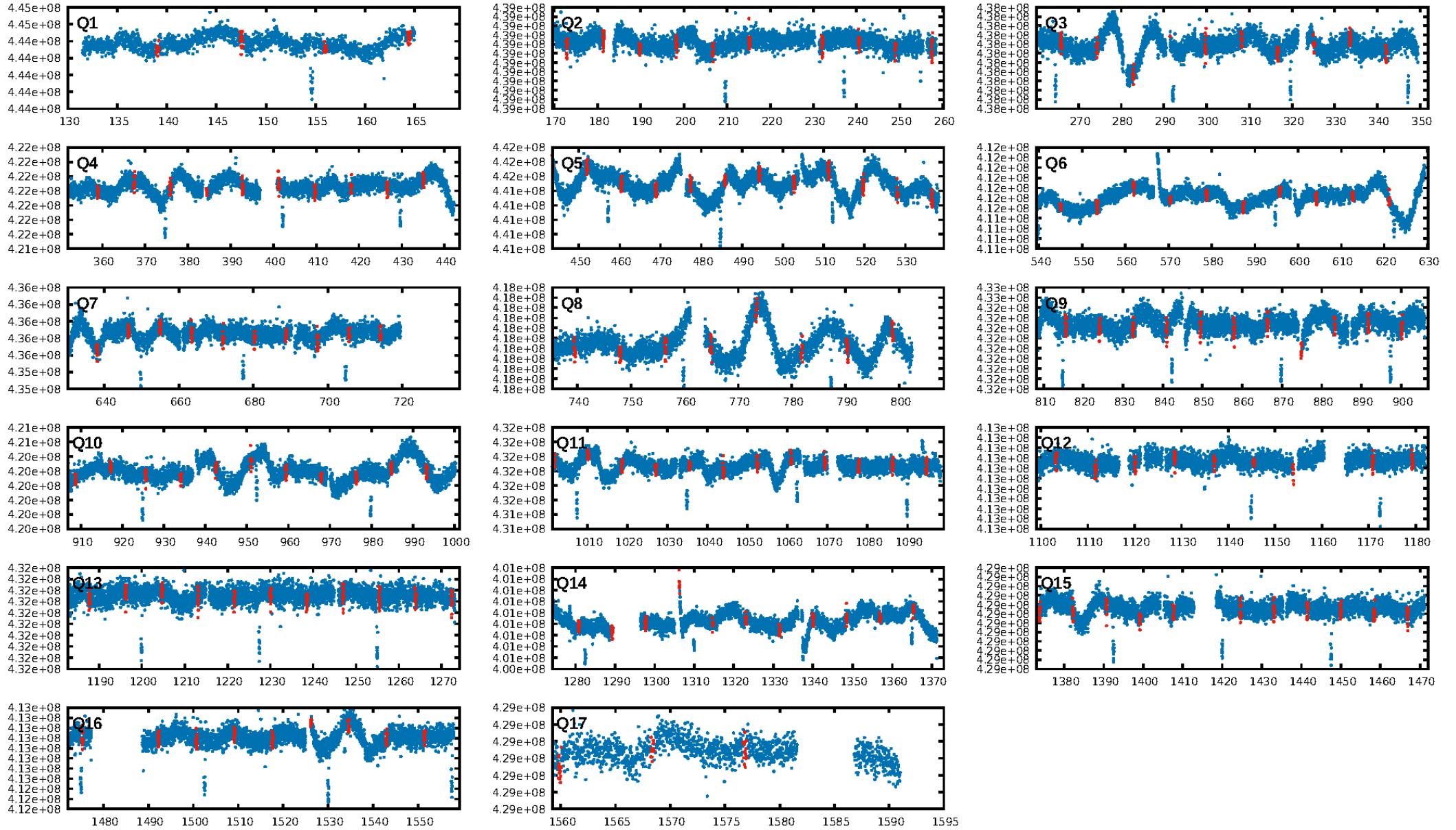
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [66.28σ]
ModelChiSquare2-sig: 99.9%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 4.55e-124
RollingBand-fgt: 1.00 [153/153]
GhostDiagnostic-chr: 1009
Centroid-sig: 9.6%
Centroid-so: 0.628 arcsec [1.85σ]
OotOffset-rm: 0.409 arcsec [1.65σ]
KicOffset-rm: 0.163 arcsec [0.73σ]
OotOffset-st: 3/4/4/4 [15]
KicOffset-st: 3/4/4/4 [15]
DiffImageQuality-fgm: 1.00 [15/15]
DiffImageOverlap-fno: 1.00 [17/17]

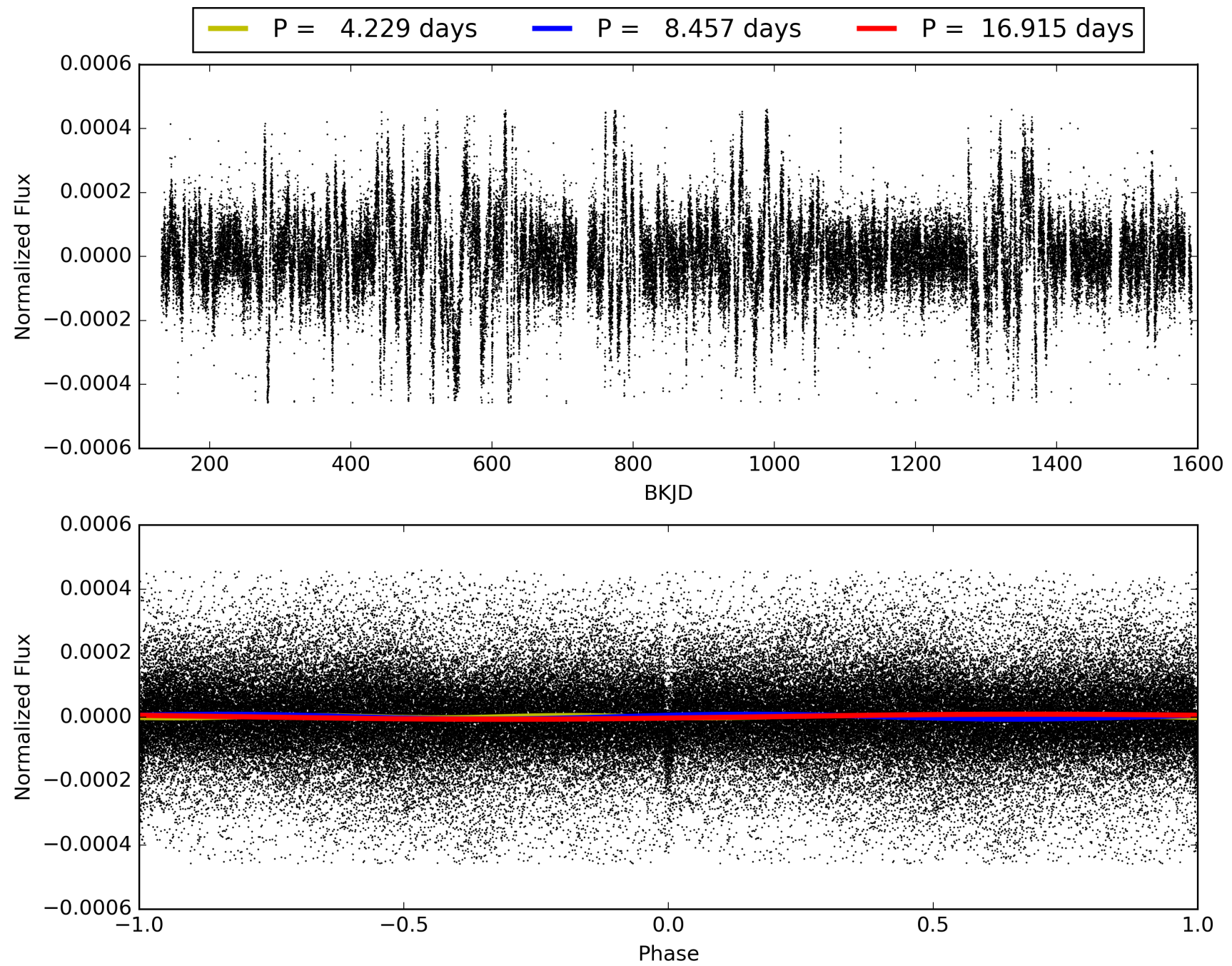
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This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 005088536-02, PDC Light Curves

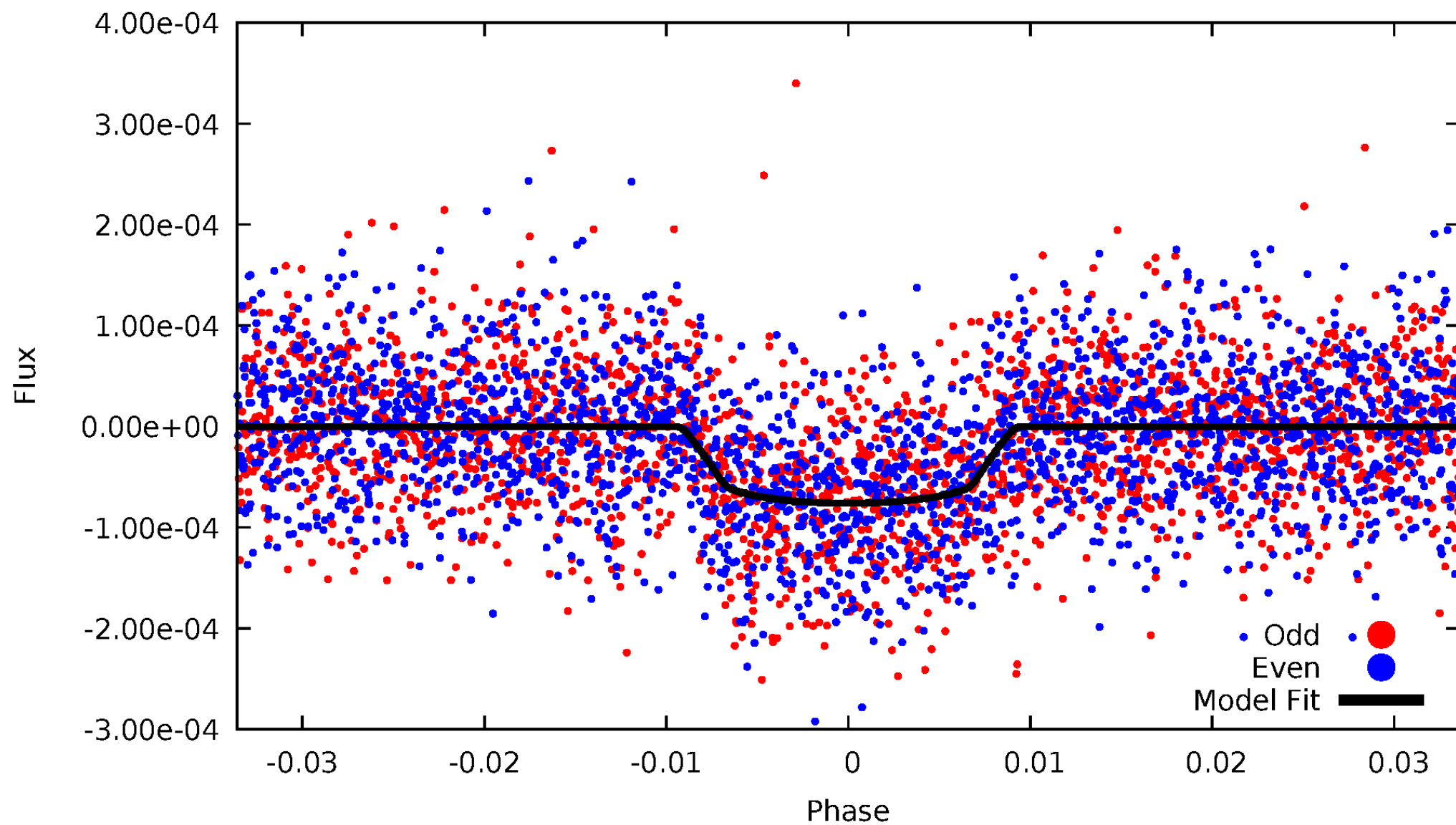


TCE 005088536-02



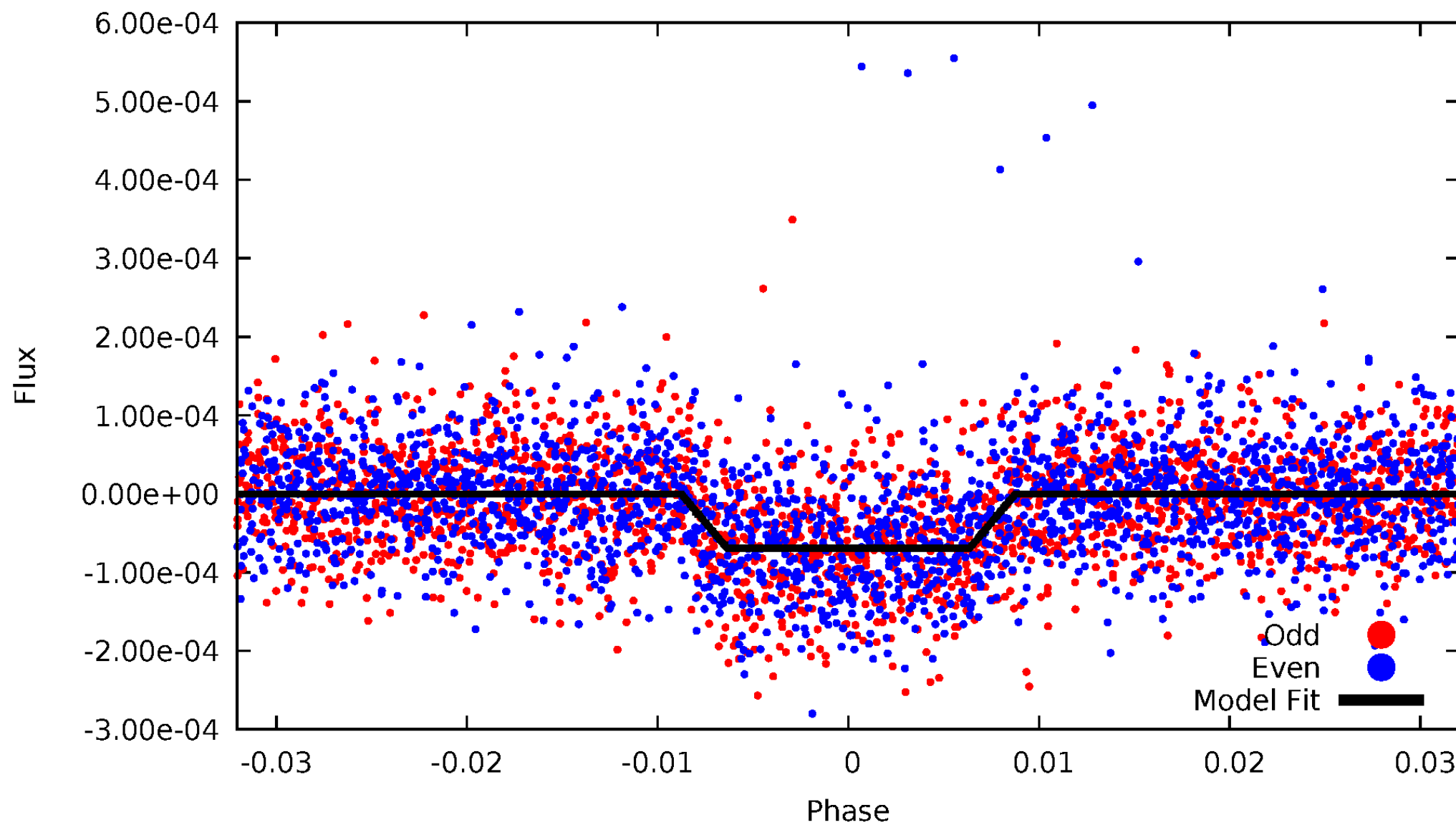
DV Odd/Even

TCE 005088536-02



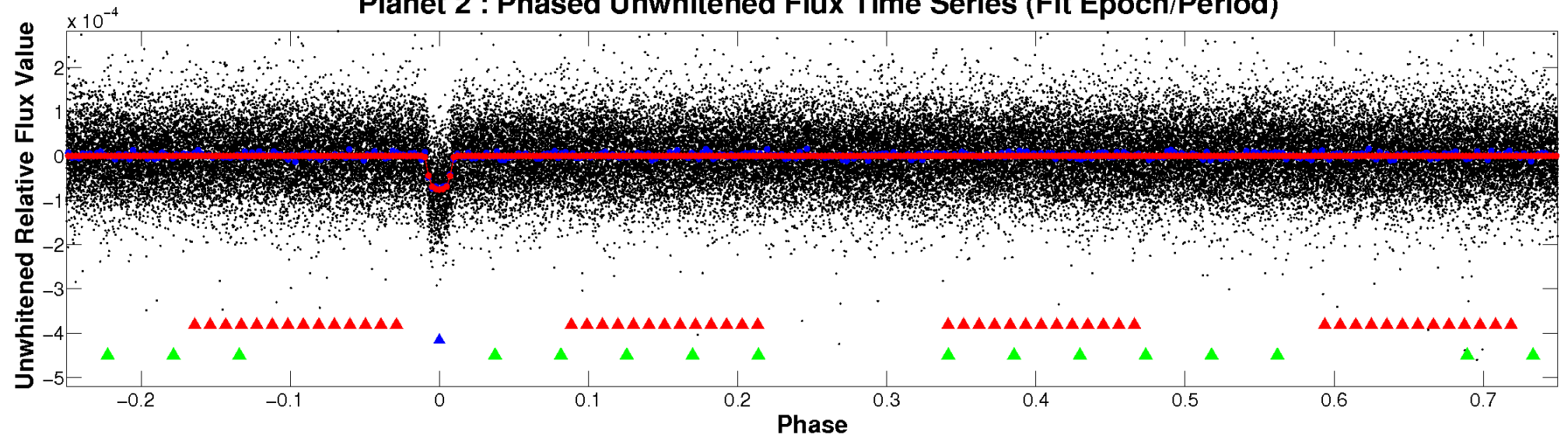
ALT Odd/Even

TCE 005088536-02

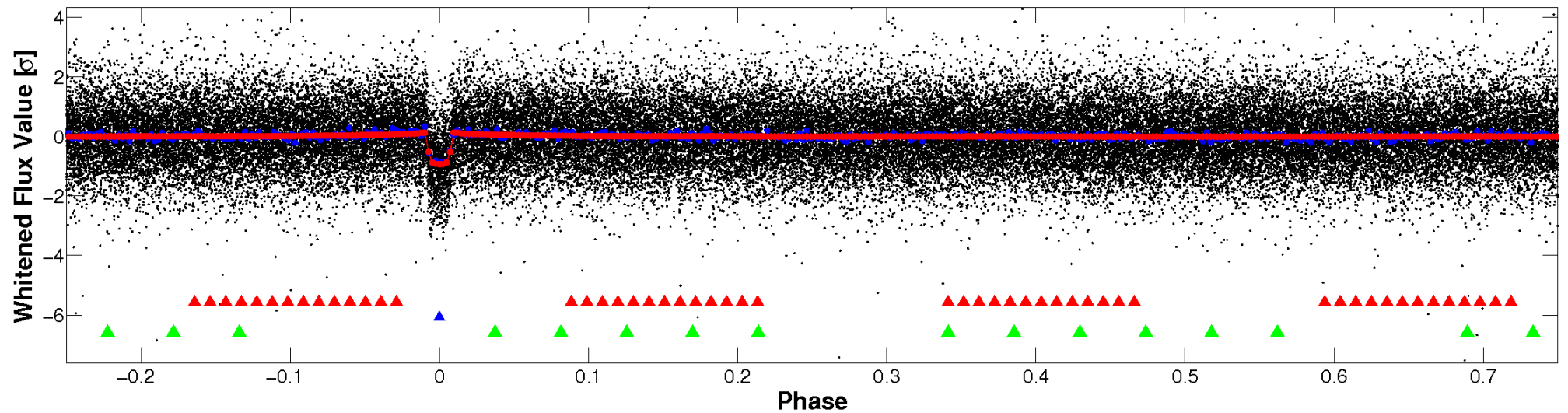


Non-Whitened Vs. Whitened Light Curve

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

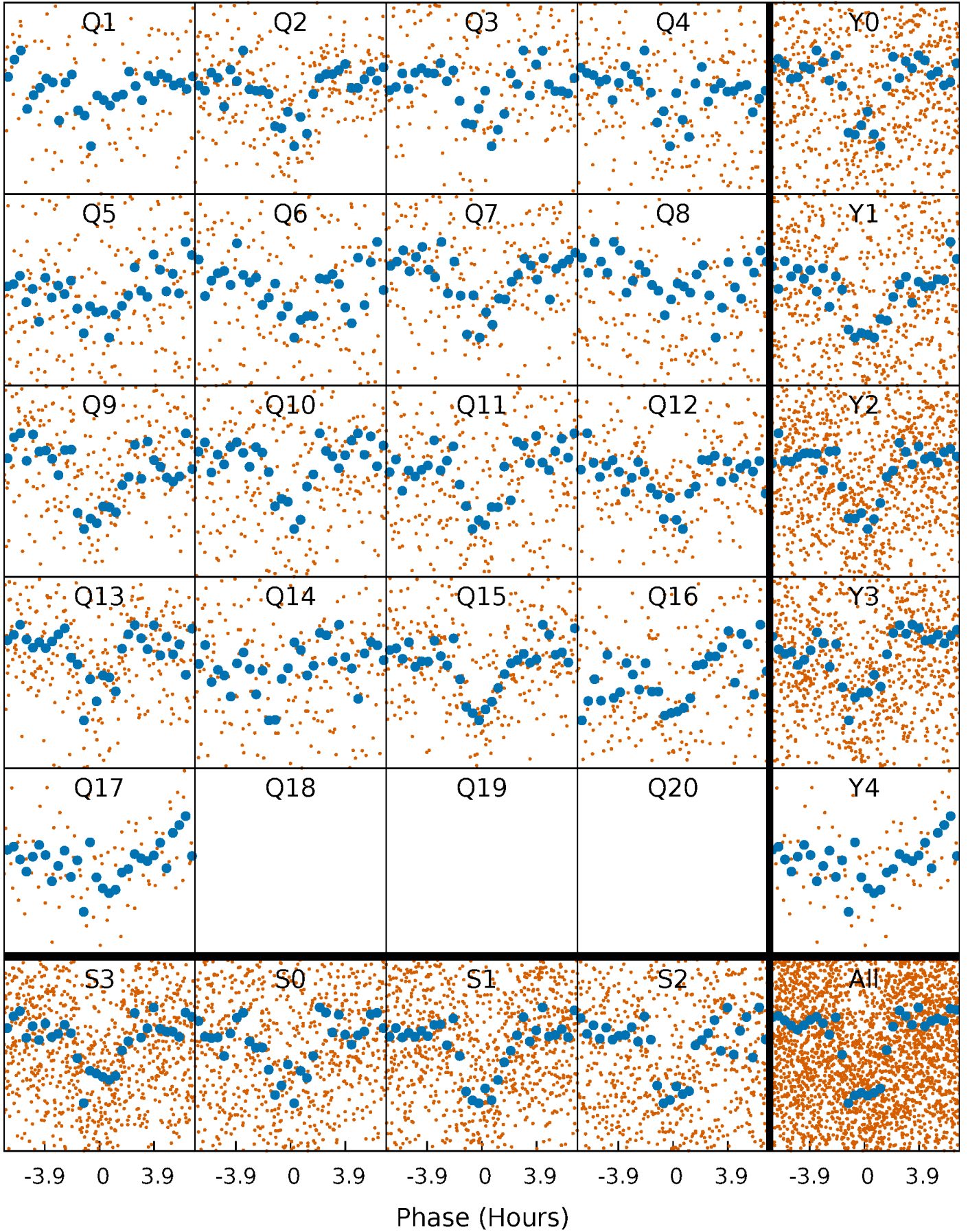


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



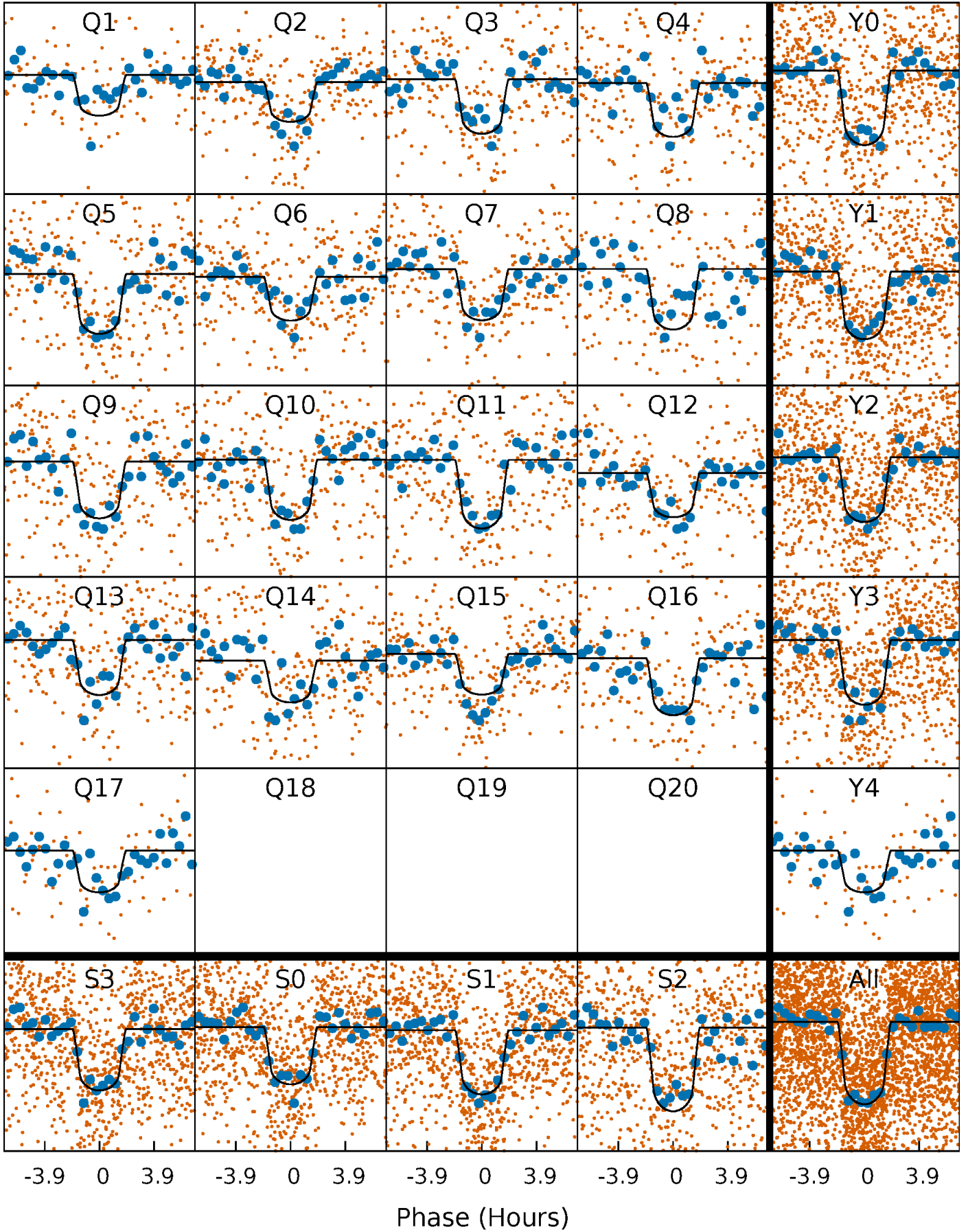
PDC Quarter-Phased Transit Curves

TCE 005088536-02 $P = 8.457441$ Days $T_0 = 139.068103$ (BKJD)



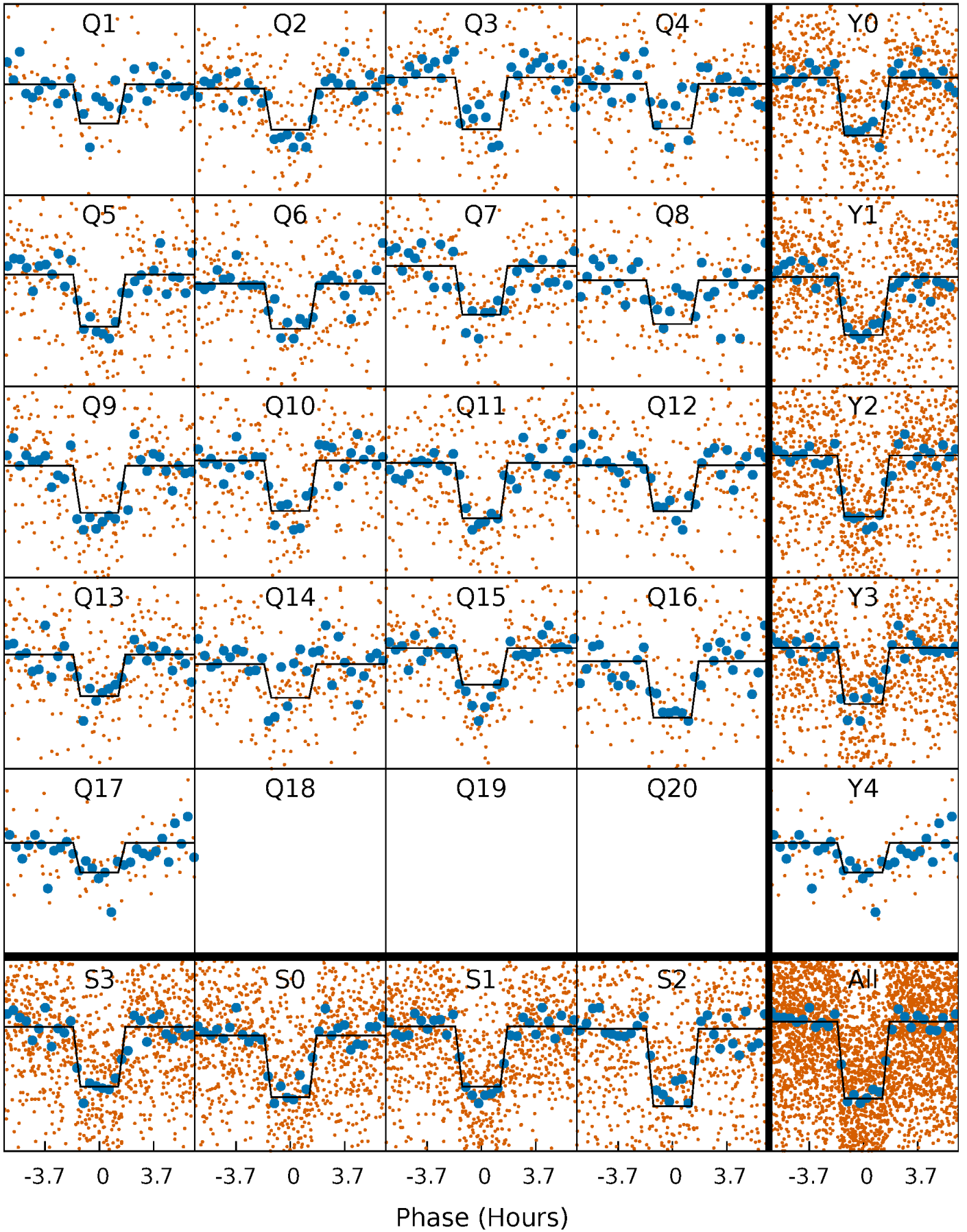
DV Quarter-Phased Transit Curves

TCE 005088536-02 P= 8.457441 Days $T_0=139.068103$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

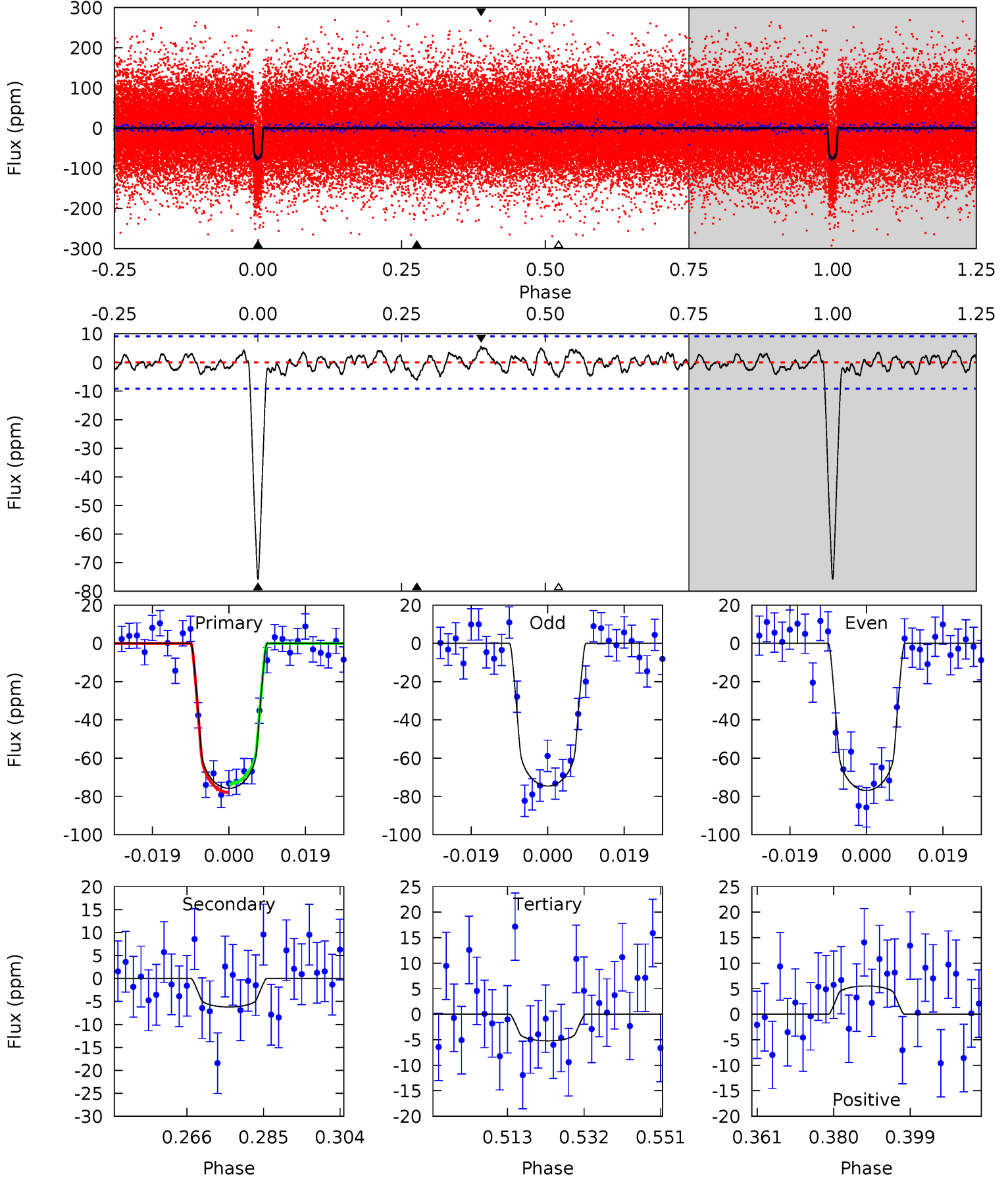
TCE 005088536-02 P= 8.457463 Days $T_0=139.065317$ (BKJD)



DV Model-Shift Uniqueness Test

005088536-02, P = 8.457441 Days, E = 130.610662 Days

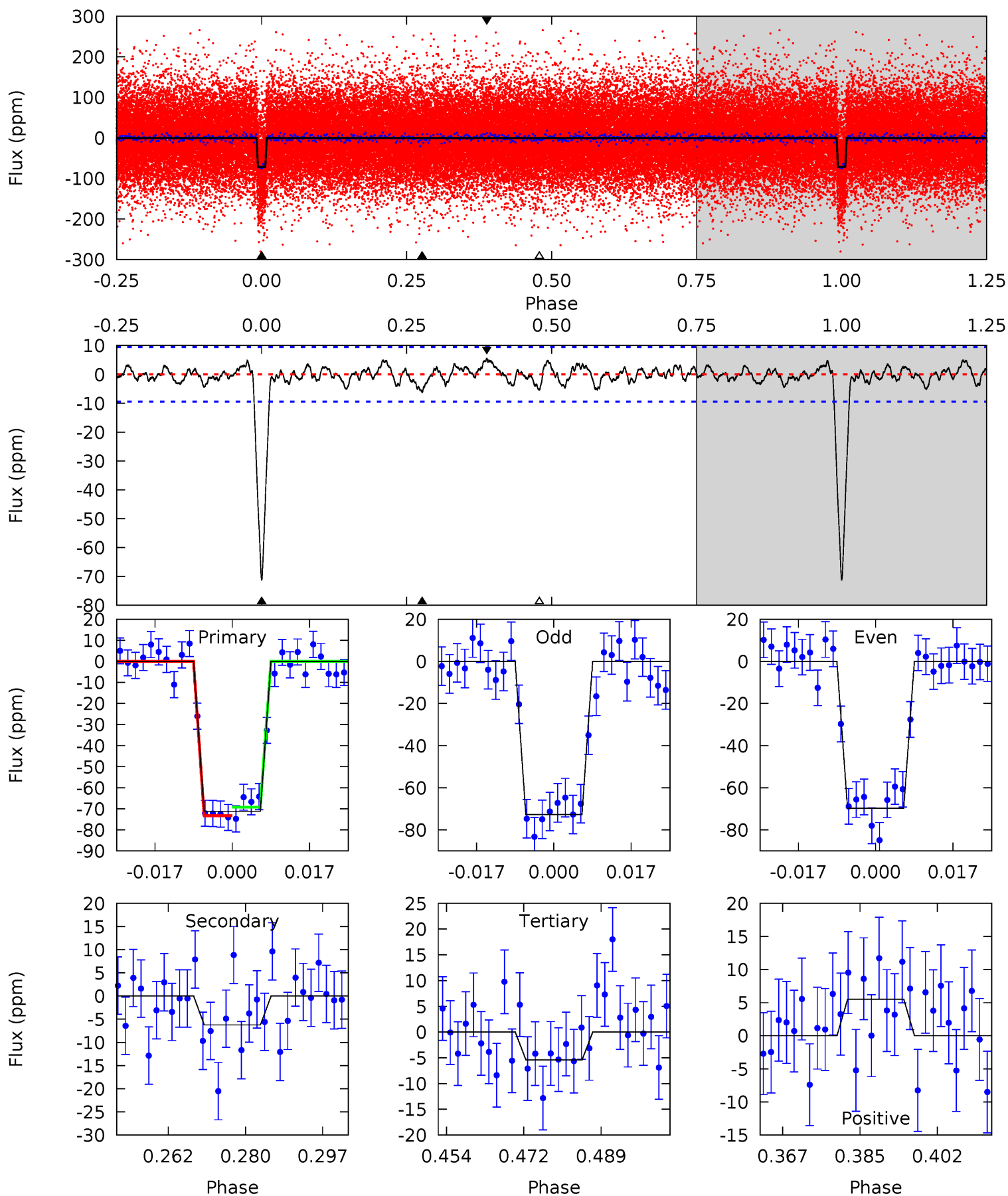
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
40.6	3.33	2.80	2.97	4.90	2.35	1.19	37.8	37.6	0.53	0.36	0.63	1.02	0.07	1.20



Alt Model-Shift Uniqueness Test

005088536-02, P = 8.457463 Days, E = 130.607854 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
37.1	3.25	2.81	2.88	4.92	2.38	1.11	34.3	34.2	0.44	0.38	0.78	0.92	0.07	1.07



Stellar Parameters For KIC 005088536

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5903^{+70}_{-79}	$4.304^{+0.020}_{-0.018}$	$-0.160^{+0.150}_{-0.150}$	$1.137^{+0.050}_{-0.046}$	$0.950^{+0.068}_{-0.061}$	$0.911^{+0.076}_{-0.063}$
	+1%/-1%	+0%/-0%	+94%/-94%	+4%/-4%	+7%/-6%	+8%/-7%
Source	SPE72	AST8	SPE72	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

Secondary Eclipse Parameters for KIC 005088536-02 / KOI 0282.02

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-6 ± 2	$1.18^{+0.22}_{-0.23}$	1372^{+20}_{-22}	3488^{+288}_{-252}	16^{+10}_{-6}
Alt.	-6 ± 2	$1.04^{+0.25}_{-0.23}$	1371^{+21}_{-21}	3641^{+375}_{-294}	20^{+15}_{-8}

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 $A_{\text{obs}} \gg 1.0$

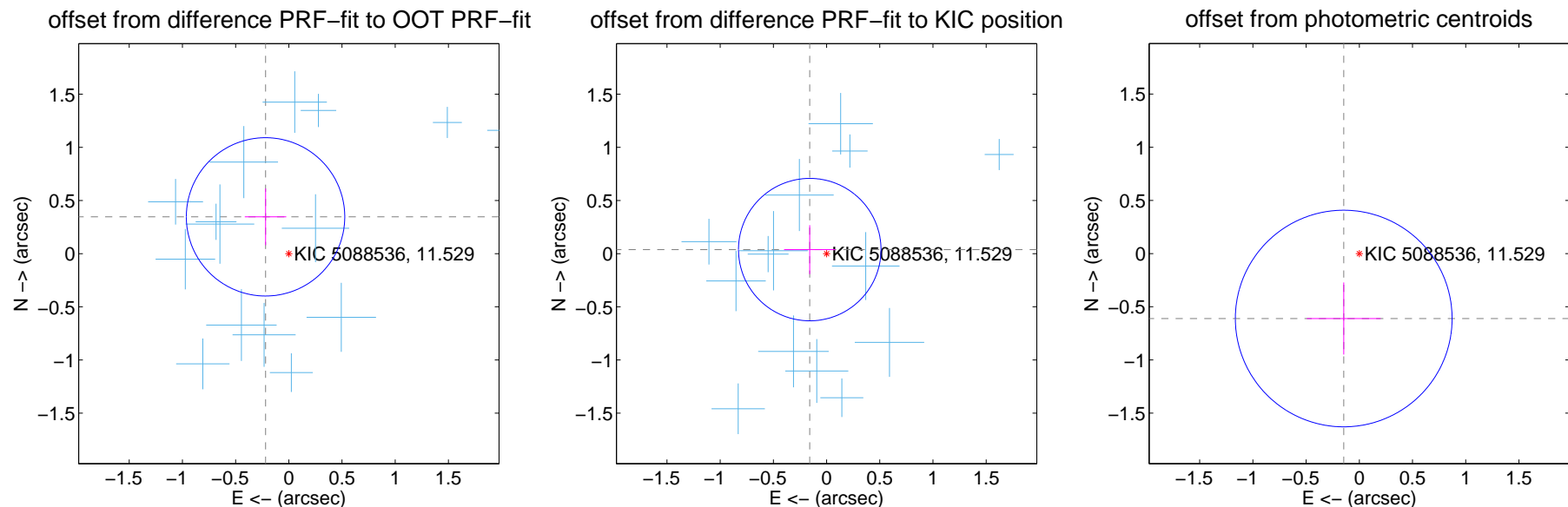
DV Centroid Data

Supplemental centroid analysis for 005088536-02. **Kepler magnitude: 11.53.** Transit SNR 26.93

There are 15 quarters with good PRF difference image offsets

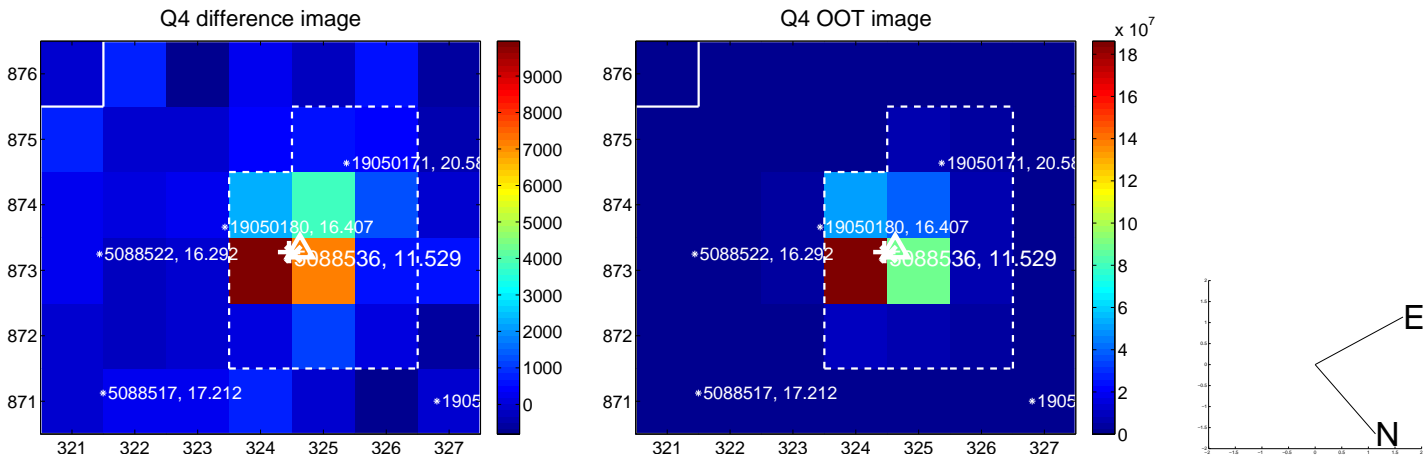
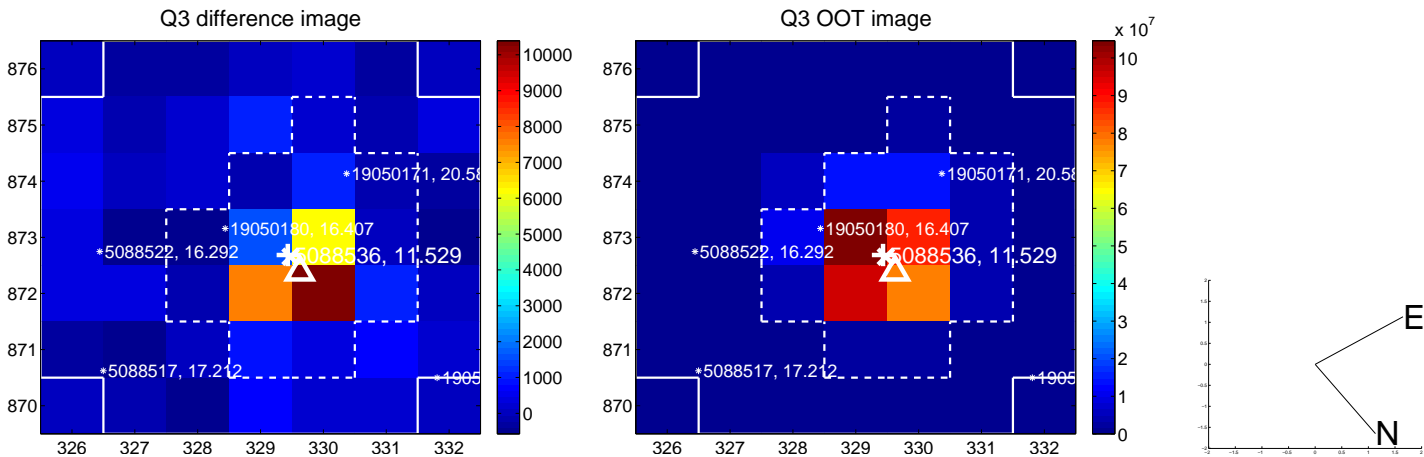
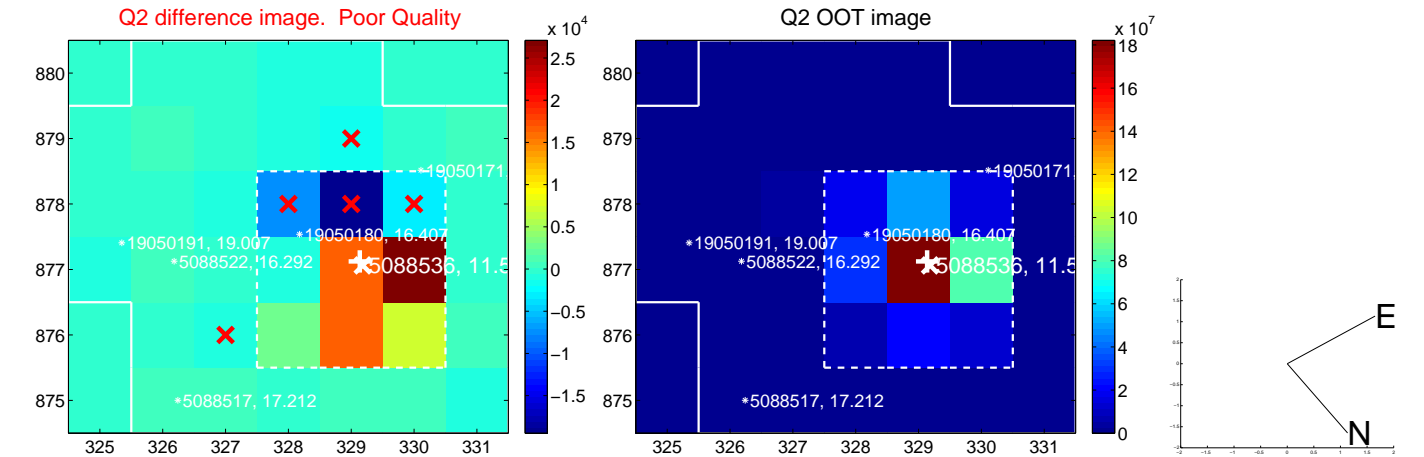
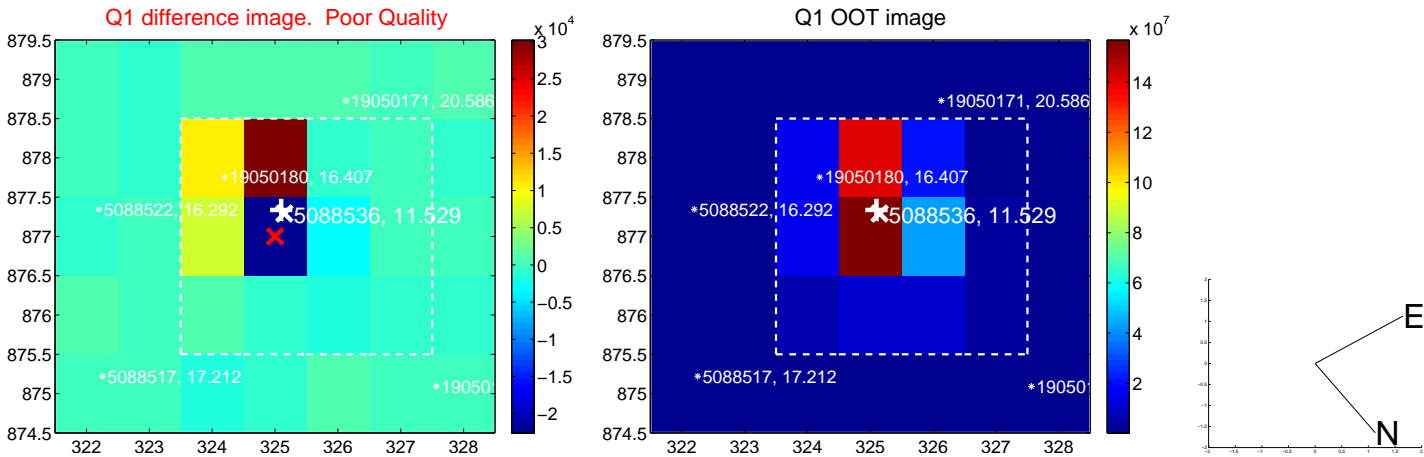
The direct PRF centroid is offset from the target star catalog position by about 0.36 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.409 ± 0.248	1.65	0.219 ± 0.195	0.346 ± 0.267
PRF-fit source offset from KIC position	0.163 ± 0.223	0.73	0.158 ± 0.242	0.038 ± 0.230
photometric centroid source offset	0.63 ± 0.34	1.85	0.15 ± 0.35	-0.61 ± 0.34

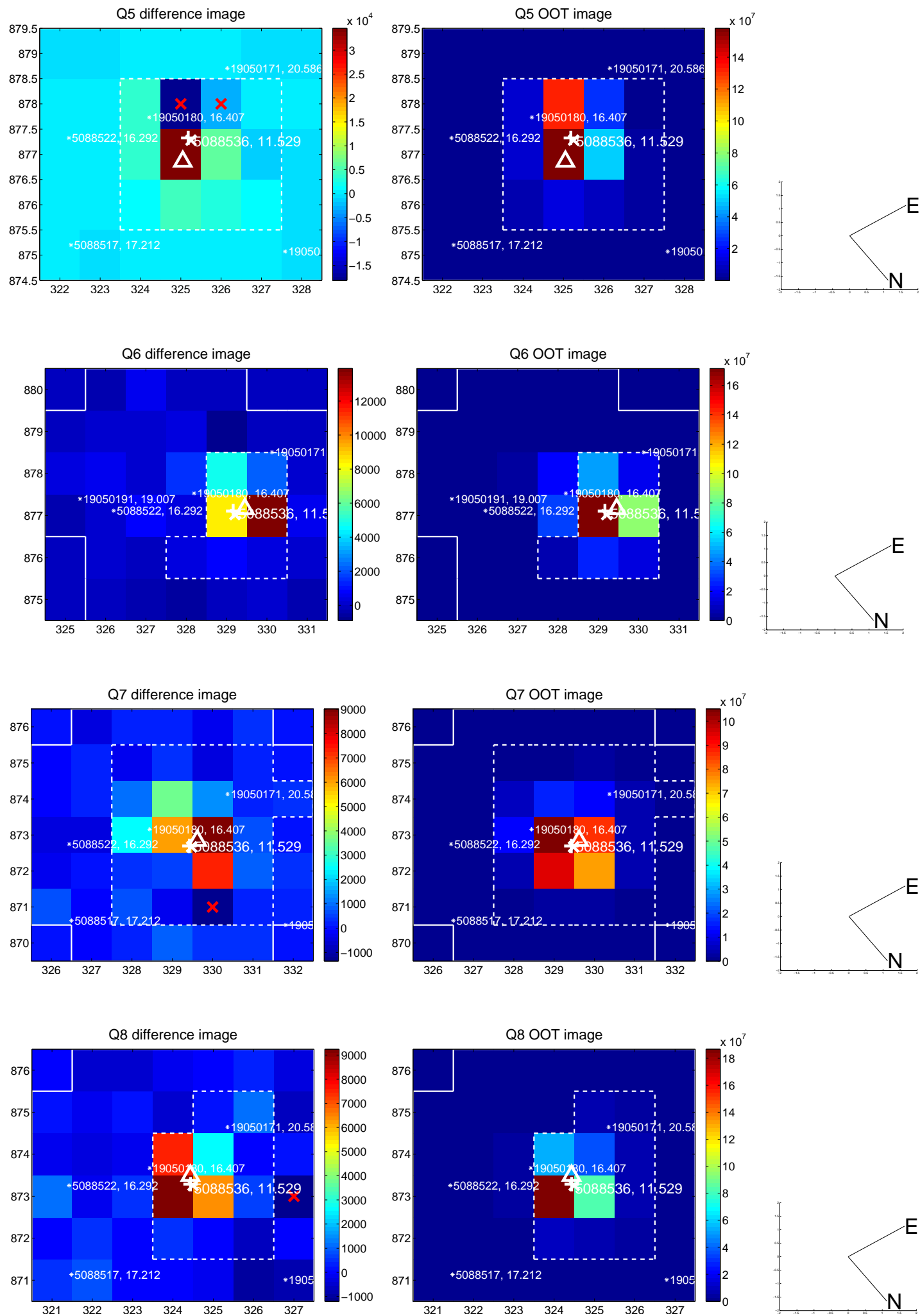


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

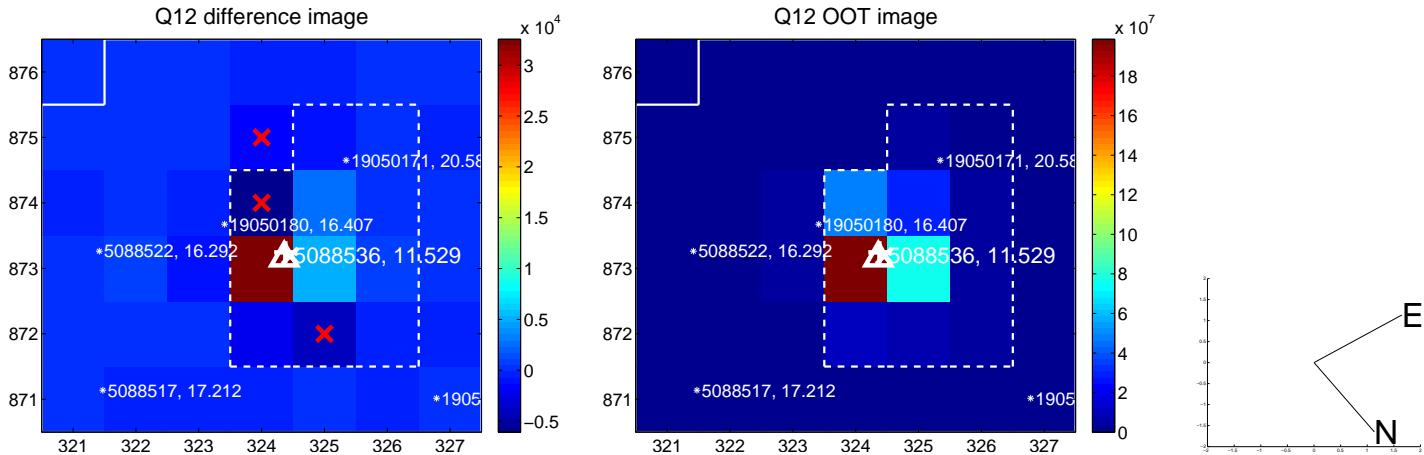
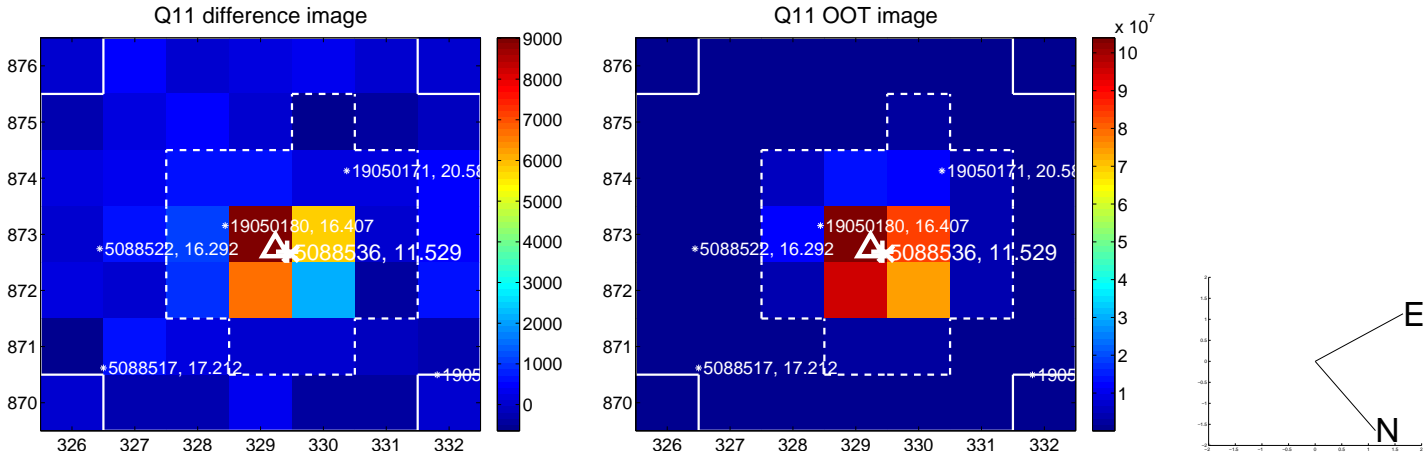
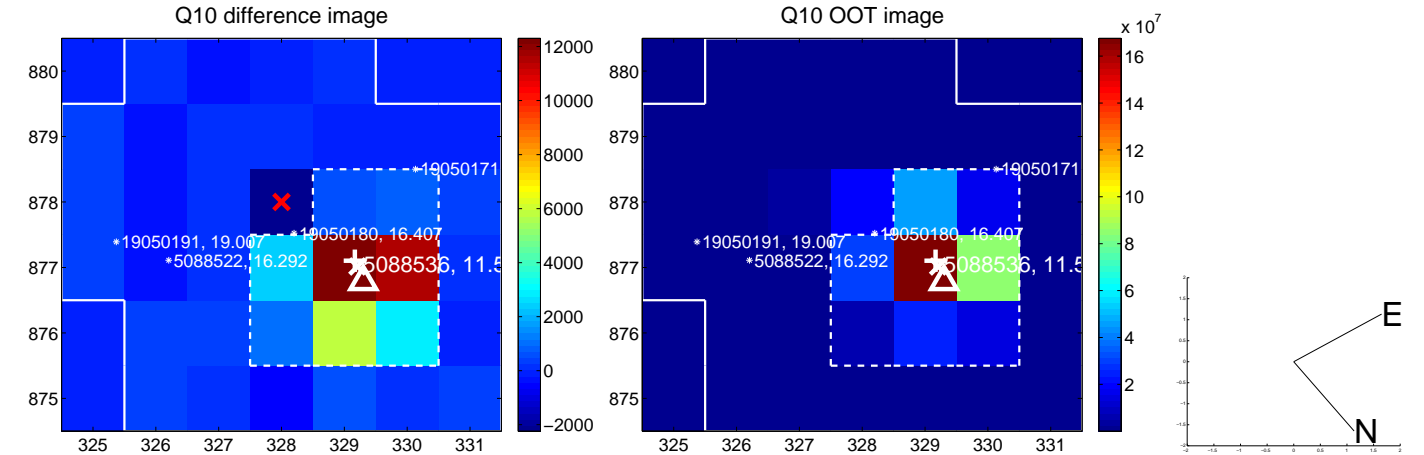
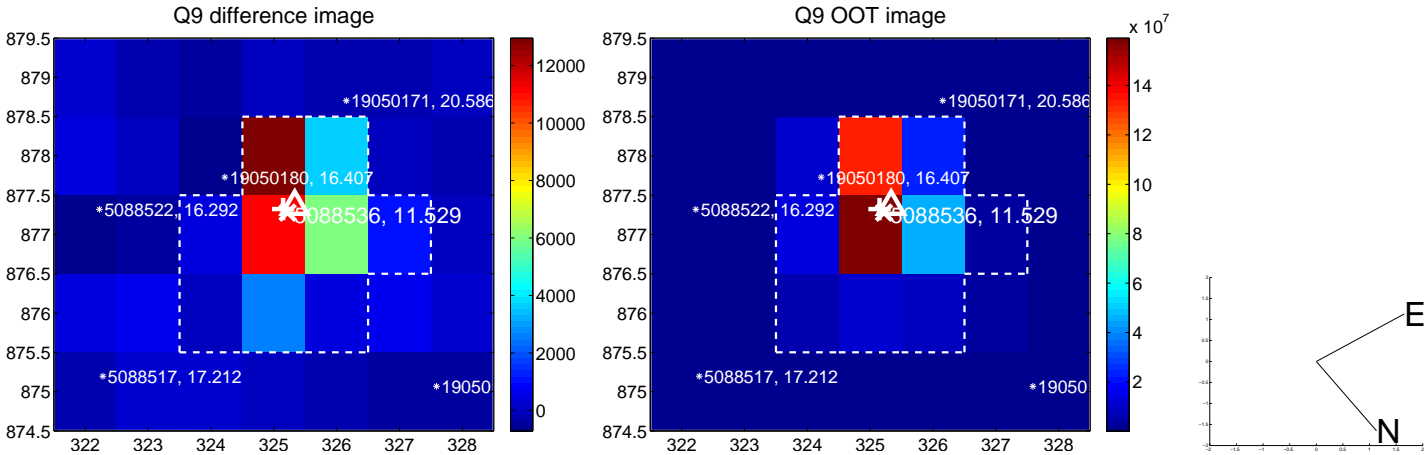
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



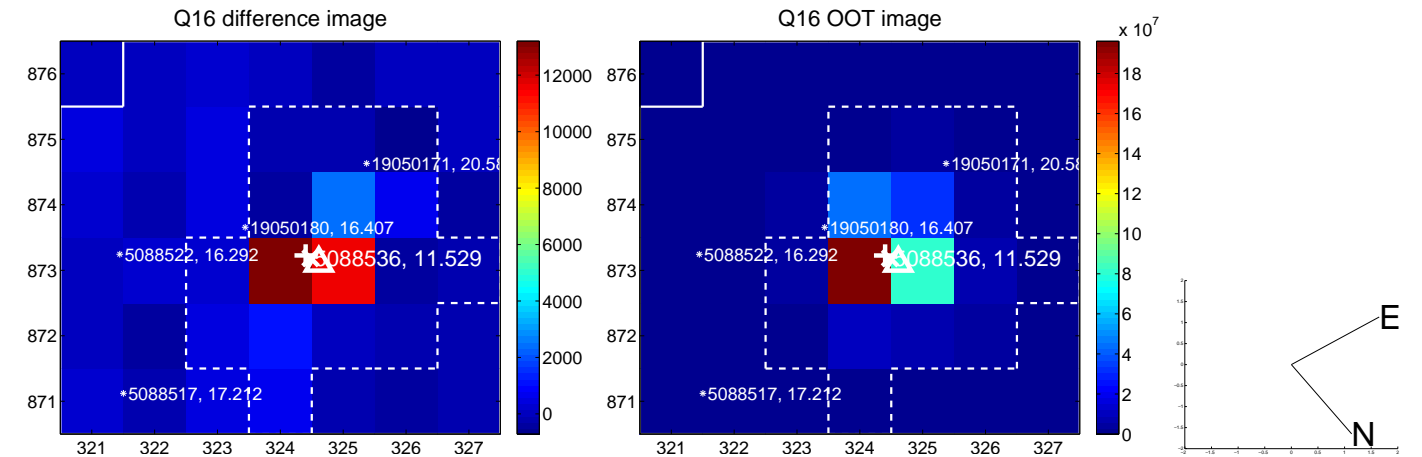
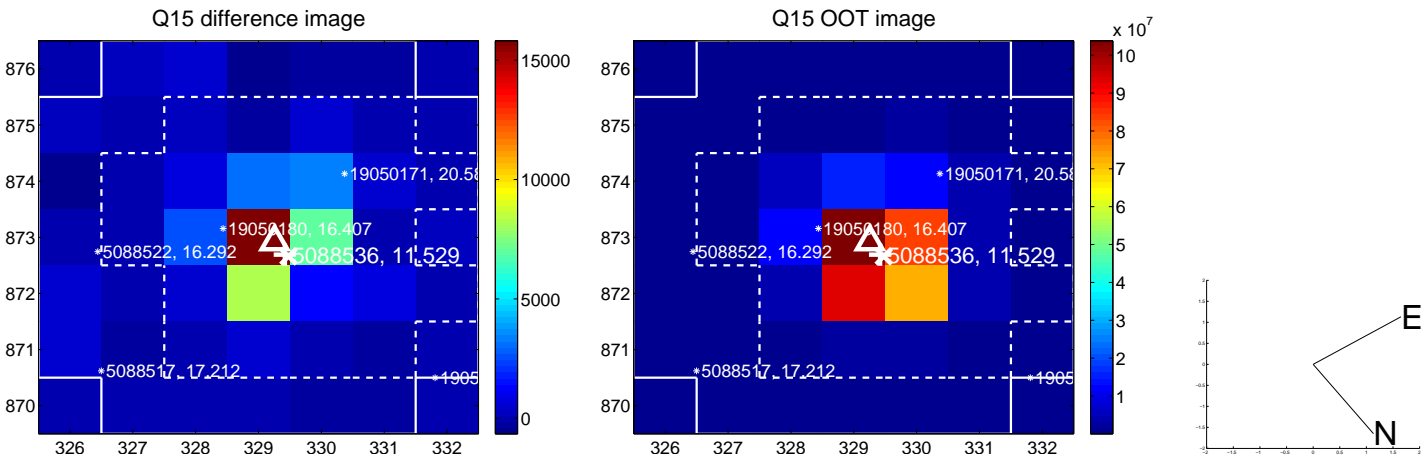
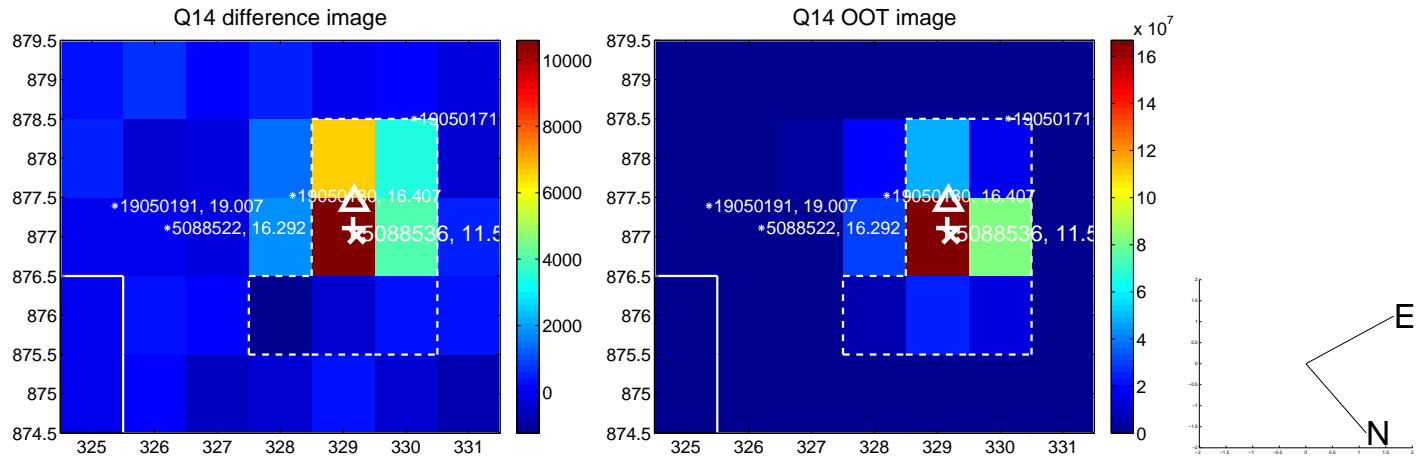
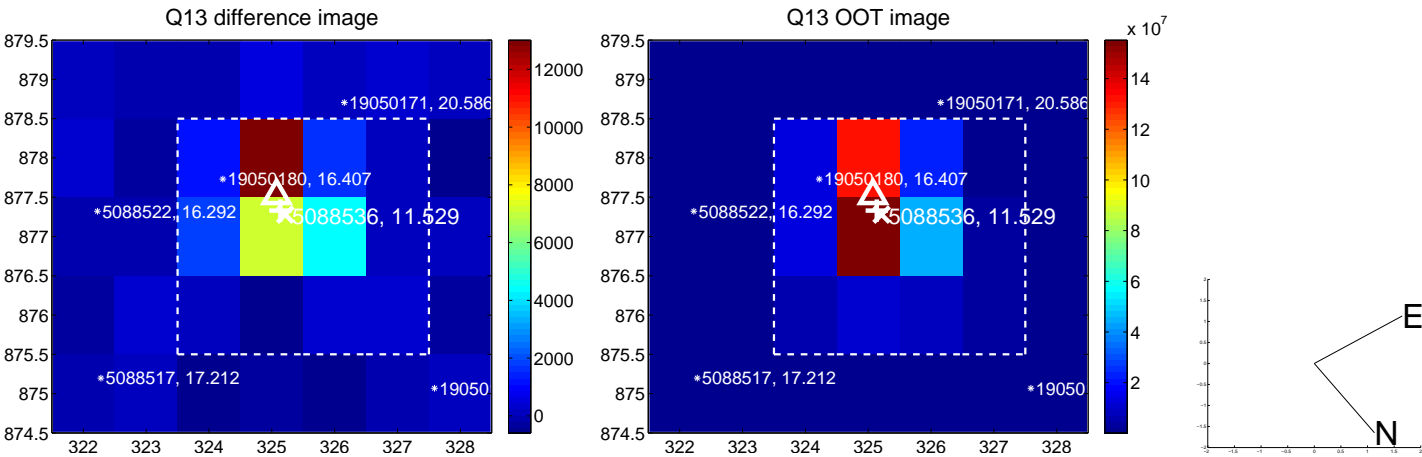
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



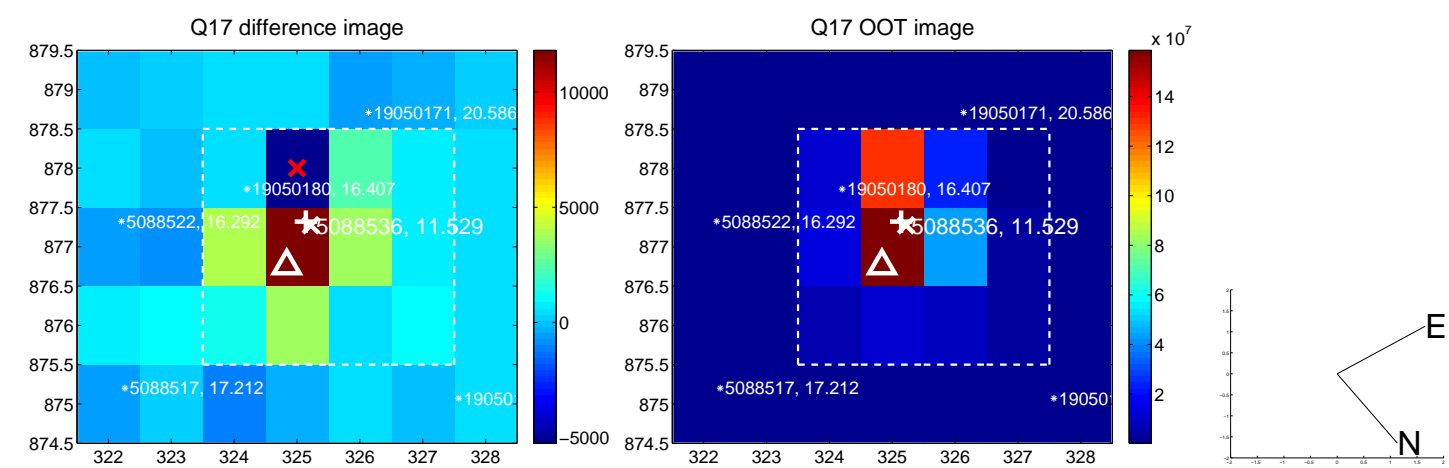
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



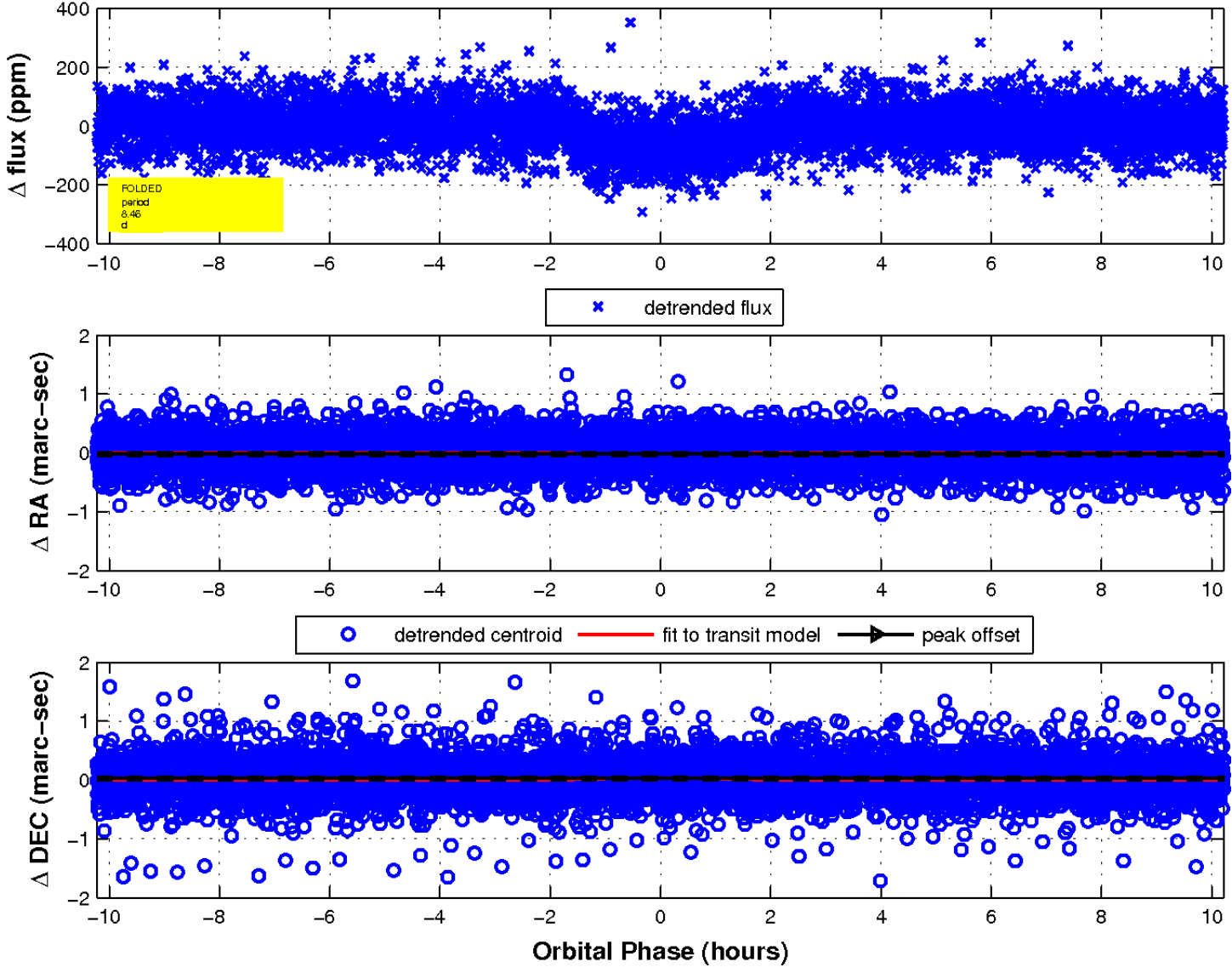
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

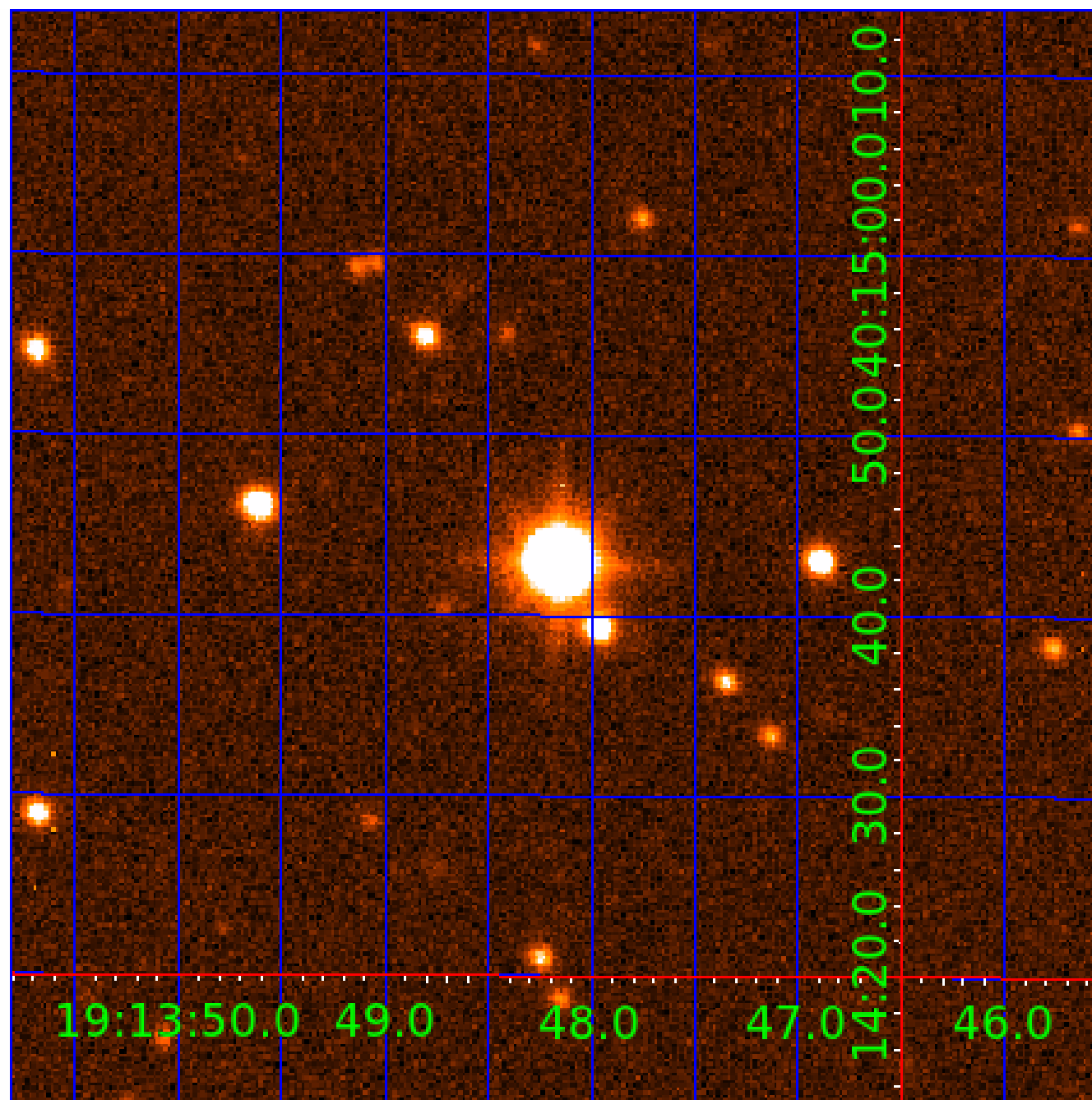


fluxWeightedCentroids, Planet 2 of 3



UKIRT Image

Declination



KIC 005088536

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})
005088536-01	OBS	0282.01	27.508694	154.595320	632.6	5.997	137.7	138.4	1.14	5903	3.10	45.75
005088536-02	OBS	0282.02	8.457441	139.068103	76.0	3.409	24.5	26.9	1.14	5903	1.17	220.48
005088536-03	OBS	0282.03	87.517994	201.156434	127.1	1.971	10.9	11.5	1.14	5903	1.50	9.78

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005088536-01	OBS	PC	1.00	0	0	0	0	NO_COMMENT
005088536-02	OBS	PC	1.00	0	0	0	0	NO_COMMENT
005088536-03	OBS	PC	0.89	0	0	0	0	NO_COMMENT

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

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

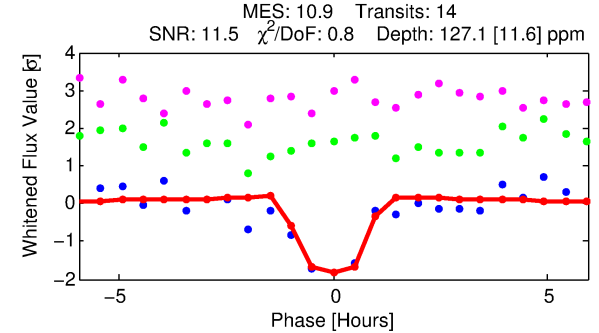
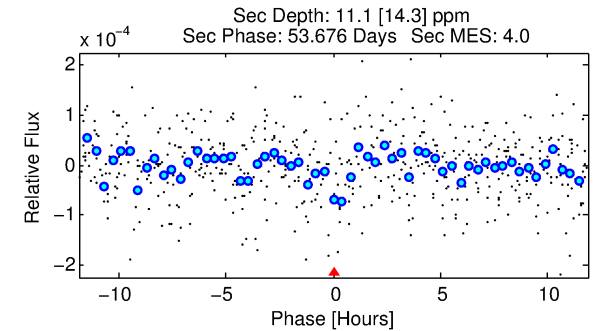
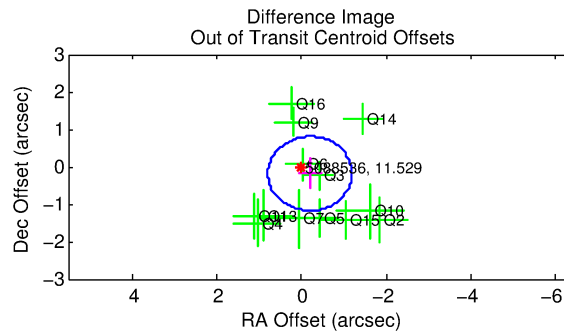
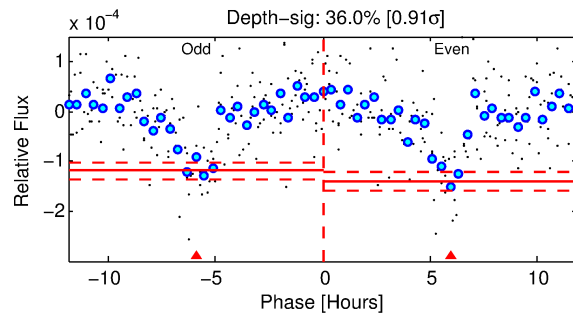
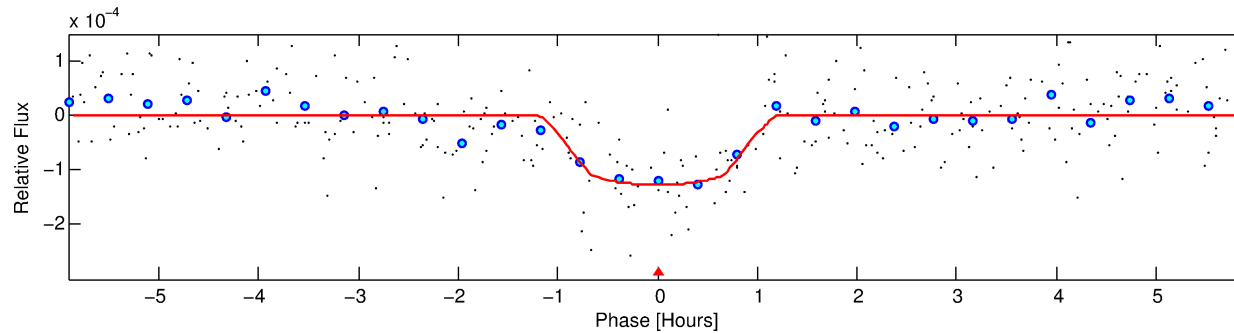
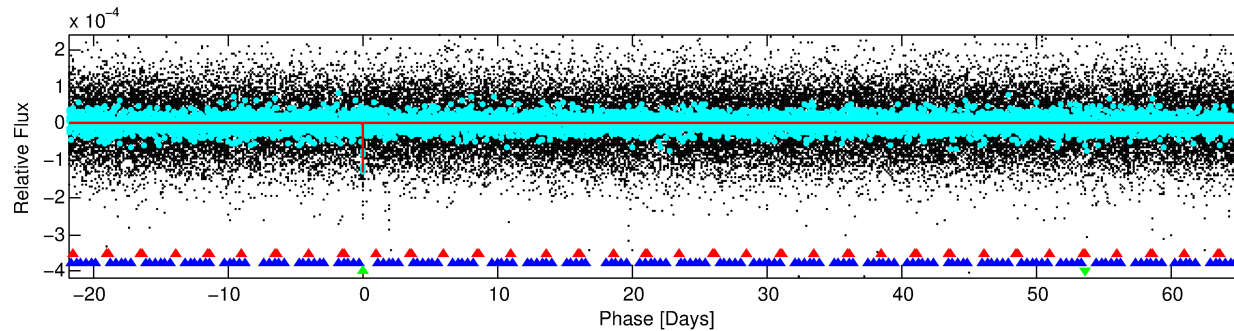
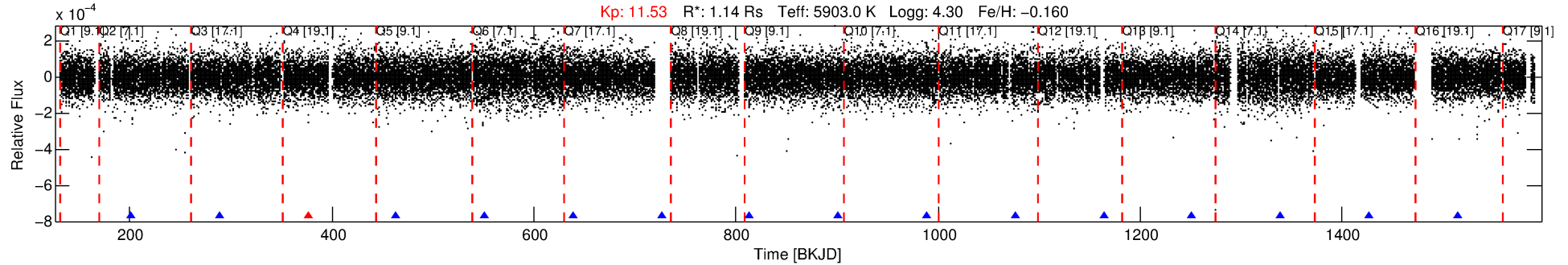
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005088536-03

No Significant Match Found

DV One-Page Summary

KIC: 5088536 Candidate: 3 of 3 Period: 87.518 d
KOI: K00282.03 Name: Kepler-130d Corr: 0.944



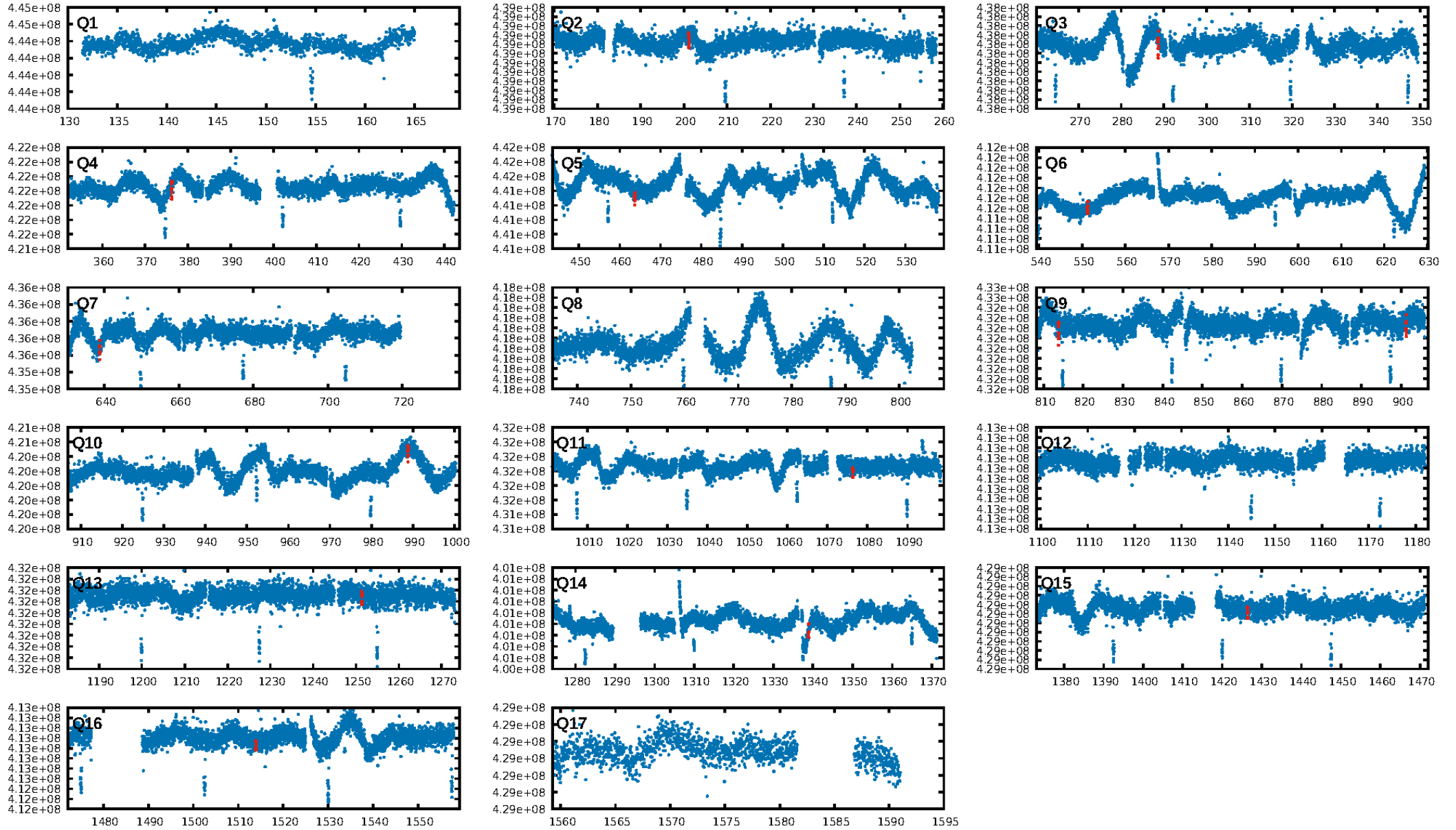
DV Fit Results:

Period = 87.51799 [0.00045] d
Epoch = 201.1564 [0.0043] BKJD
Rp/R* = 0.0121 [0.0081]
a/R* = 166.44 [562.00]
b = 0.89 [0.84]
Seff = 9.78 [0.67]
Teq = 451 [8] K
Rp = 1.50 [1.01] Re
a = 0.3793 [0.0126] AU
Ag = 391.89 [729.69] [0.54 σ]
Teffp = 3102 [1444] K [1.84 σ]

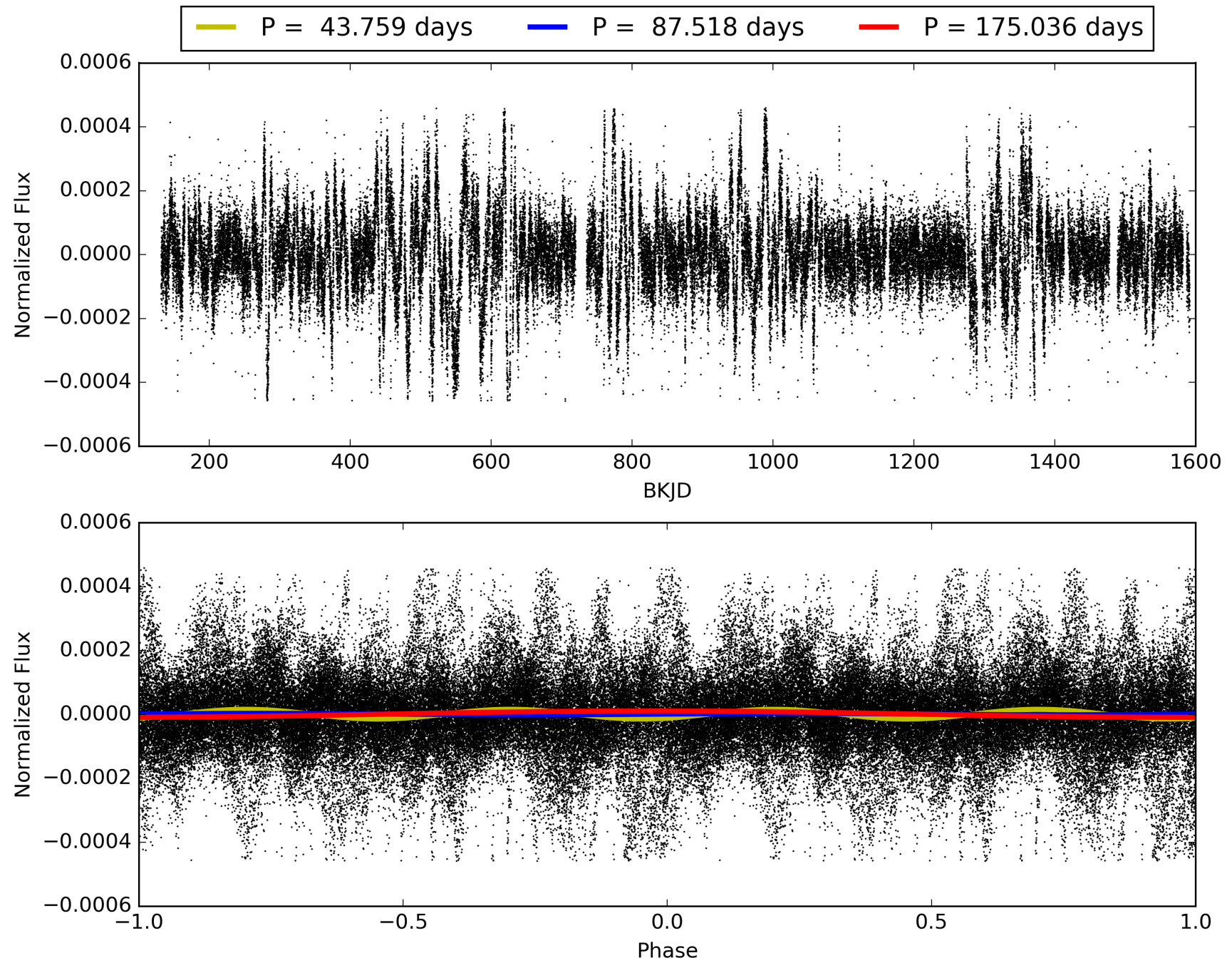
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [228.14 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 77.1%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 2.04e-23
RollingBand-fgt: 0.93 [13/14]
GhostDiagnostic-chr: -86.21
Centroid-sig: 48.8%
Centroid-so: 0.810 arcsec [0.96 σ]
OotOffset-rm: 0.271 arcsec [0.82 σ]
KicOffset-rm: 0.560 arcsec [1.59 σ]
OotOffset-st: 4/4/2/3 [13]
KicOffset-st: 4/4/2/3 [13]
DiffImageQuality-fgm: 1.00 [13/13]
DiffImageOverlap-fno: 0.92 [12/13]

TCE 005088536-03, PDC Light Curves

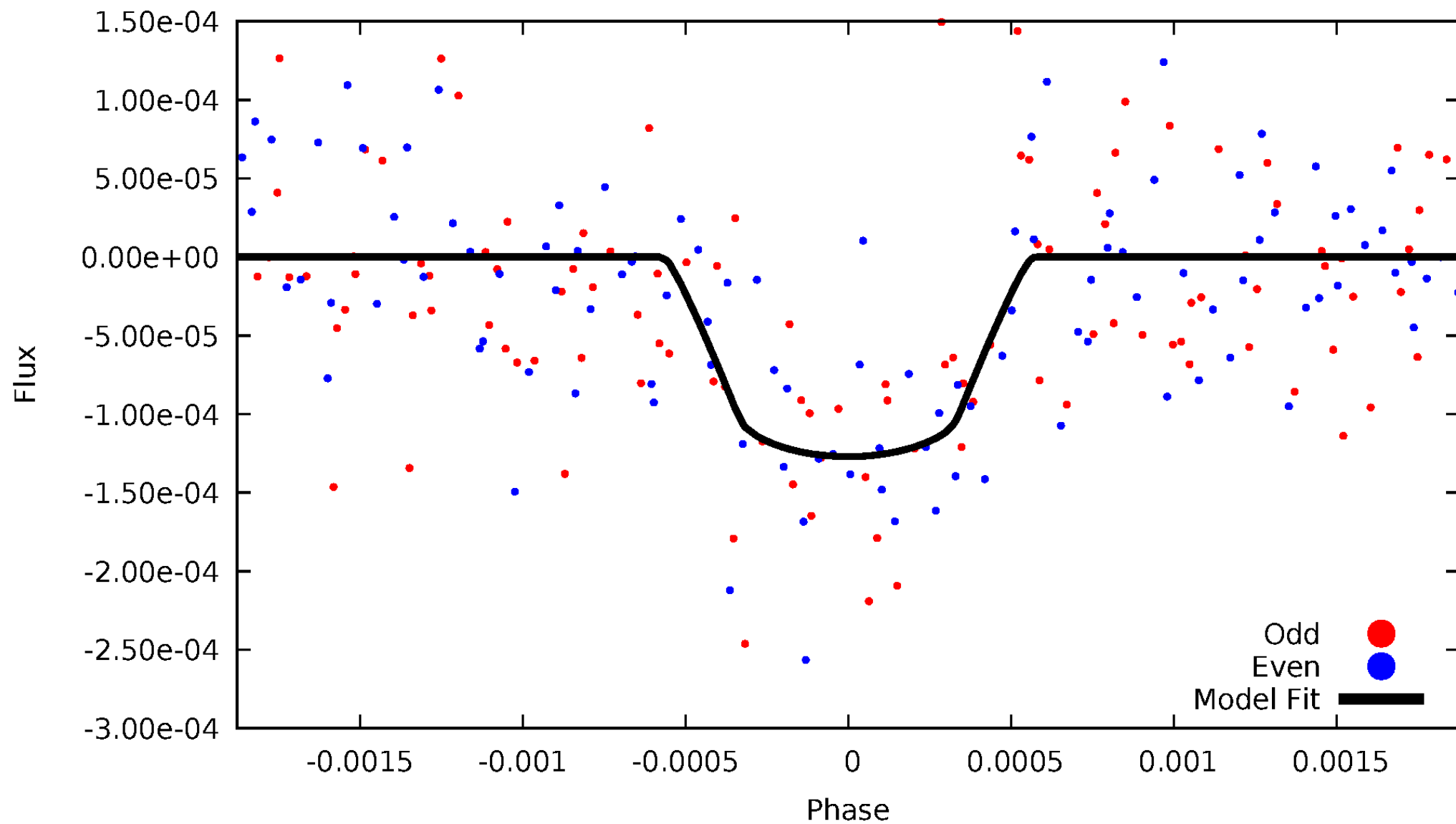


TCE 005088536-03



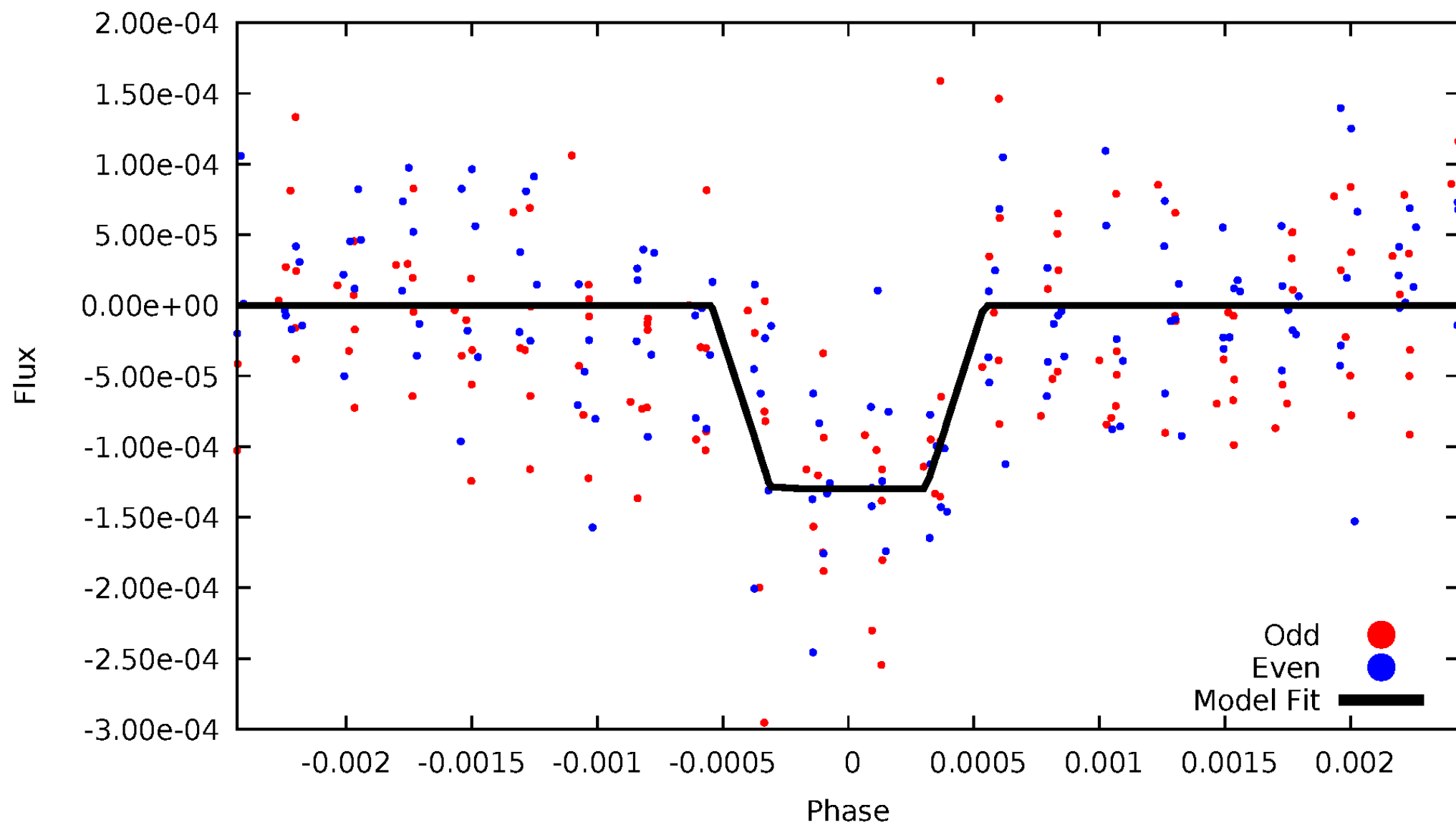
DV Odd/Even

TCE 005088536-03



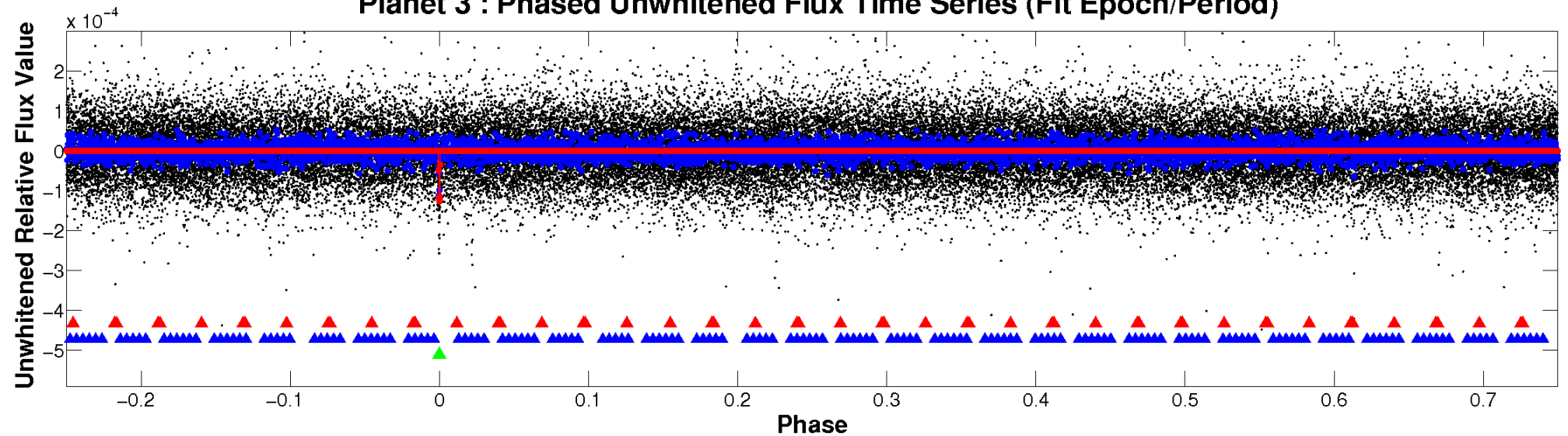
ALT Odd/Even

TCE 005088536-03

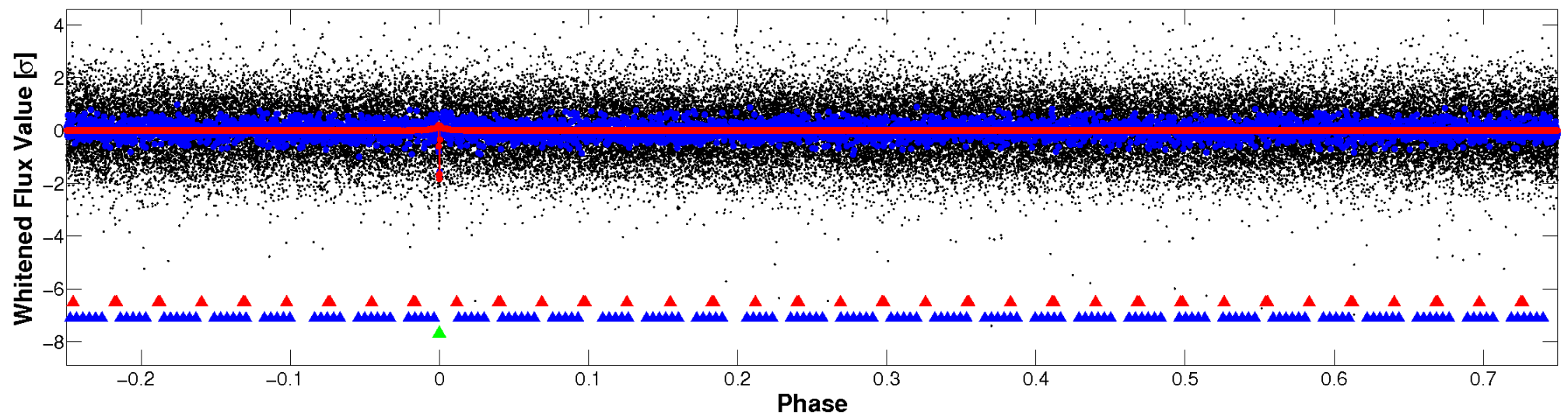


Non-Whitened Vs. Whitened Light Curve

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

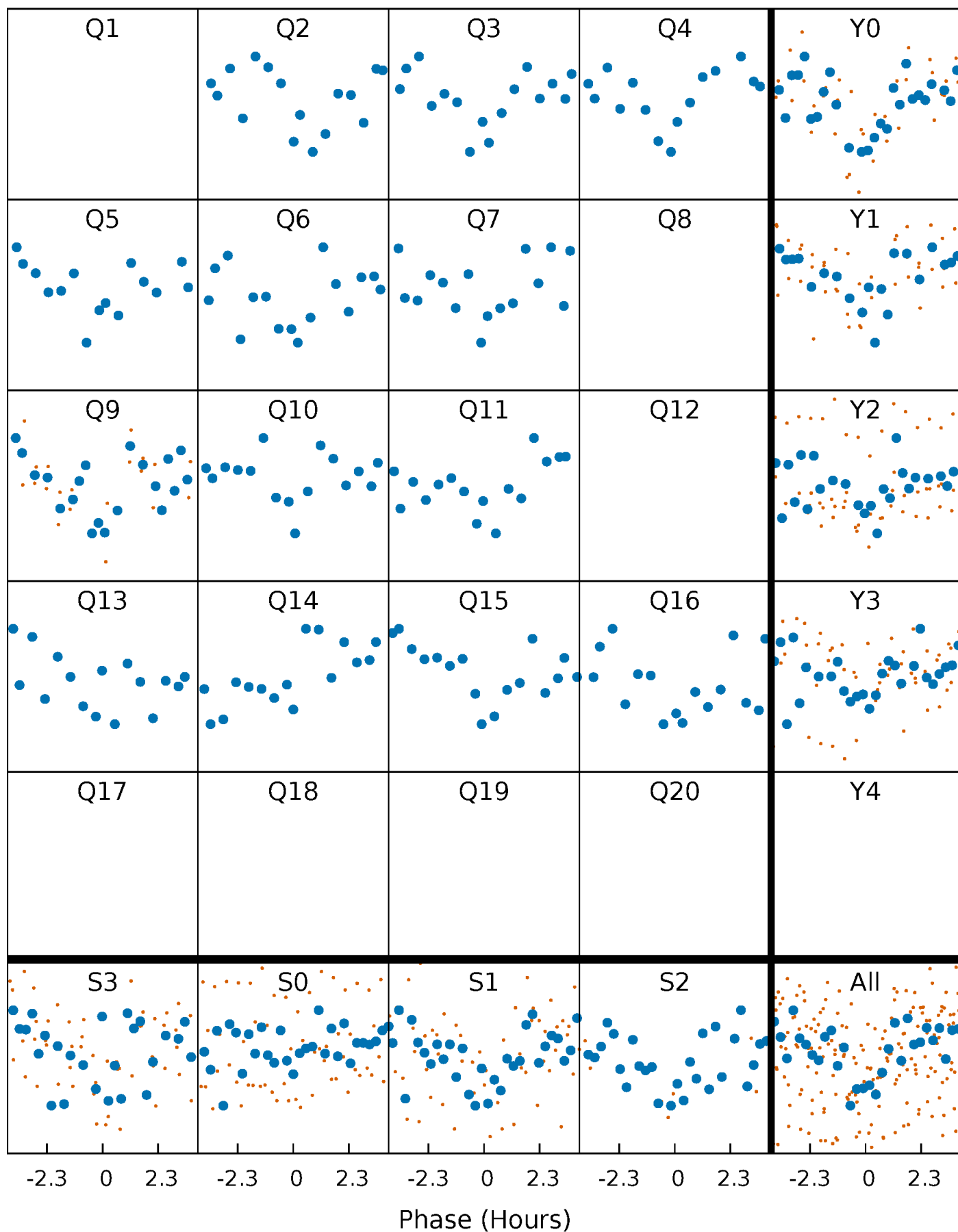


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



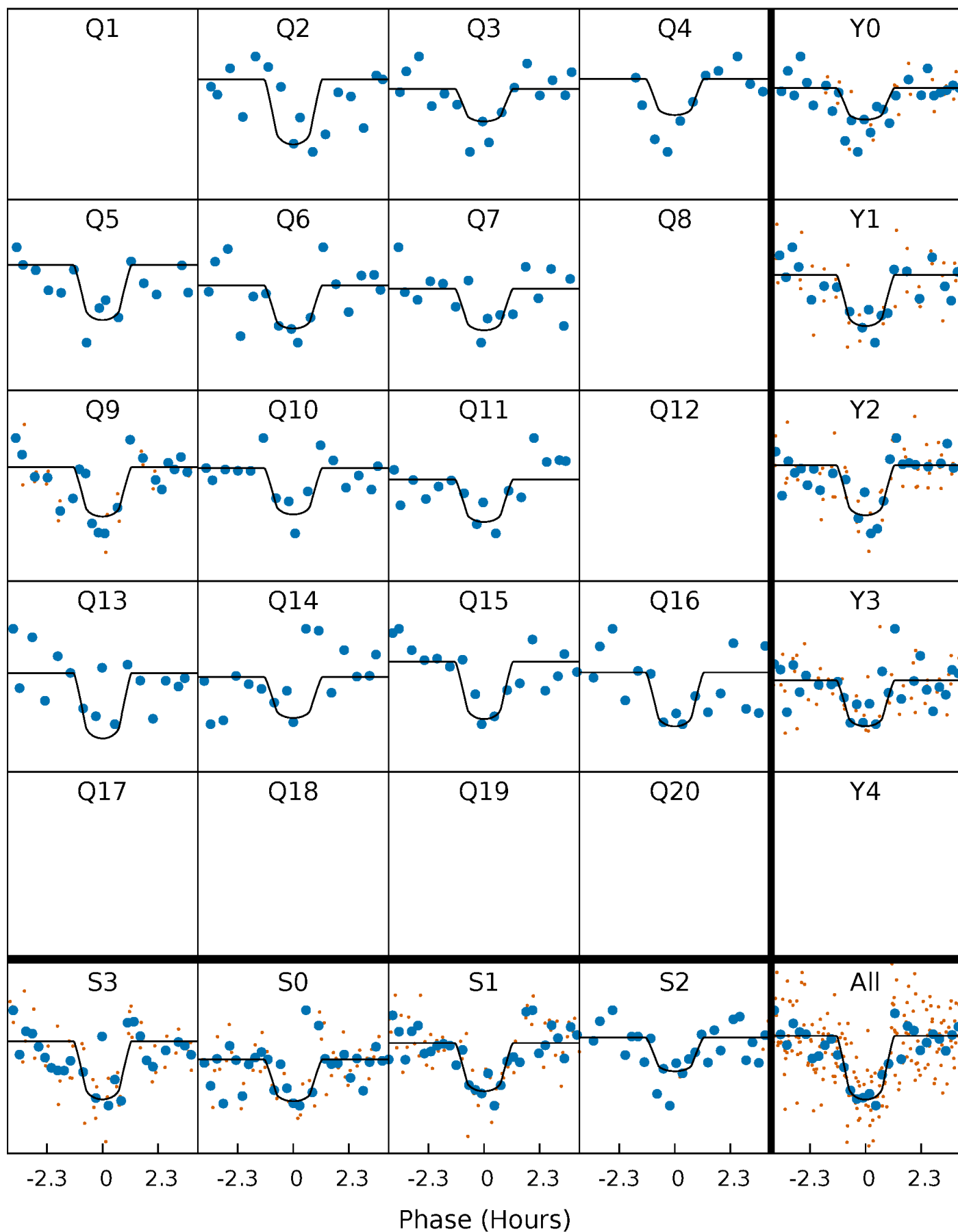
PDC Quarter-Phased Transit Curves

TCE 005088536-03 P= 87.517994 Days $T_0=201.156434$ (BKJD)



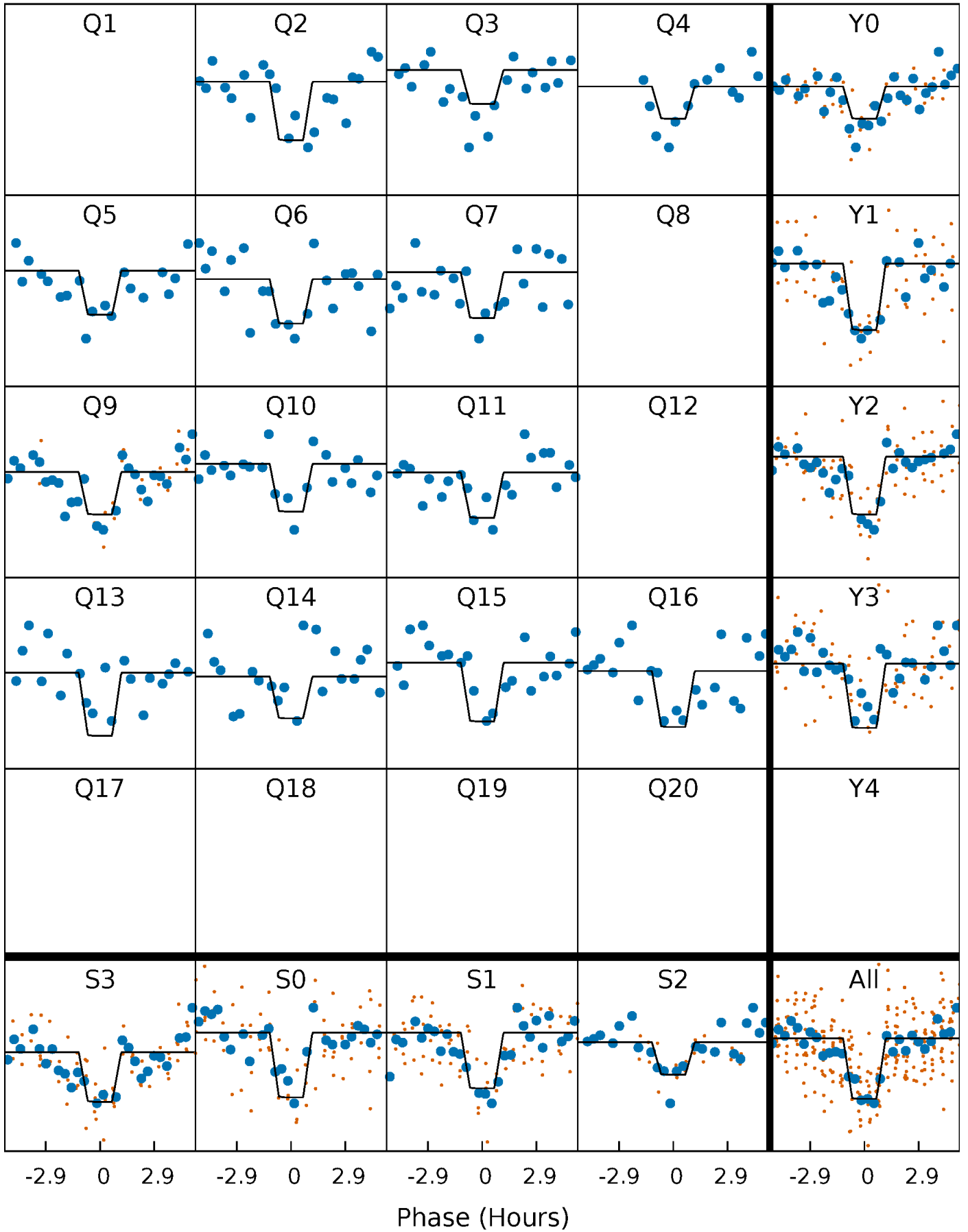
DV Quarter-Phased Transit Curves

TCE 005088536-03 $P = 87.517994$ Days $T_0 = 201.156434$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

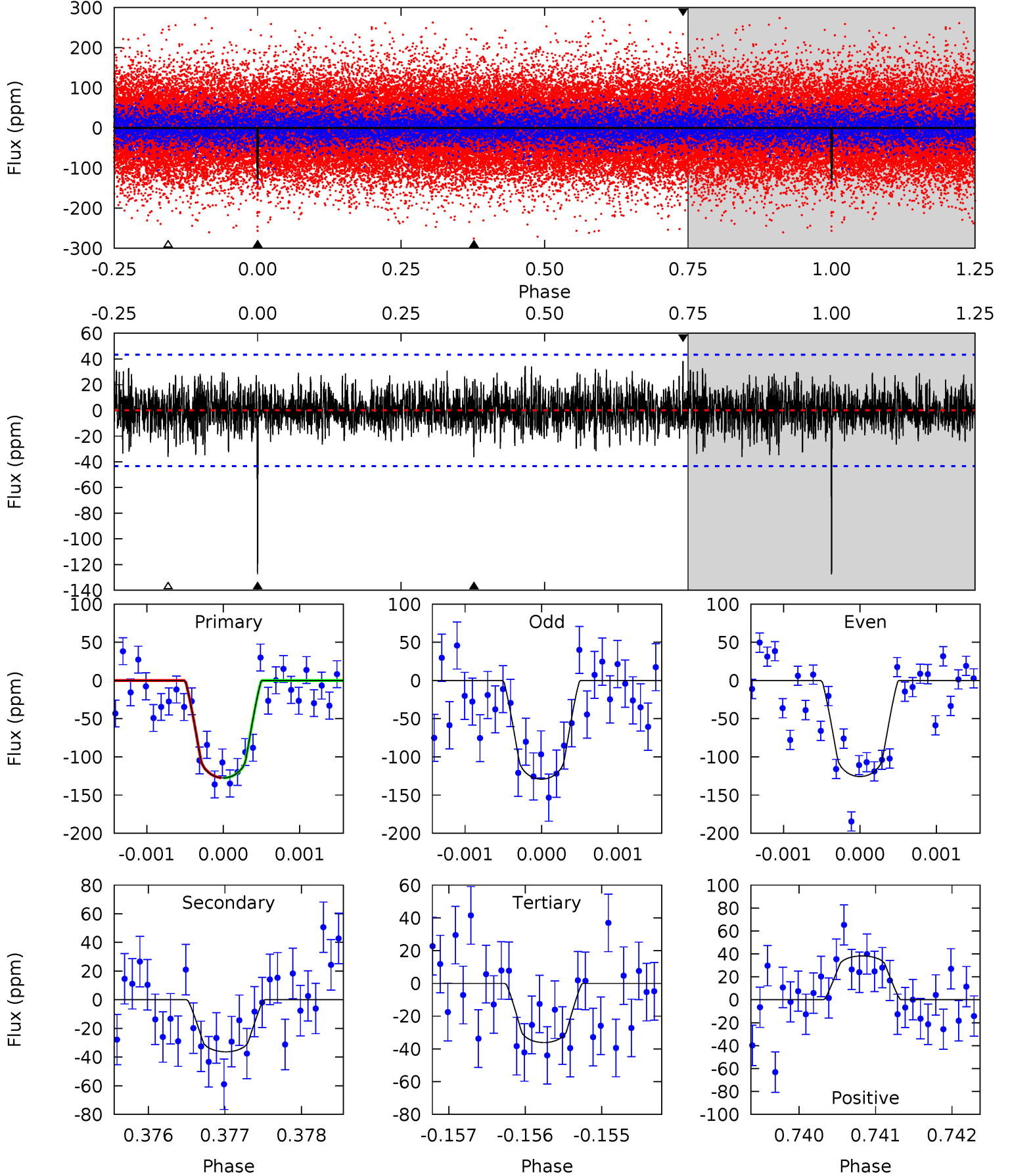
TCE 005088536-03 P= 87.517276 Days $T_0=201.158743$ (BKJD)



DV Model-Shift Uniqueness Test

005088536-03, P = 87.517994 Days, E = 113.638440 Days

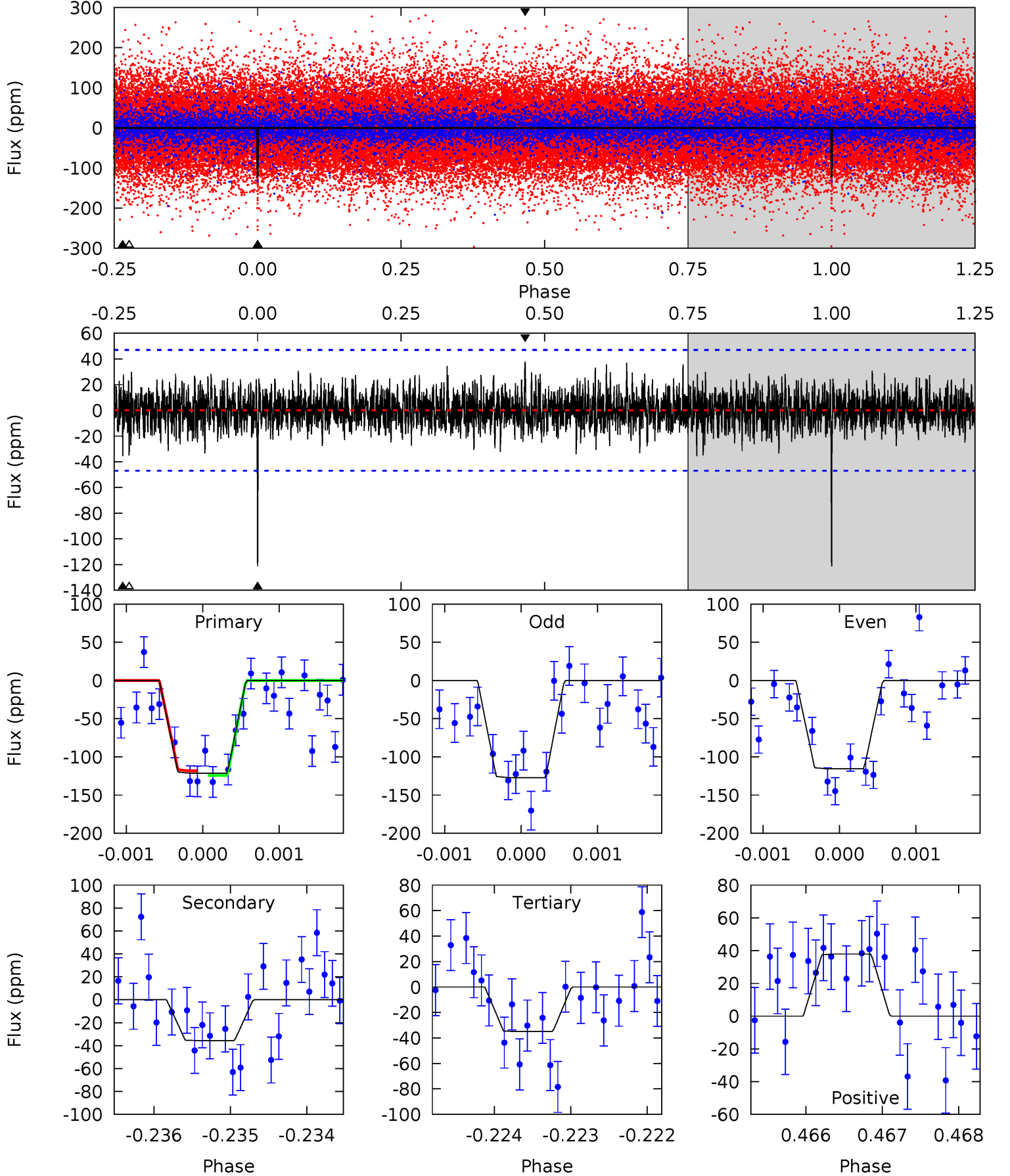
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
16.0	4.55	4.53	4.80	5.43	3.26	1.35	11.4	11.2	0.02	-0.24	0.21	0.99	0.23	0.02



Alt Model-Shift Uniqueness Test

005088536-03, $P = 87.517276$ Days, $E = 113.641467$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.1	4.15	4.07	4.41	5.46	3.30	1.18	10.0	9.70	0.08	-0.26	0.68	1.03	0.24	0.35



Stellar Parameters For KIC 005088536

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5903^{+70}_{-79}	$4.304^{+0.020}_{-0.018}$	$-0.160^{+0.150}_{-0.150}$	$1.137^{+0.050}_{-0.046}$	$0.950^{+0.068}_{-0.061}$	$0.911^{+0.076}_{-0.063}$
	+1%/-1%	+0%/-0%	+94%/-94%	+4%/-4%	+7%/-6%	+8%/-7%
Source	SPE72	AST8	SPE72	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

Secondary Eclipse Parameters for KIC 005088536-03 / KOI 0282.03

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-36 ± 8	$1.55^{+0.94}_{-0.88}$	630^{+9}_{-10}	4330^{+1918}_{-688}	1203^{+5449}_{-749}
Alt.	-36 ± 9	$1.55^{+0.95}_{-0.91}$	630^{+9}_{-10}	4308^{+2104}_{-656}	1175^{+5801}_{-717}

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 $A_{\text{obs}} \gg 1.0$

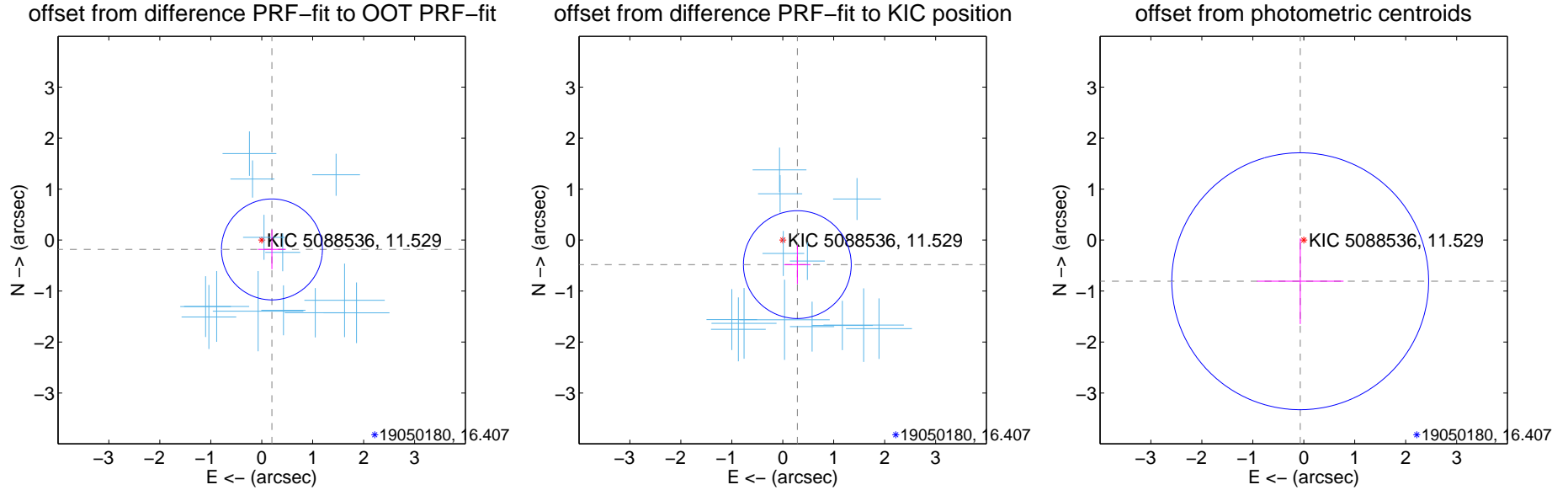
DV Centroid Data

Supplemental centroid analysis for 005088536-03. **Kepler magnitude: 11.53**. Transit SNR 11.53

There are 13 quarters with good PRF difference image offsets

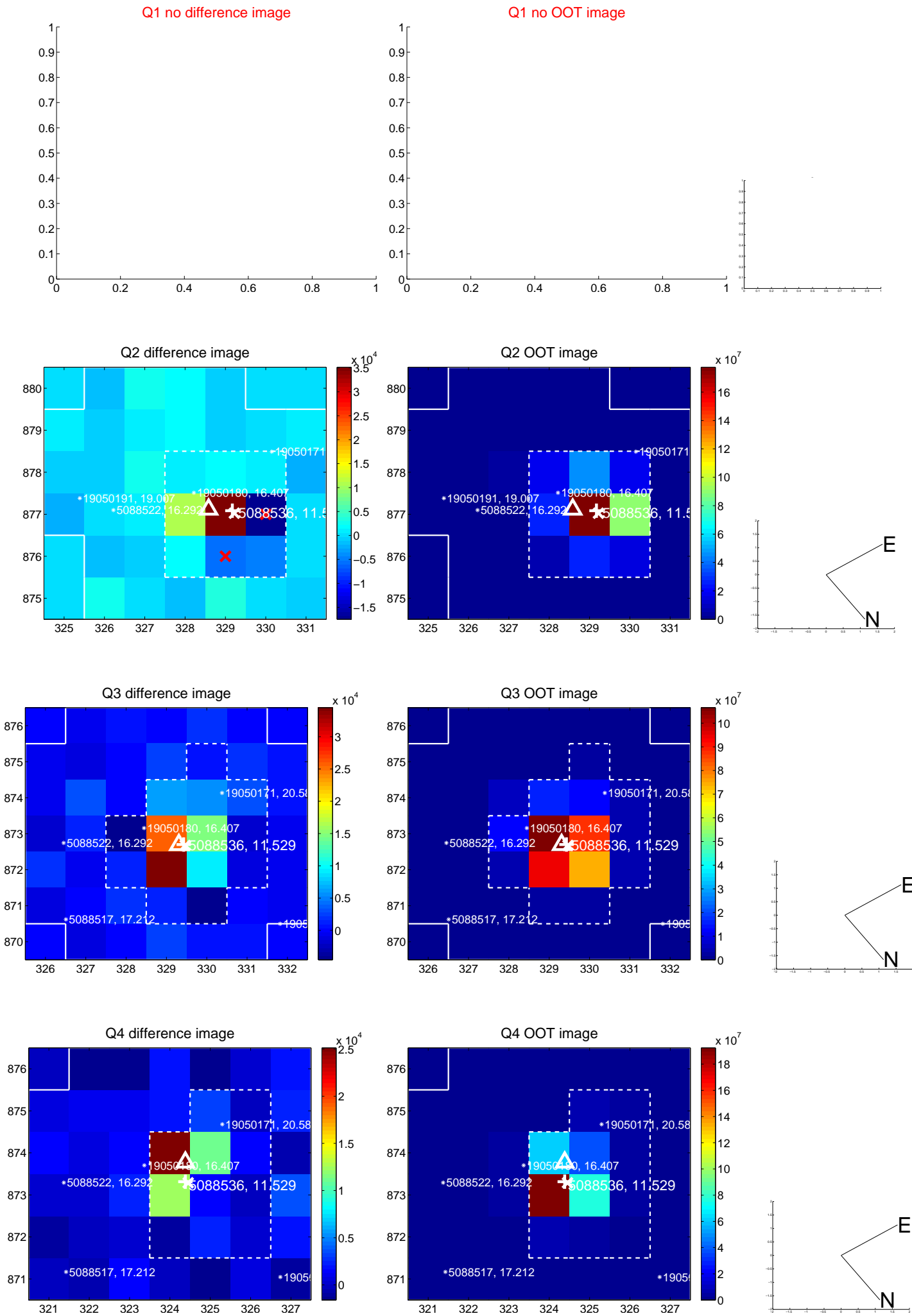
The direct PRF centroid is offset from the target star catalog position by about 0.37 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.271 ± 0.330	0.82	-0.200 ± 0.273	-0.183 ± 0.387
PRF-fit source offset from KIC position	0.560 ± 0.353	1.59	-0.286 ± 0.260	-0.481 ± 0.380
photometric centroid source offset	0.81 ± 0.84	0.96	0.07 ± 0.85	-0.81 ± 0.84

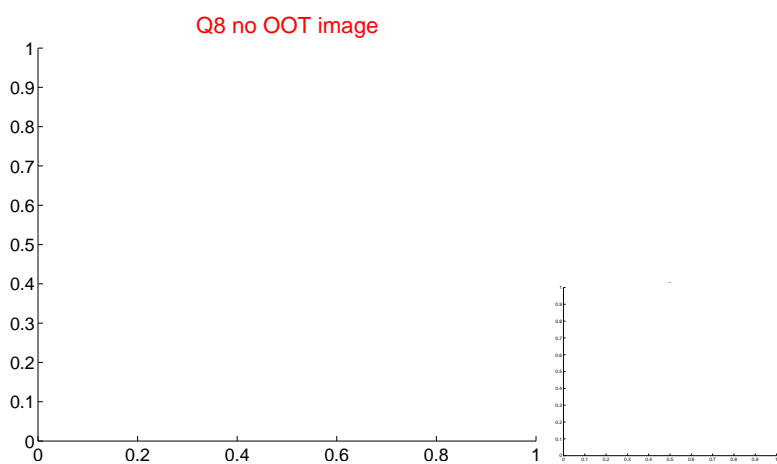
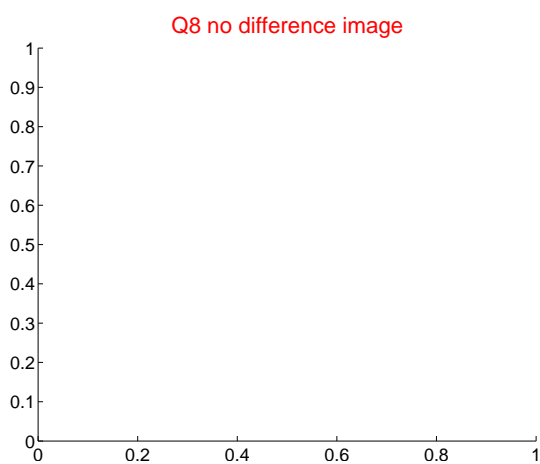
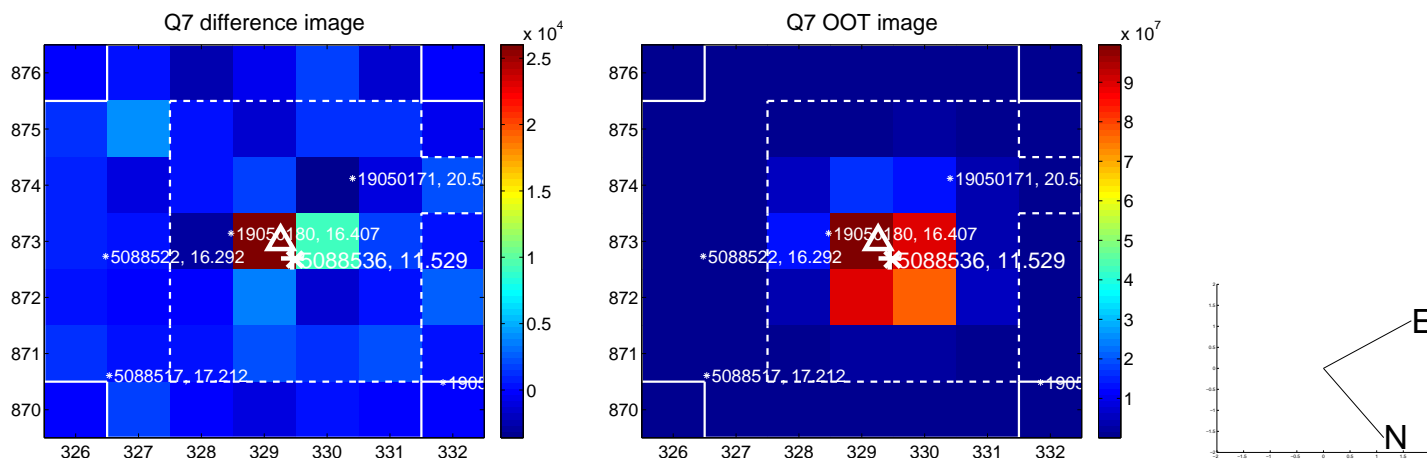
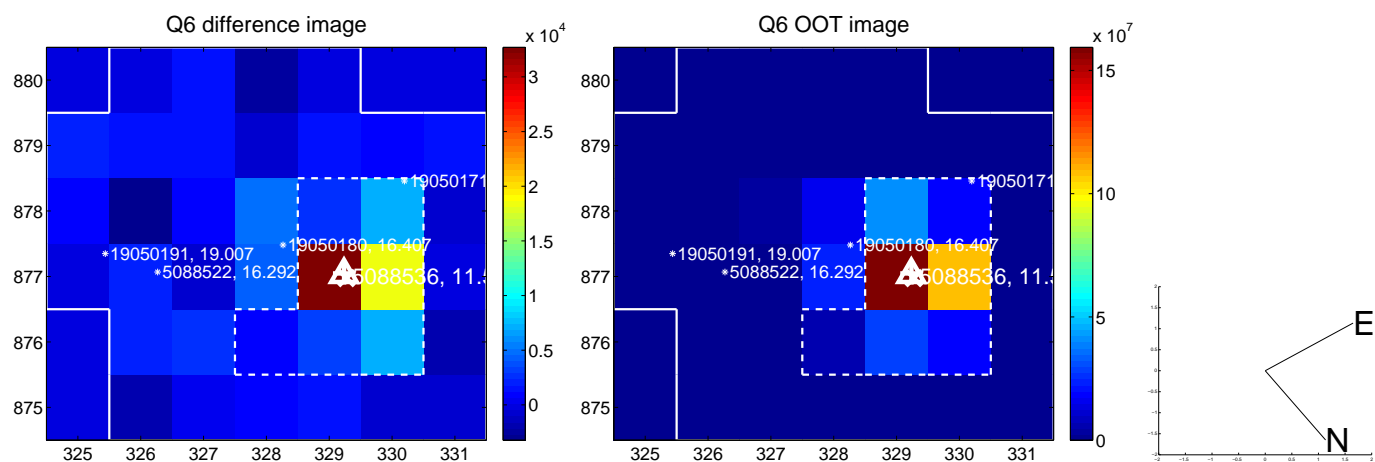
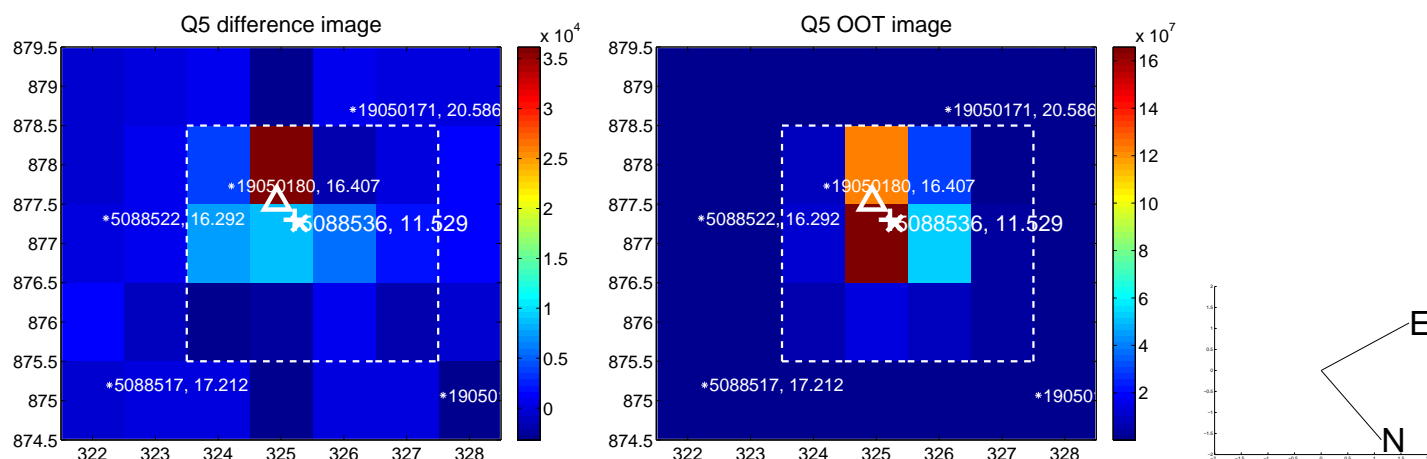


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

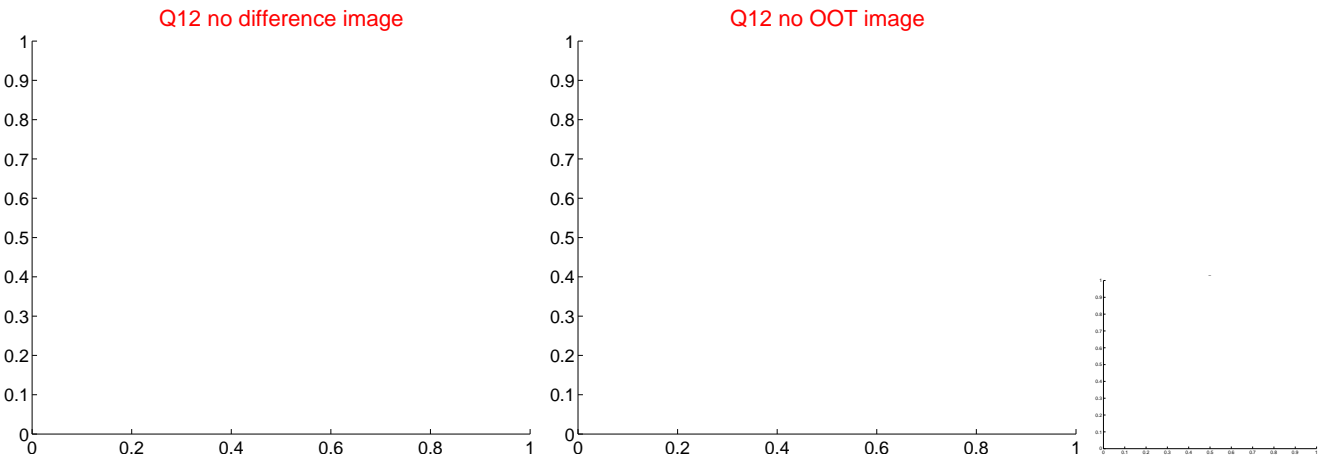
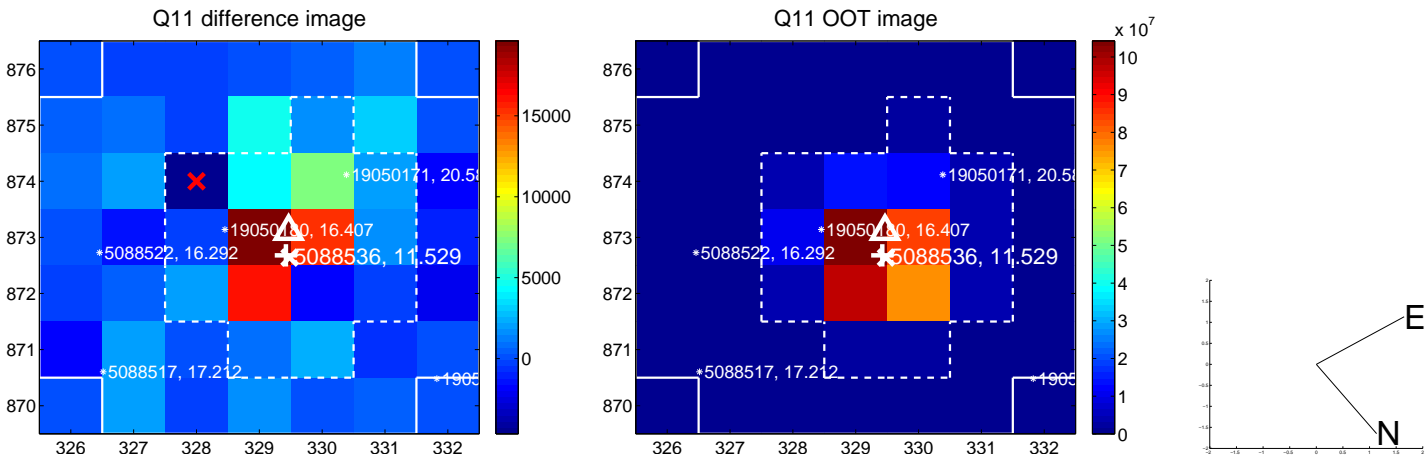
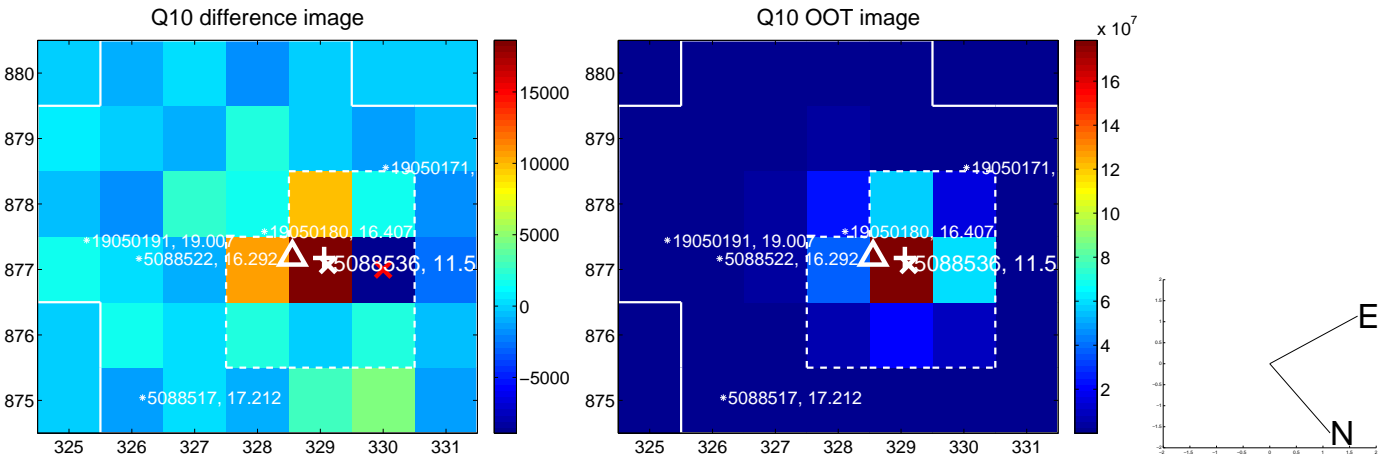
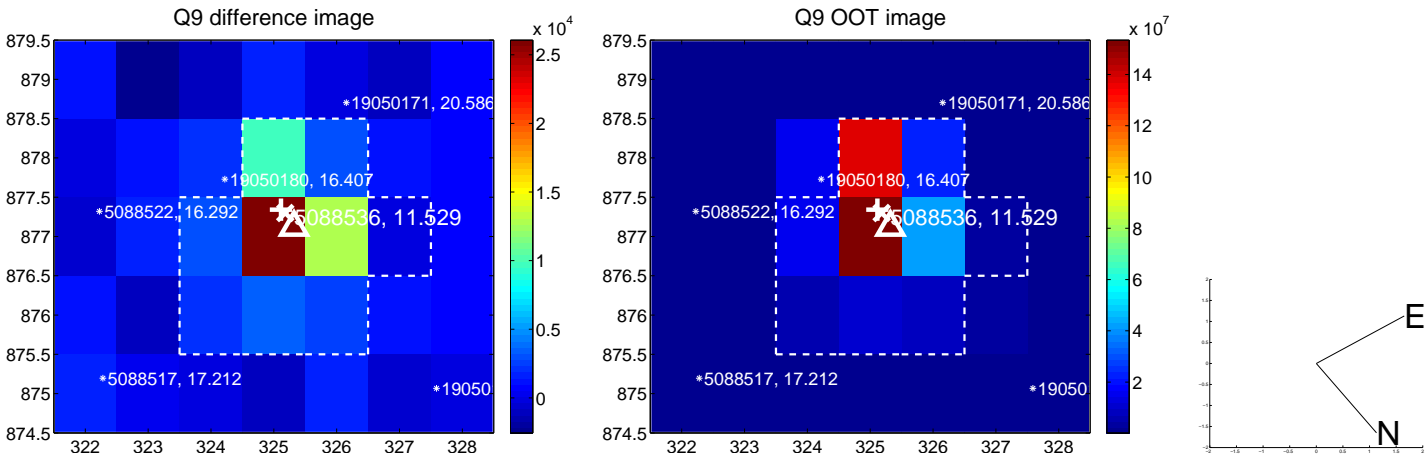
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



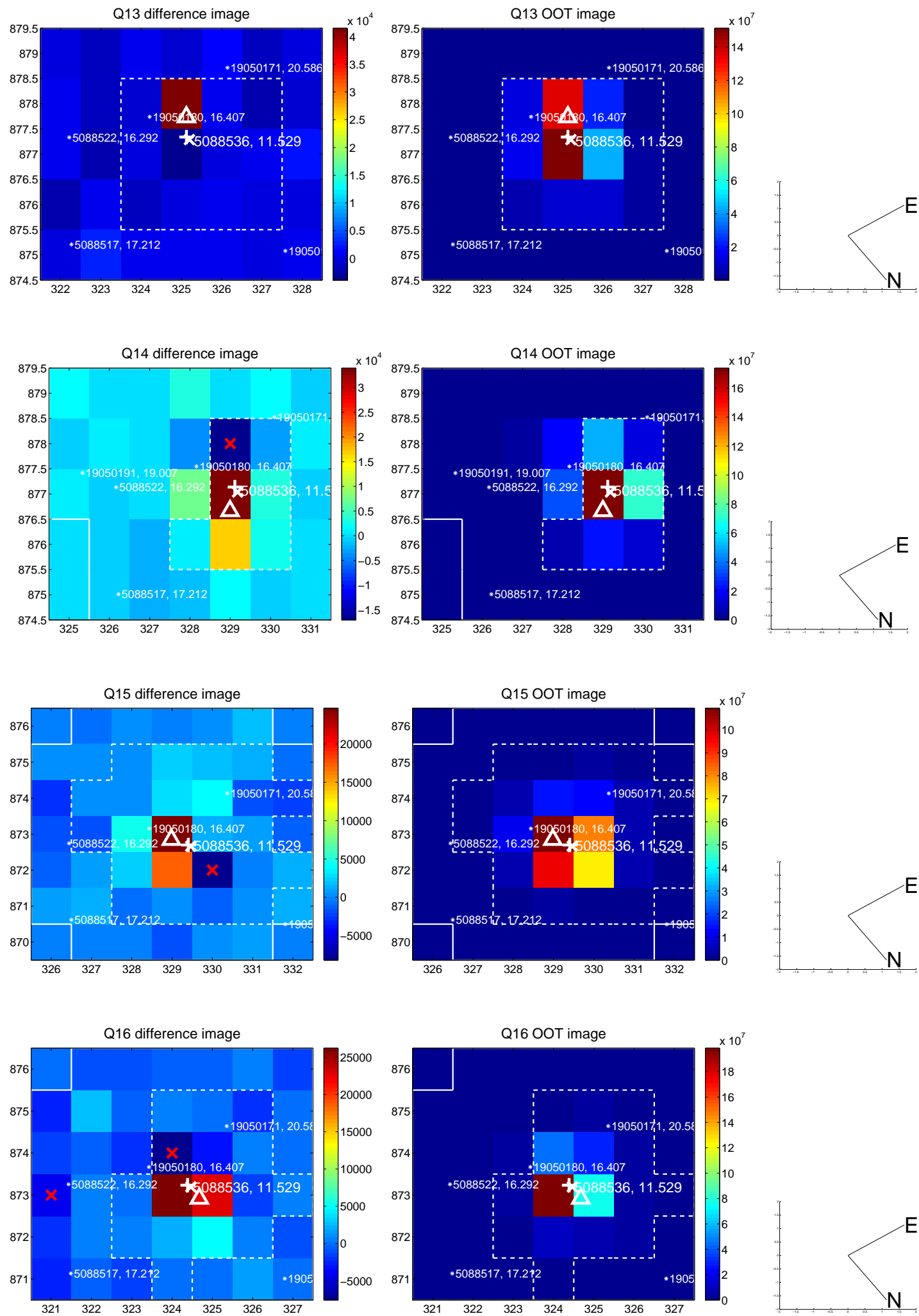
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



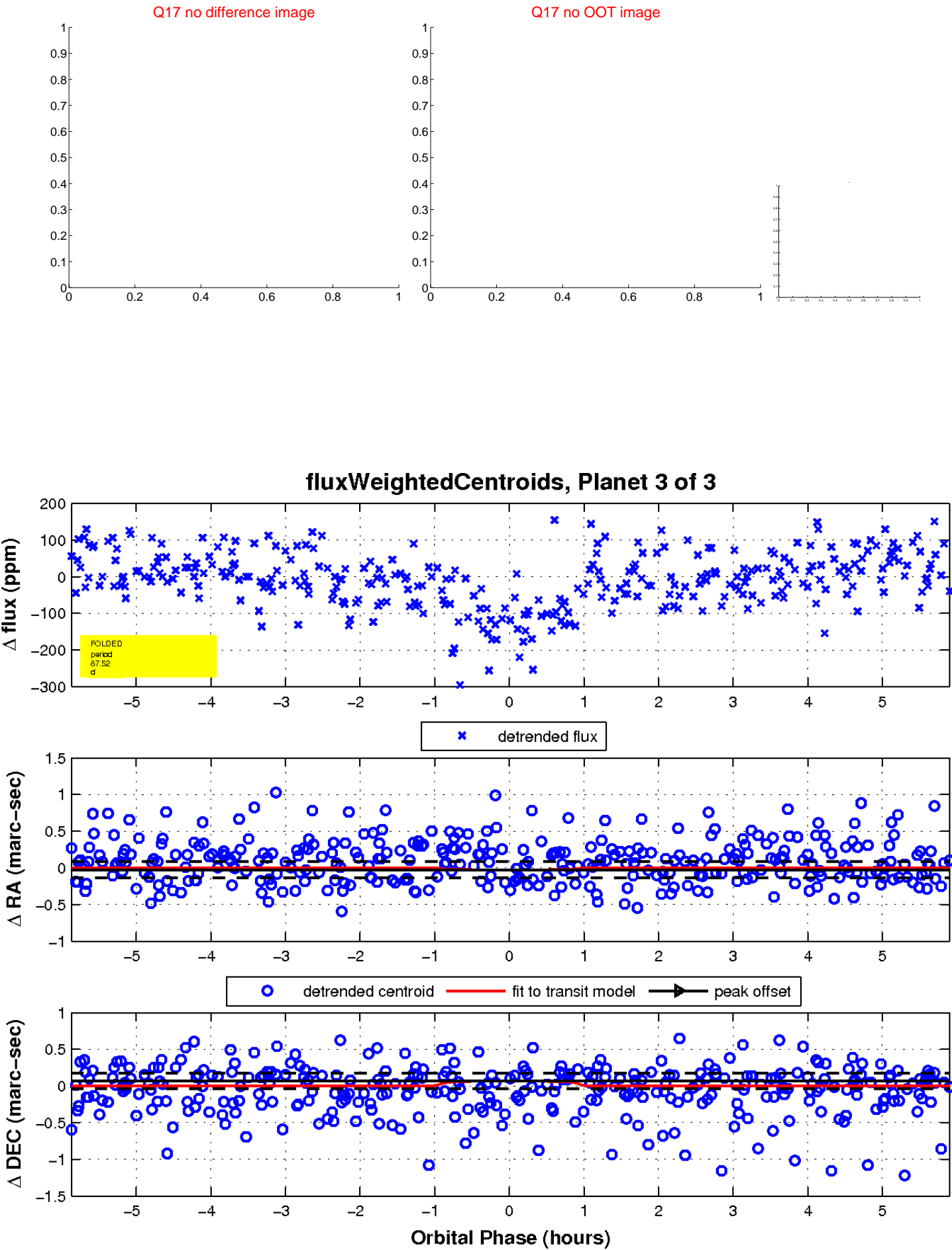
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

