

KIC 005129777

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})
005129777-01	OBS	No	26.159180	143.074792	318.6	42.508	28.3	37.8	3.15	8340	7.30	898.67
005129777-02	OBS	No	0.769338	131.797958	13.1	3.453	7.4	7.1	3.15	8340	1.33	98994.03

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005129777-01	OBS	FP	0.00	1	0	0	0	LPP_DV
005129777-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT

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

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

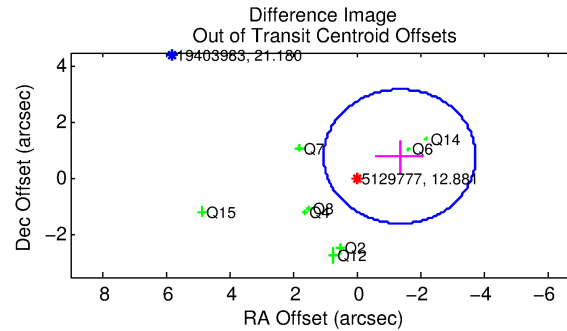
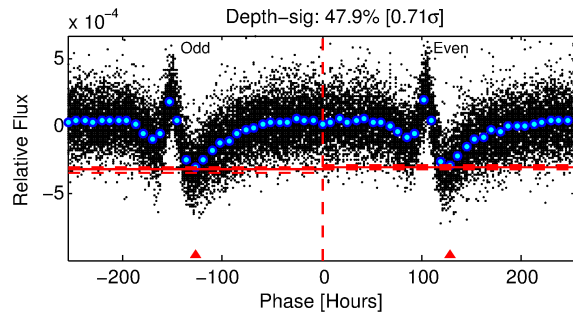
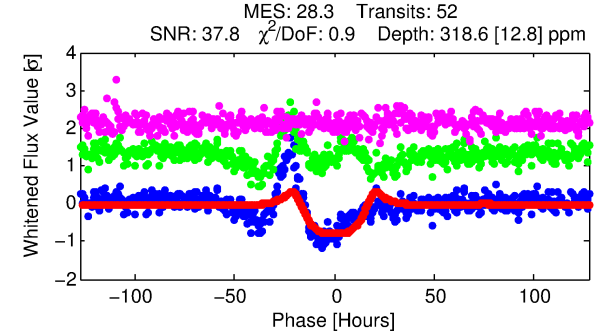
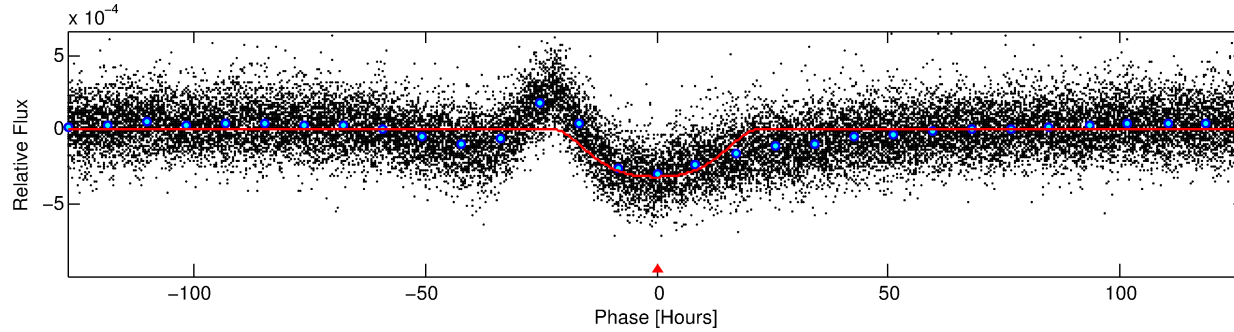
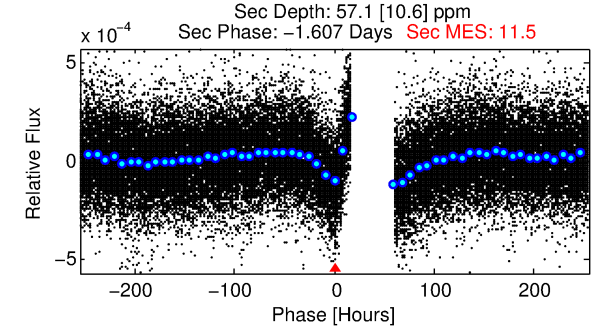
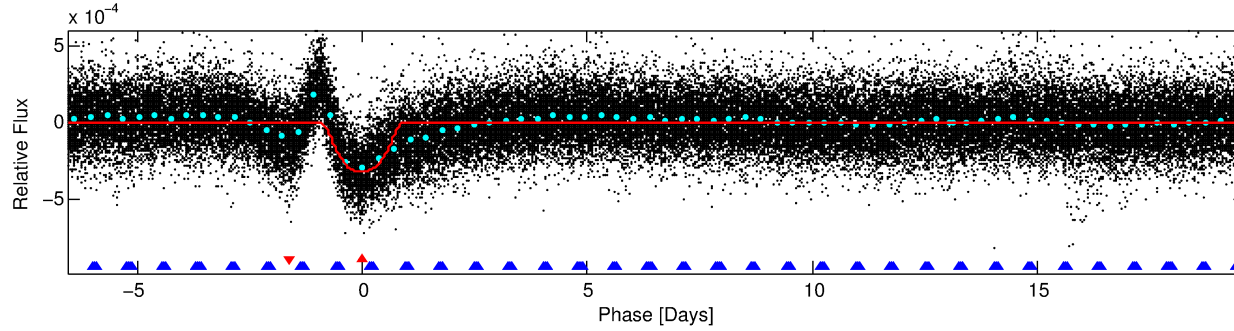
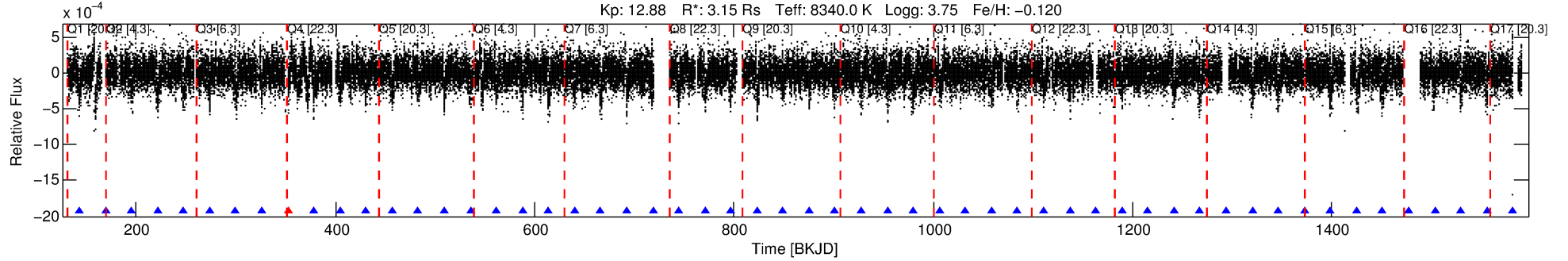
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005129777-01

No Significant Match Found

DV One-Page Summary

KIC: 5129777 Candidate: 1 of 2 Period: 26.159 d



DV Fit Results:

Period = 26.15918 [0.00061] d
Epoch = 143.0748 [0.0190] BKJD
Rp/R* = 0.0212 [0.0005]
a/R* = 1.69 [0.03]
b = 0.98 [0.00]
Seff = 898.67 [690.87]
Teq = 1396 [268] K
Rp = 7.30 [3.21] Re
a = 0.2188 [0.0988] AU
Ag = 28.19 [21.75] [1.25σ]
Teffp = 4974 [327] K [8.45σ]

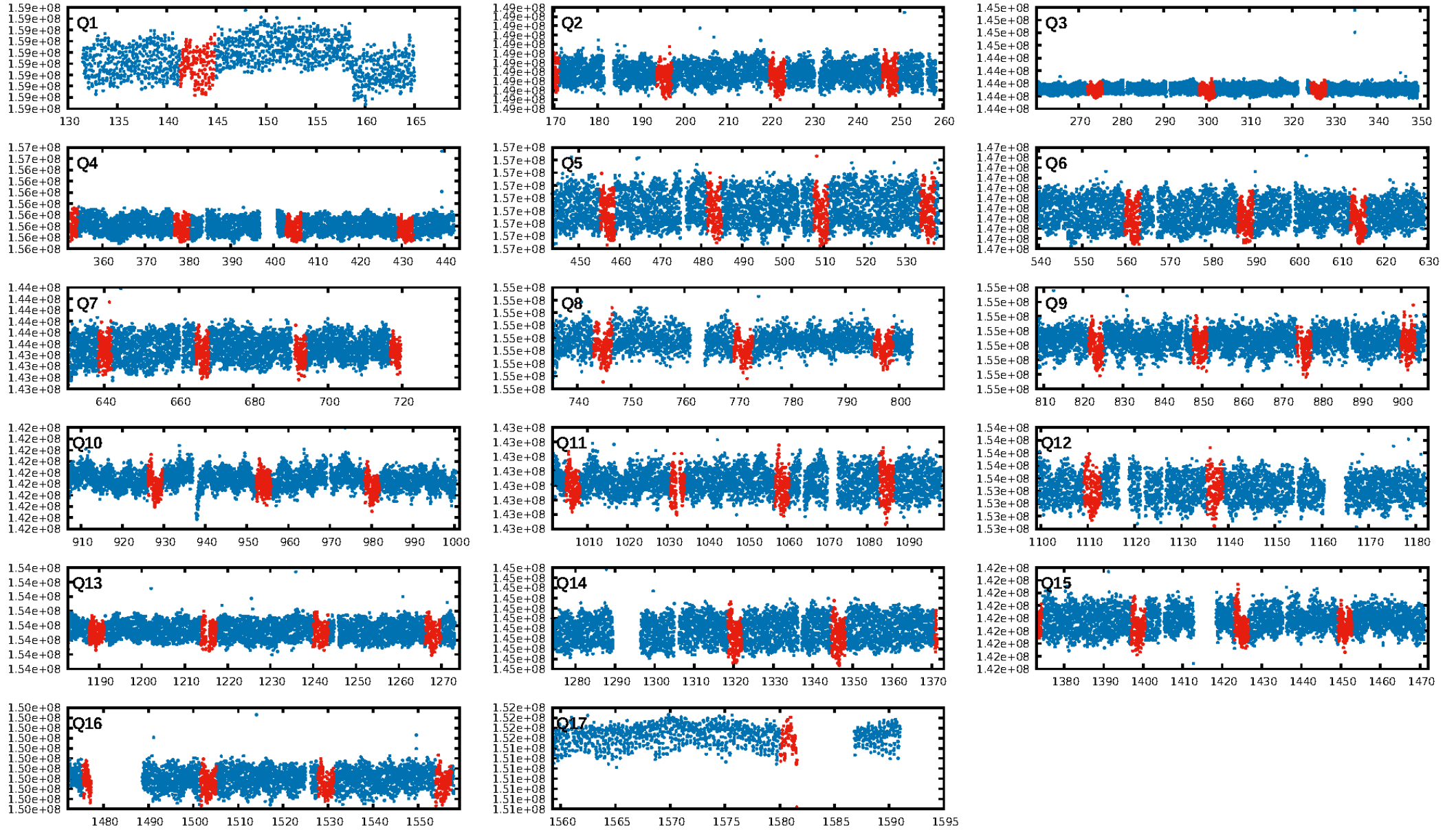
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [14.29σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 53.1%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 8.86e-122
RollingBand-fgt: 0.98 [49/50]
GhostDiagnostic-chr: 2.205
Centroid-sig: 0.0%
Centroid-so: 0.311 arcsec [1.10σ]
OotOffset-rm: 1.574 arcsec [1.98σ]
KicOffset-rm: 1.623 arcsec [2.31σ]
OotOffset-st: 3/2/3/0 [8]
KicOffset-st: 3/2/3/0 [8]
DiffImageQuality-fgm: 0.62 [5/8]
DiffImageOverlap-fno: 0.00 [0/14]

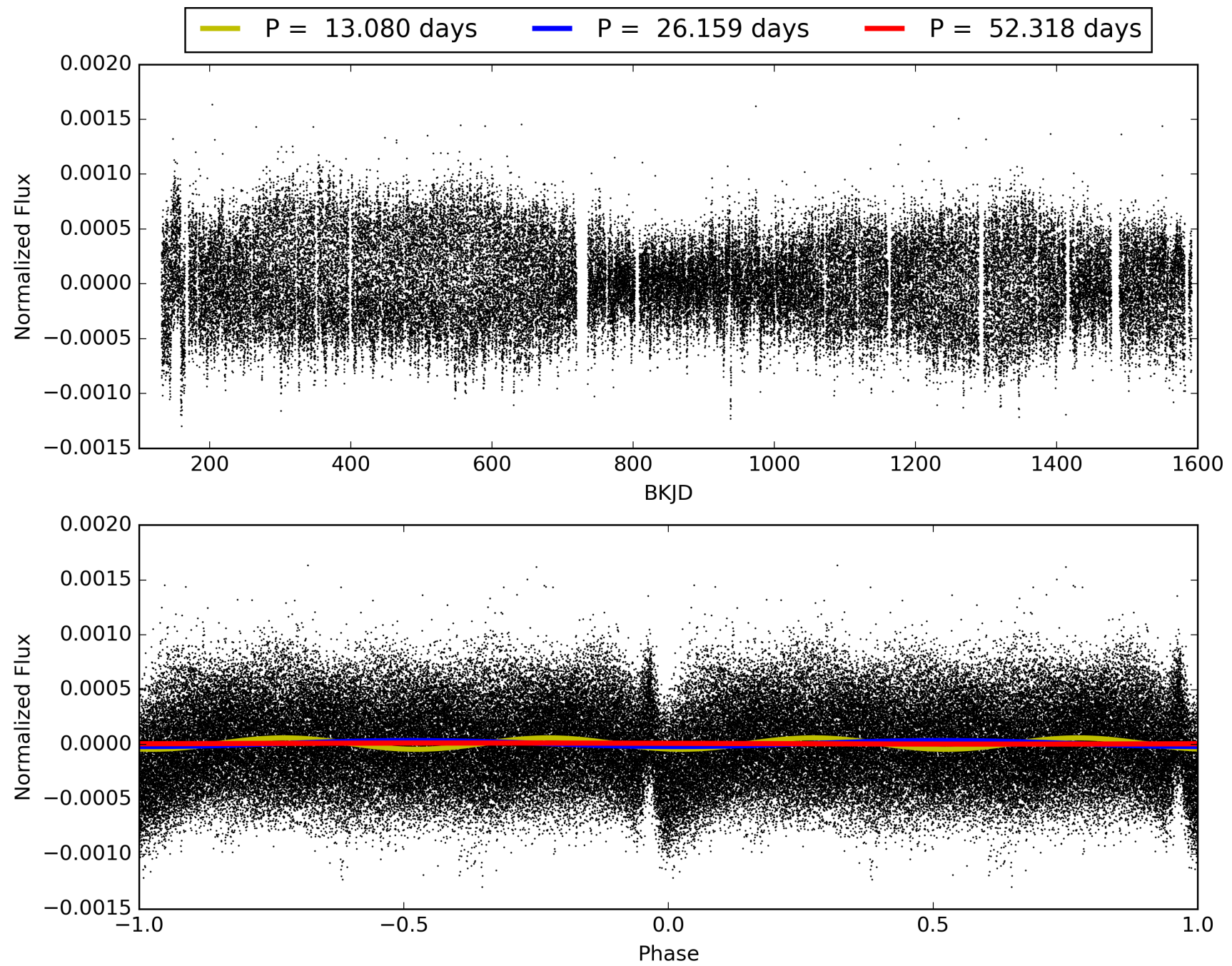
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 00:03:19 Z

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

TCE 005129777-01, PDC Light Curves

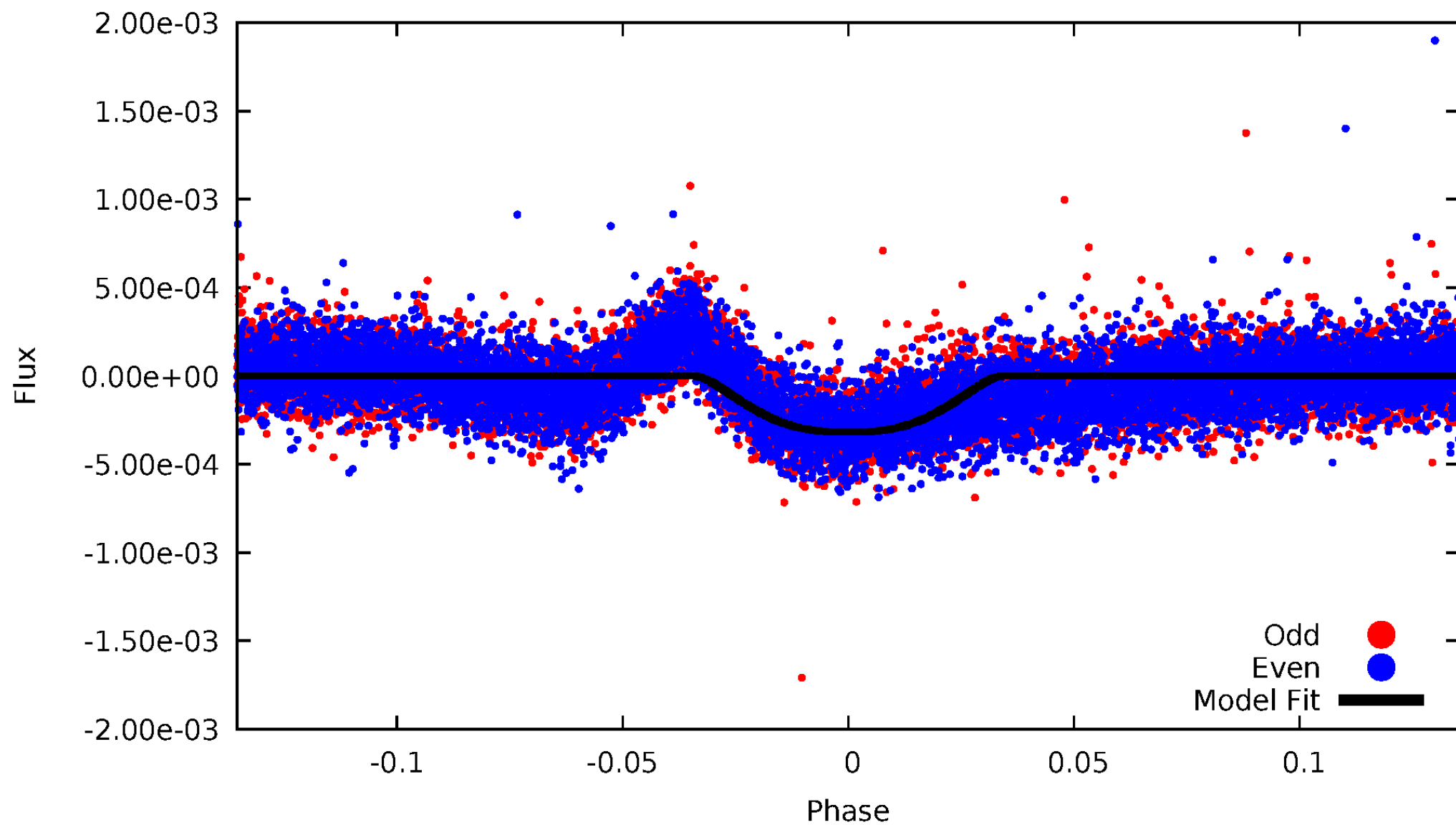


TCE 005129777-01



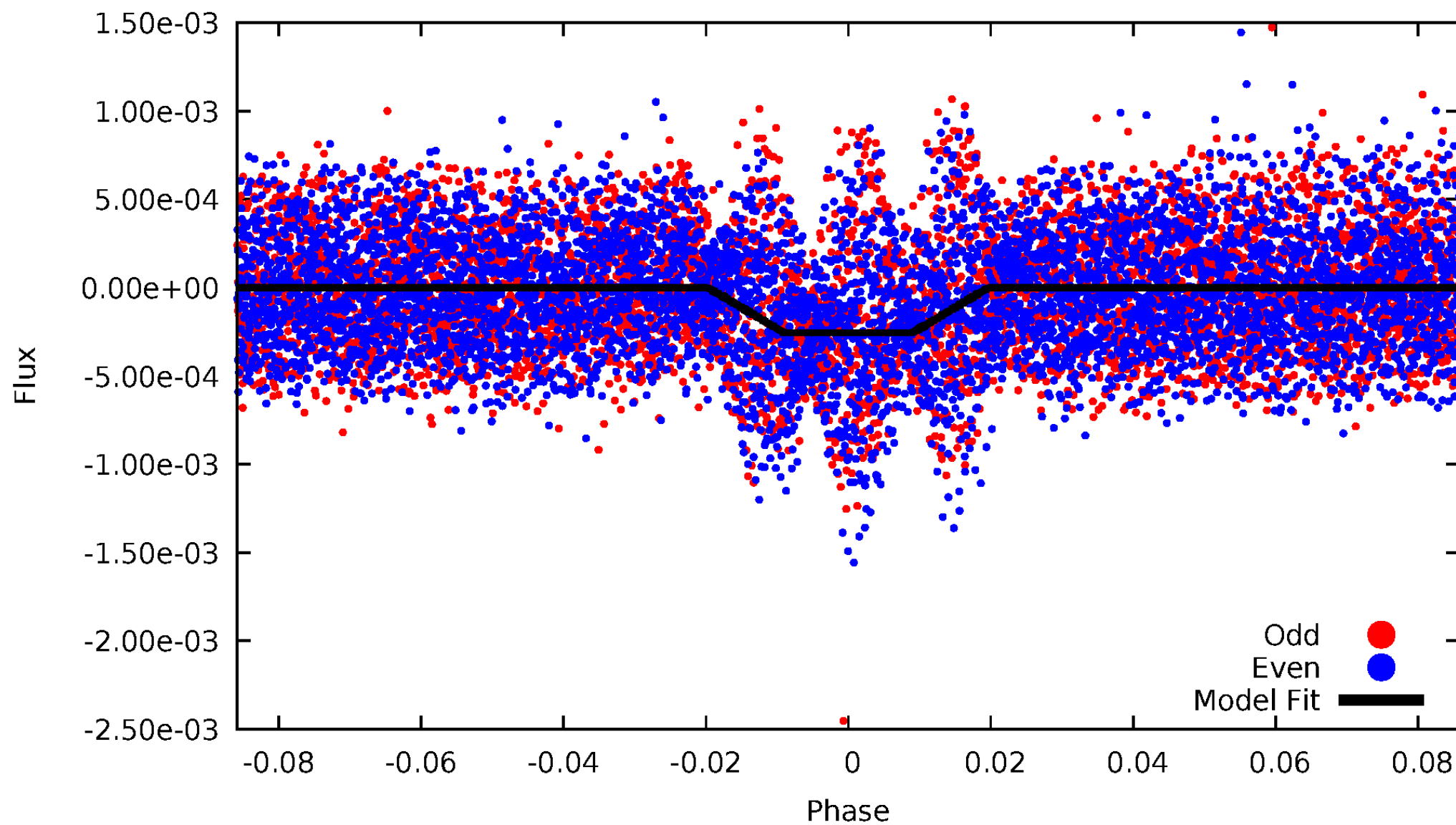
DV Odd/Even

TCE 005129777-01



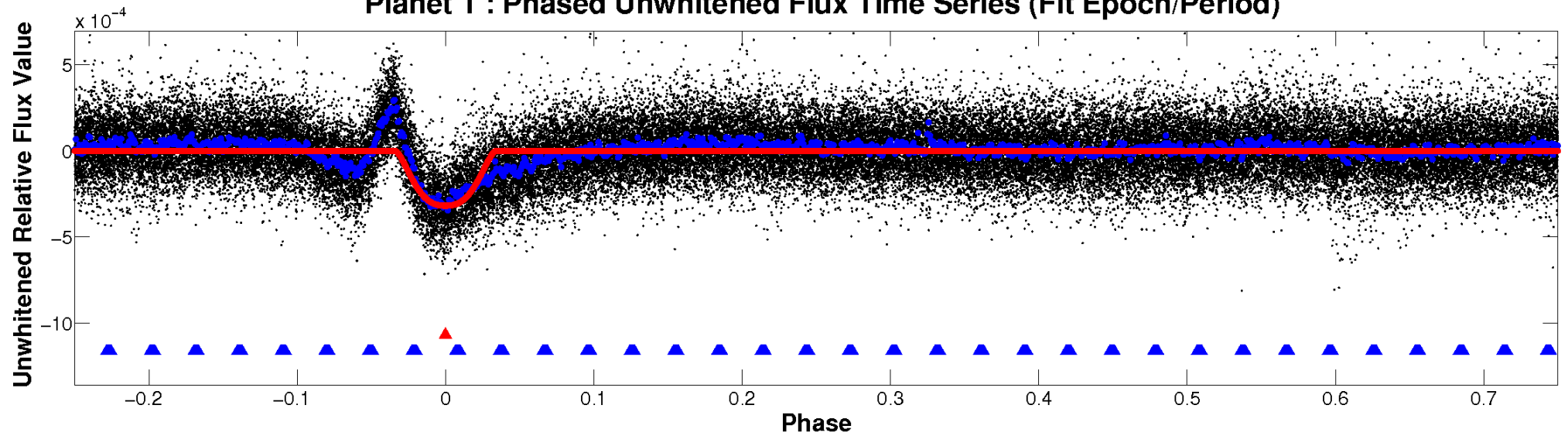
ALT Odd/Even

TCE 005129777-01

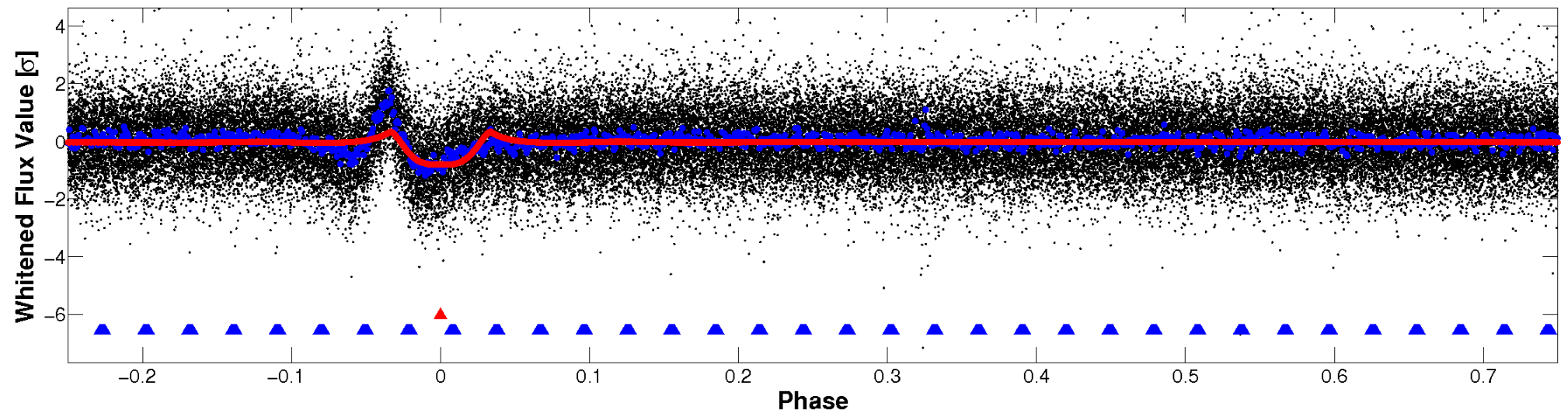


Non-Whitened Vs. Whitened Light Curve

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

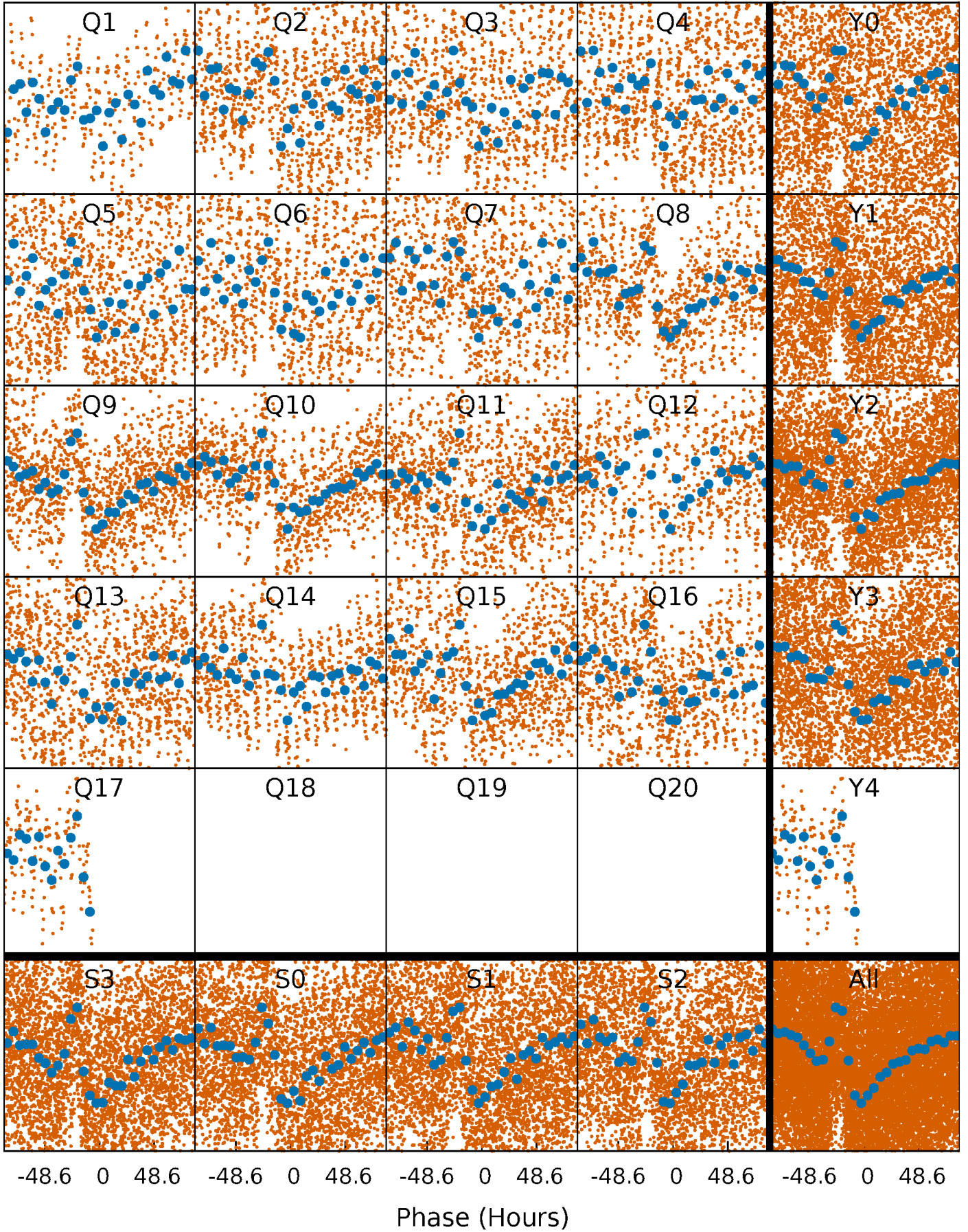


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



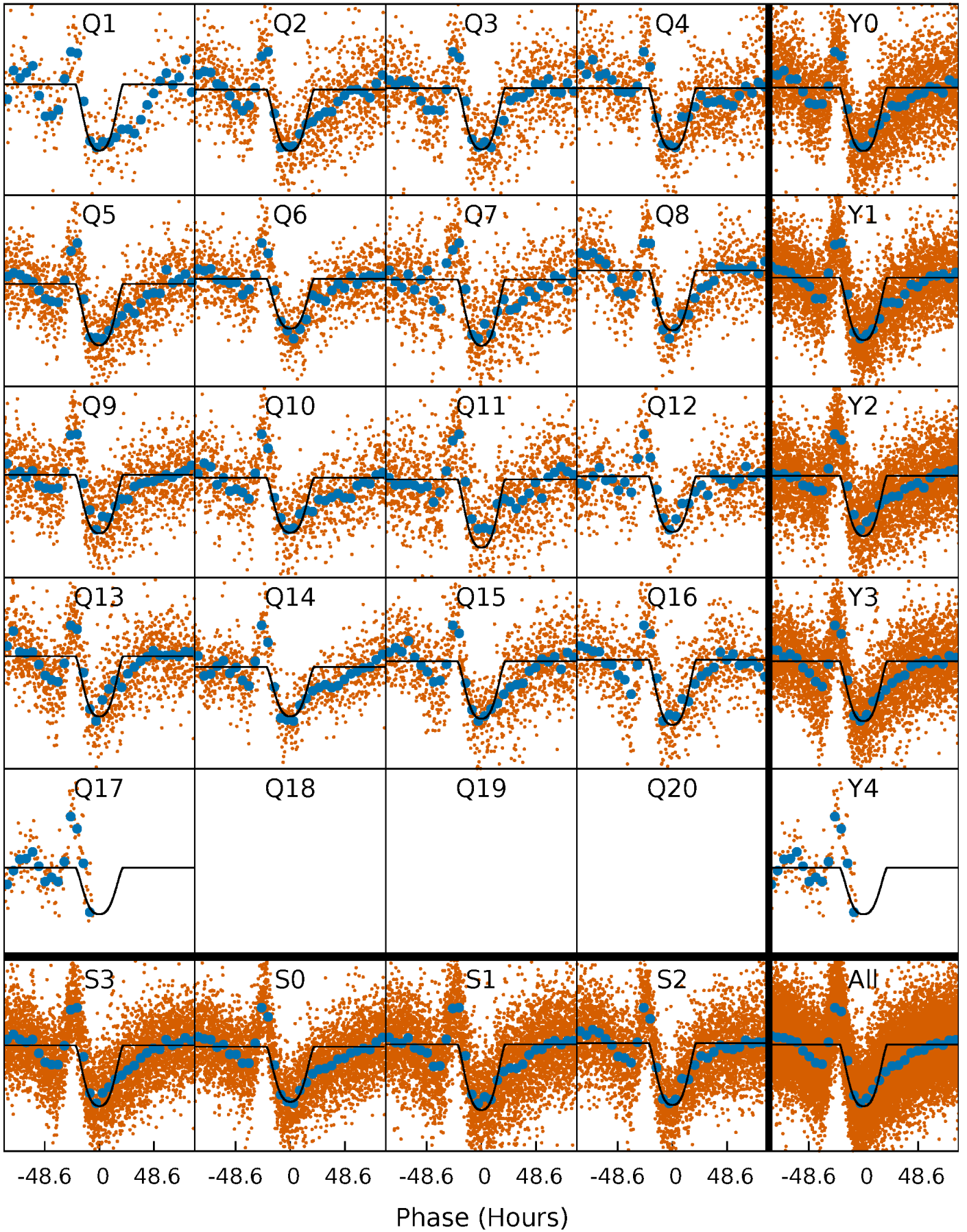
PDC Quarter-Phased Transit Curves

TCE 005129777-01 P= 26.159180 Days $T_0=143.074792$ (BKJD)



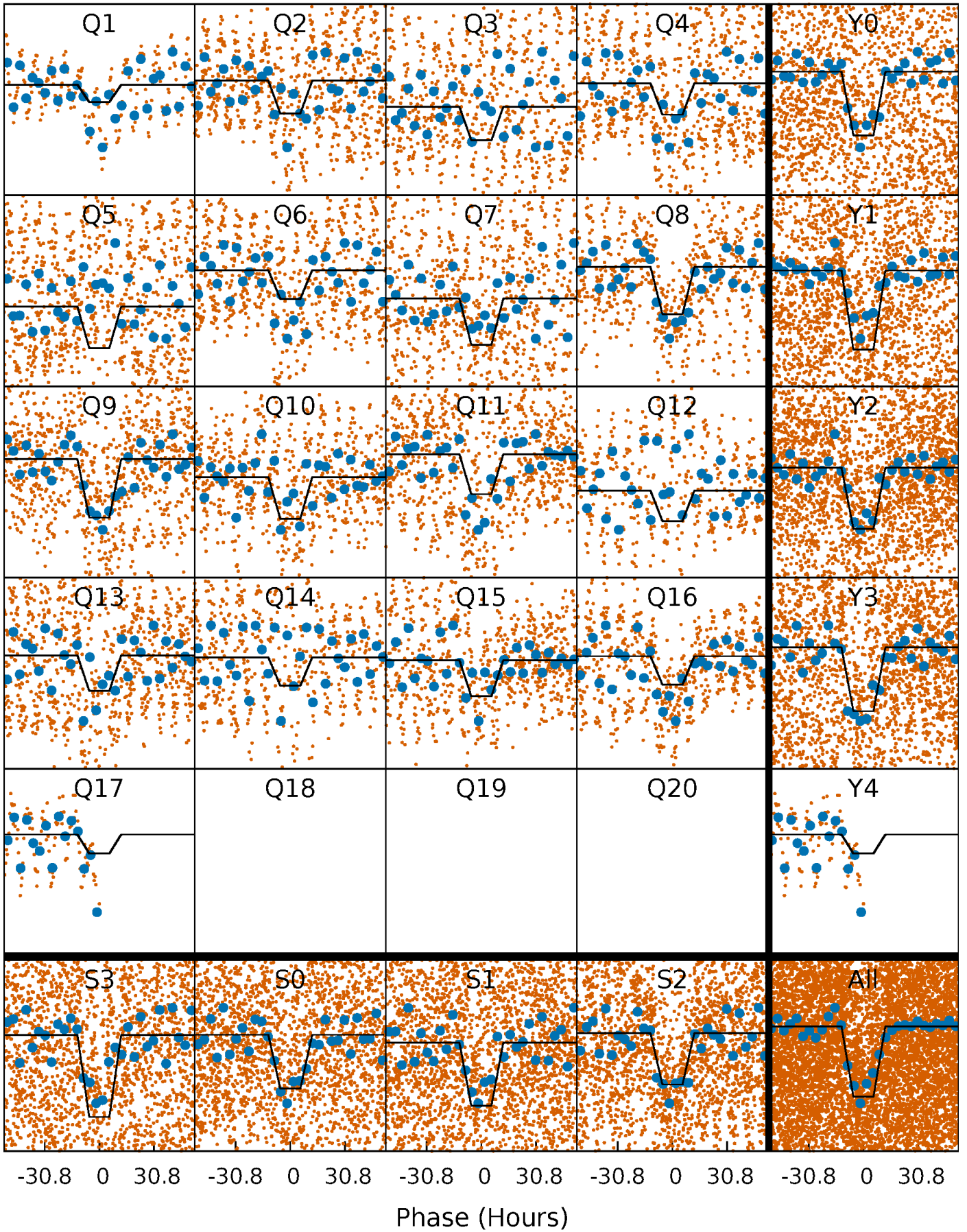
DV Quarter-Phased Transit Curves

TCE 005129777-01 P= 26.159180 Days $T_0=143.074792$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

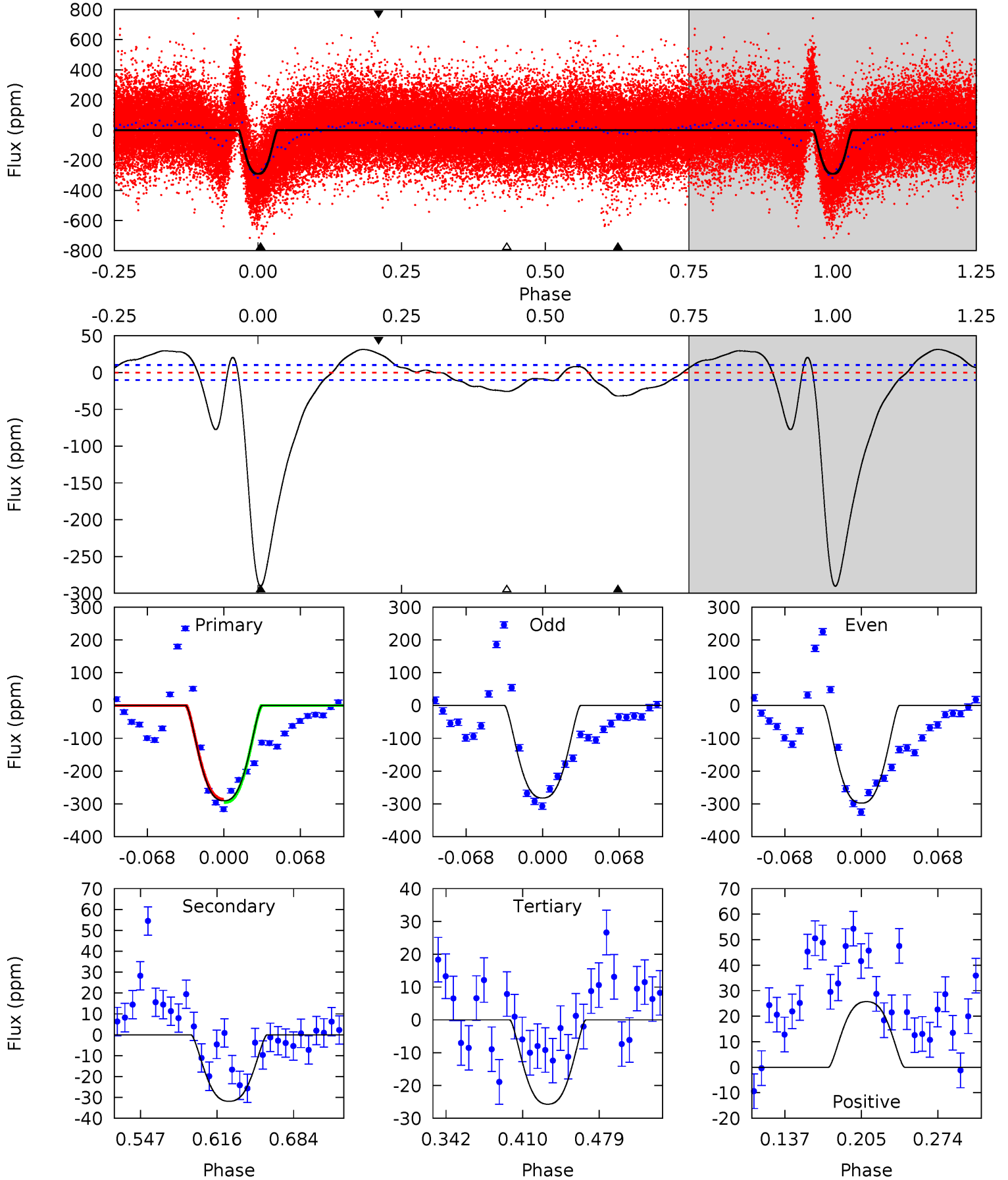
TCE 005129777-01 P= 26.160575 Days $T_0=142.745940$ (BKJD)



DV Model-Shift Uniqueness Test

005129777-01, P = 26.159180 Days, E = 116.915612 Days

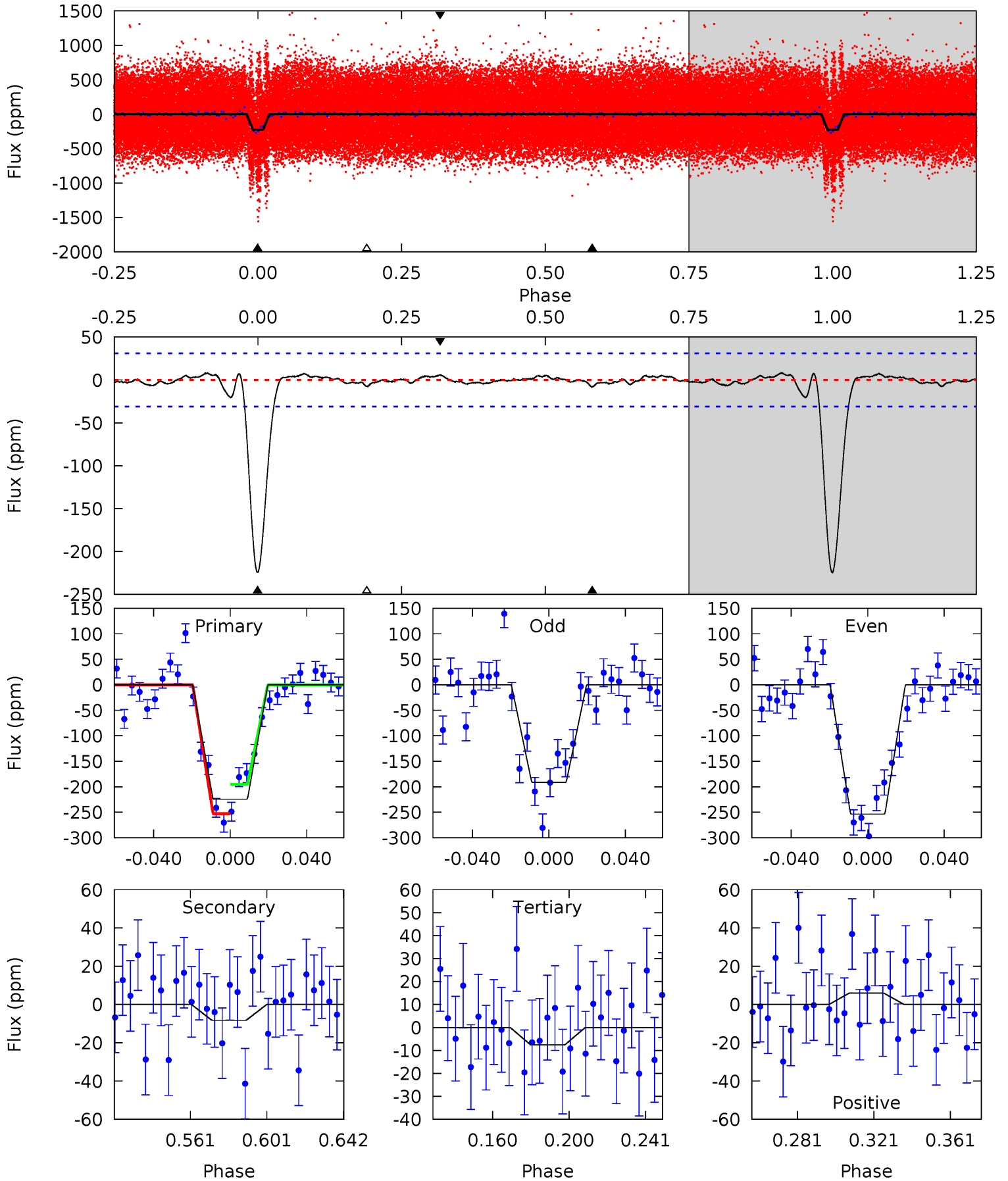
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
131.5	14.4	11.6	11.6	4.64	1.82	10.3	119.9	119.9	2.79	2.78	3.50	0.97	0.10	2.15



Alt Model-Shift Uniqueness Test

005129777-01, P = 26.160575 Days, E = 116.585365 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
34.3	1.26	1.15	0.91	4.75	2.05	0.64	33.2	33.4	0.11	0.35	4.74	1.06	0.03	4.40



Stellar Parameters For KIC 005129777

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	8340^{+202}_{-376}	$3.751^{+0.448}_{-0.140}$	$-0.120^{+0.300}_{-0.350}$	$3.150^{+0.806}_{-1.382}$	$2.039^{+0.341}_{-0.468}$	$0.092^{+0.366}_{-0.038}$
	+2%/-5%	+12%/-4%	+250%/-292%	+26%/-44%	+17%/-23%	+399%/-41%
Source	KIC0	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 005129777-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-32 ± 2	$7.09^{+1.18}_{-1.57}$	1891^{+165}_{-211}	4343^{+97}_{-133}	17^{+9}_{-5}
Alt.	-8 ± 7	$5.36^{+0.87}_{-1.33}$	1903^{+149}_{-231}	3753^{+451}_{-1002}	$7.893^{+8.731}_{-6.541}$

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

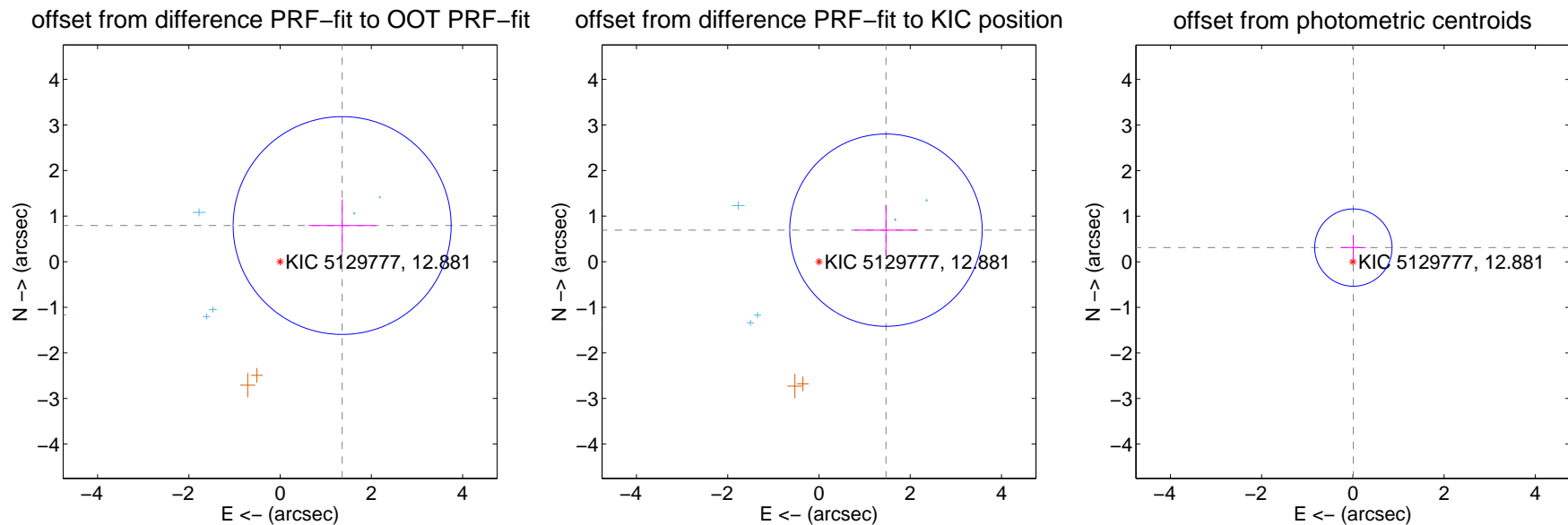
DV Centroid Data

Supplemental centroid analysis for 005129777-01. Kepler magnitude: 12.88. Transit SNR 37.77

There are 5 quarters with good PRF difference image offsets

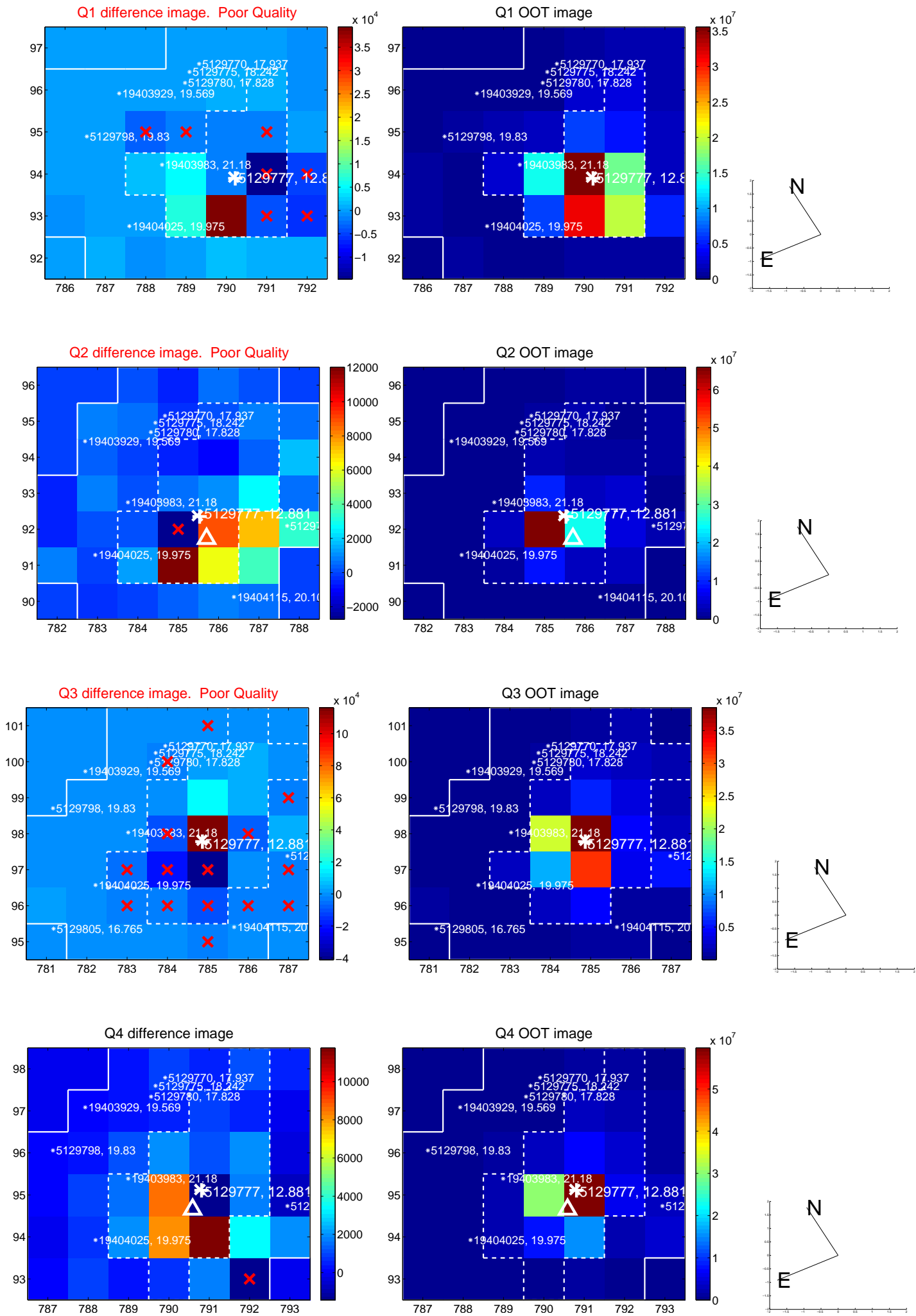
The direct PRF centroid is offset from the target star catalog position by about 0.24 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.574 ± 0.796	1.98	-1.360 ± 0.737	0.793 ± 0.573
PRF-fit source offset from KIC position	1.623 ± 0.703	2.31	-1.468 ± 0.690	0.692 ± 0.557
photometric centroid source offset	0.31 ± 0.28	1.10	-0.01 ± 0.28	0.31 ± 0.28

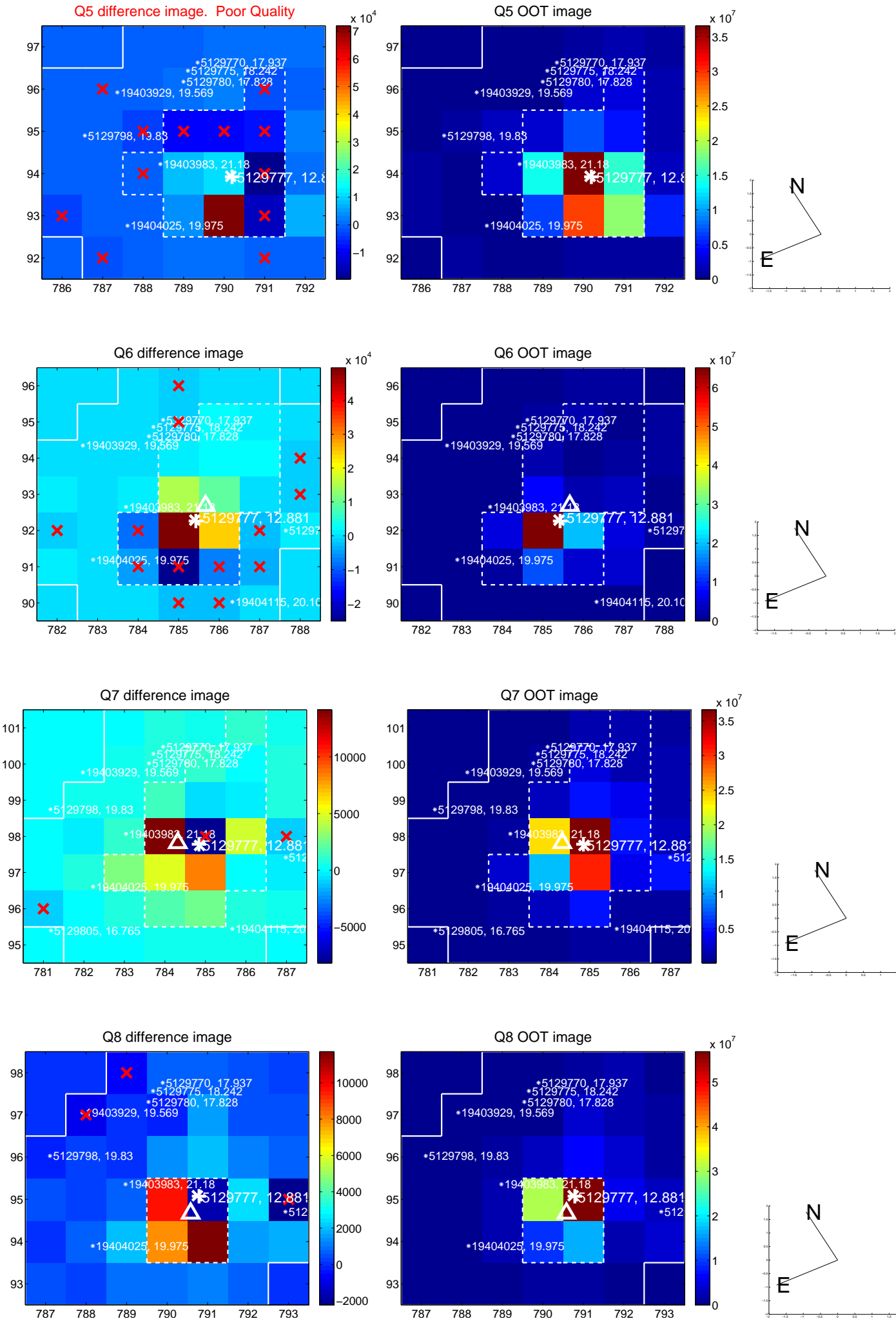


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

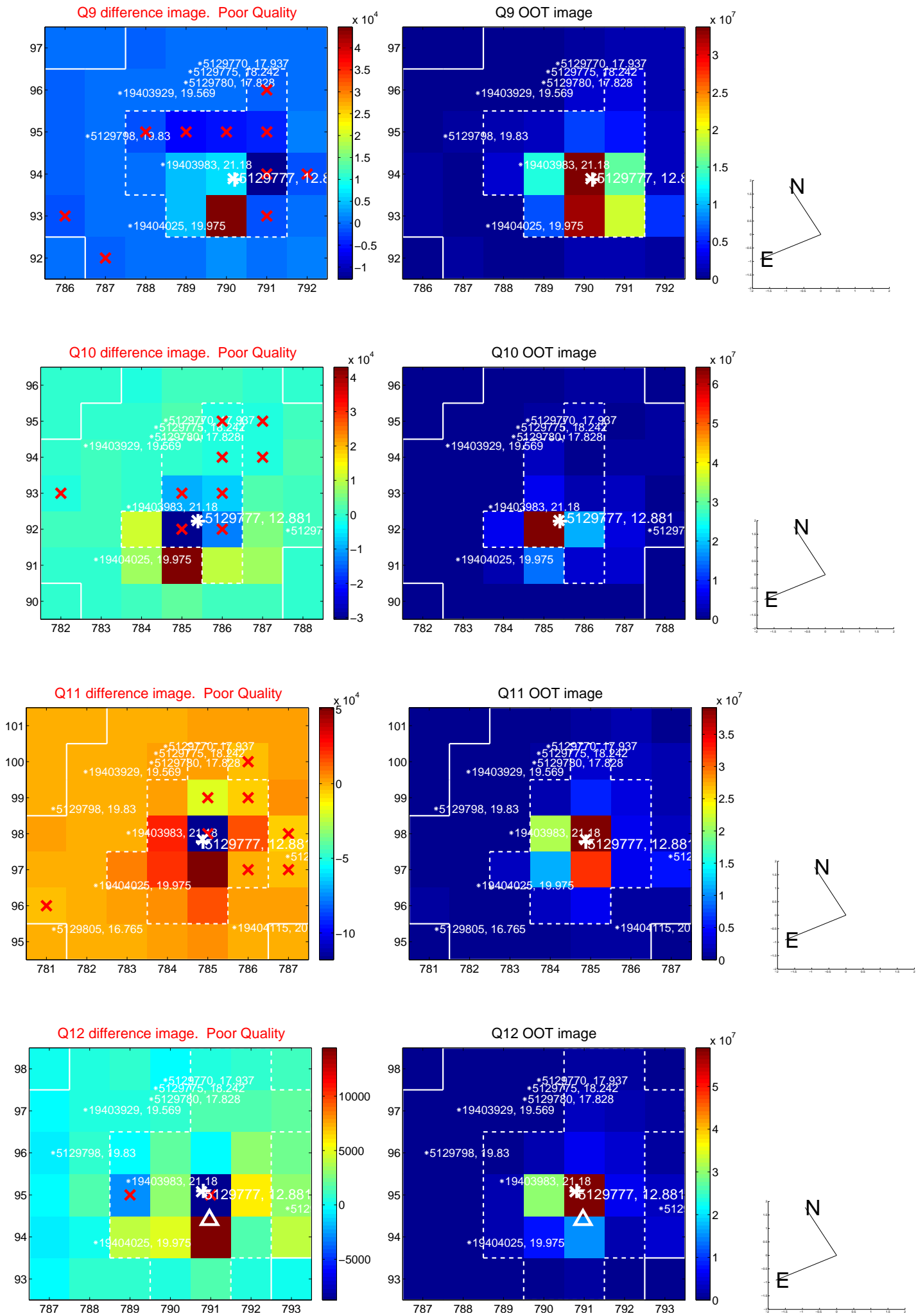
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



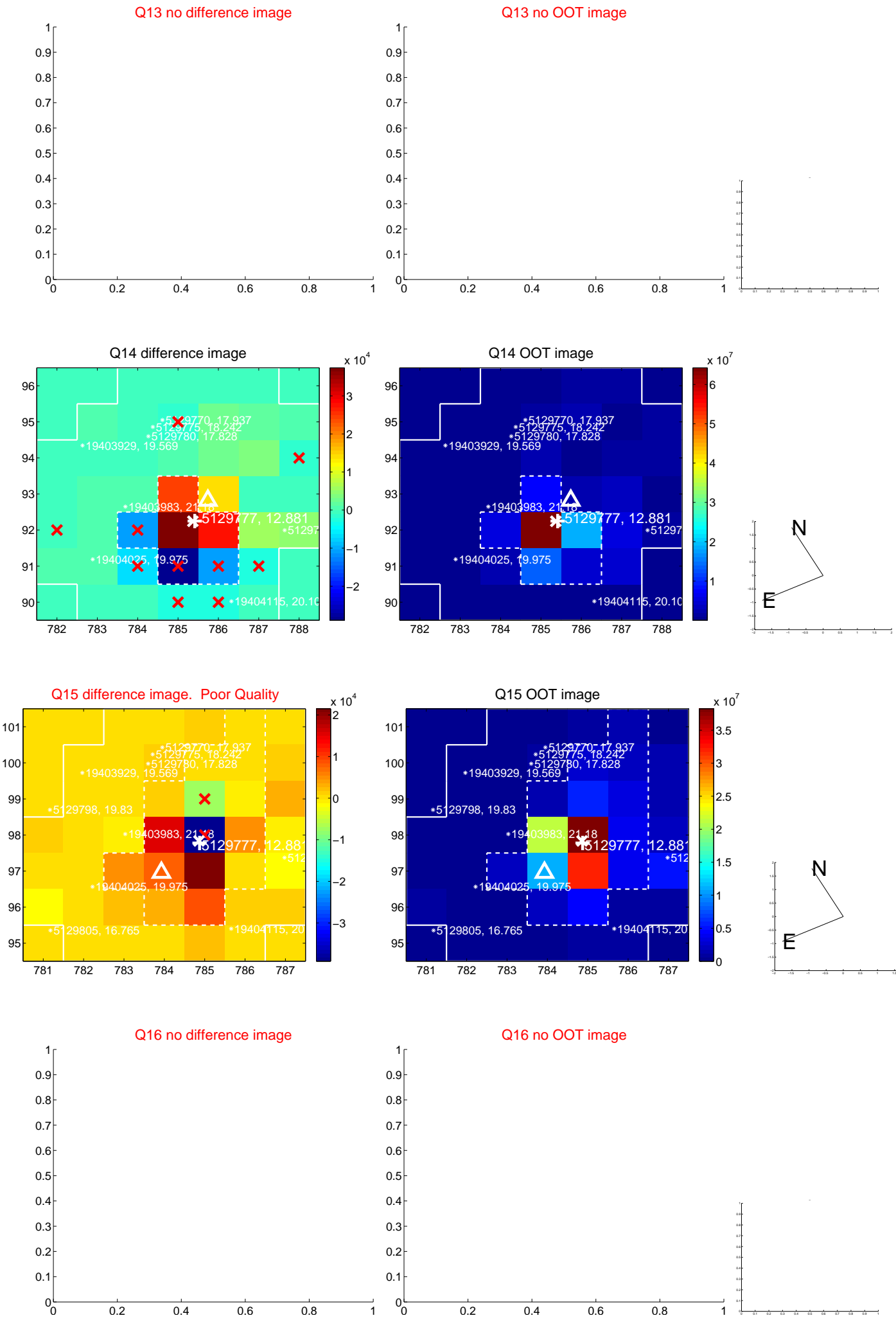
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



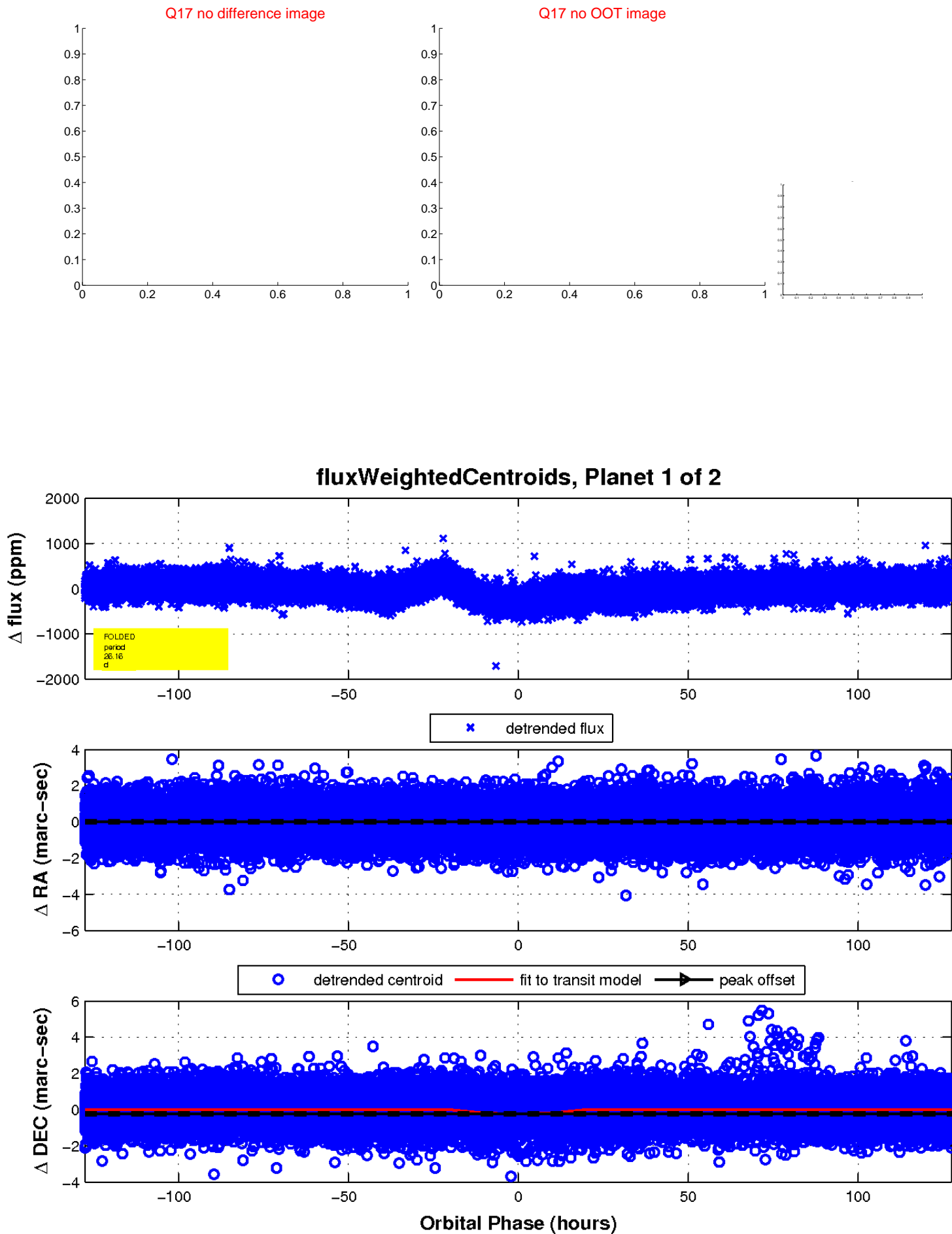
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

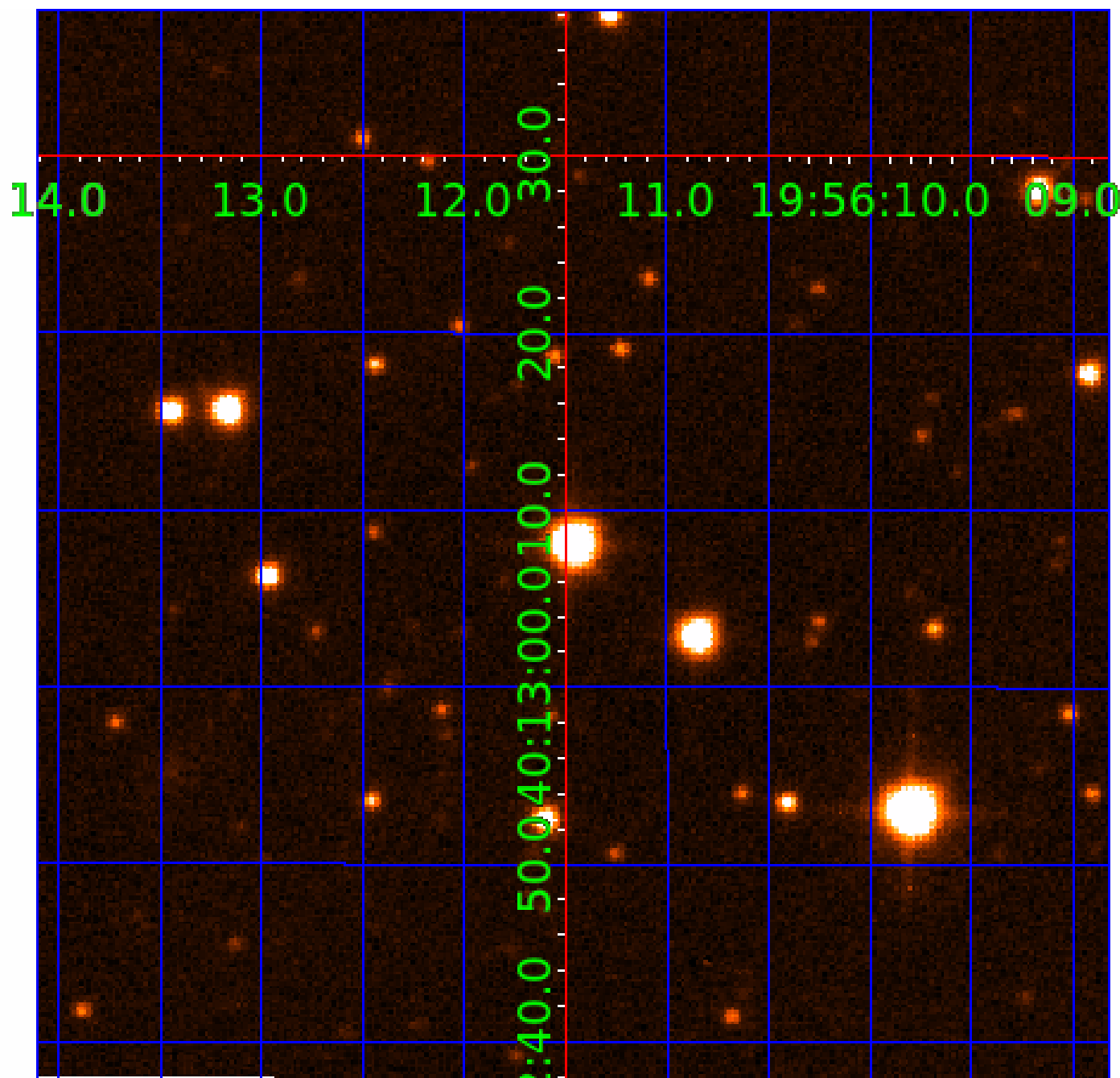


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 005129777

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})
005129777-01	OBS	No	26.159180	143.074792	318.6	42.508	28.3	37.8	3.15	8340	7.30	898.67
005129777-02	OBS	No	0.769338	131.797958	13.1	3.453	7.4	7.1	3.15	8340	1.33	98994.03

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005129777-01	OBS	FP	0.00	1	0	0	0	LPP_DV
005129777-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT

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

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

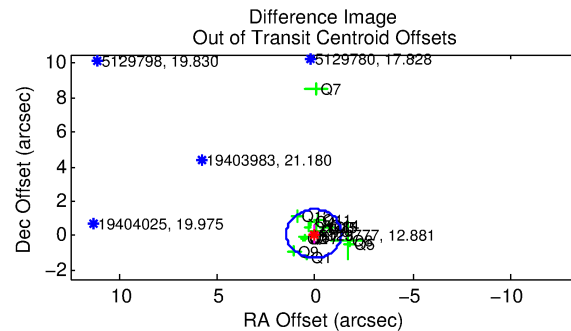
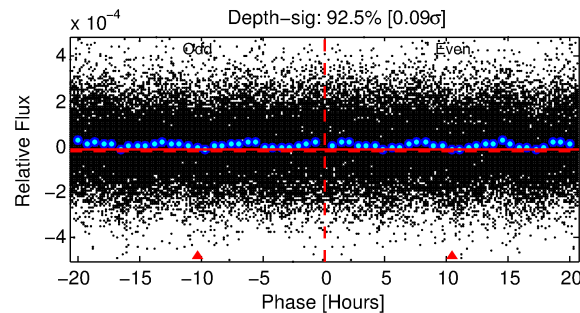
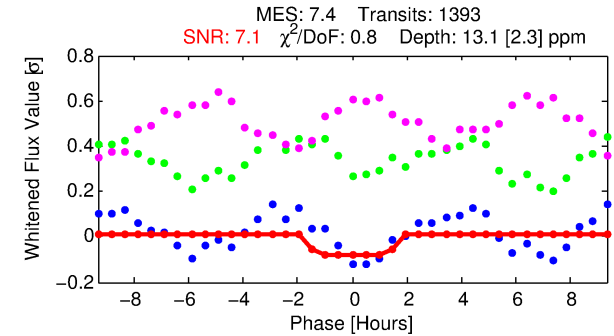
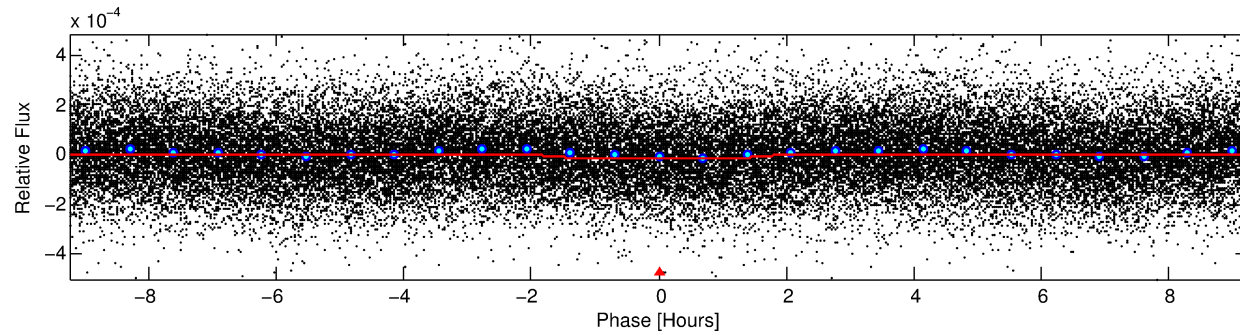
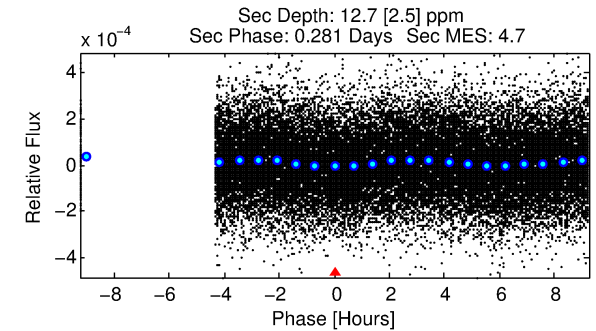
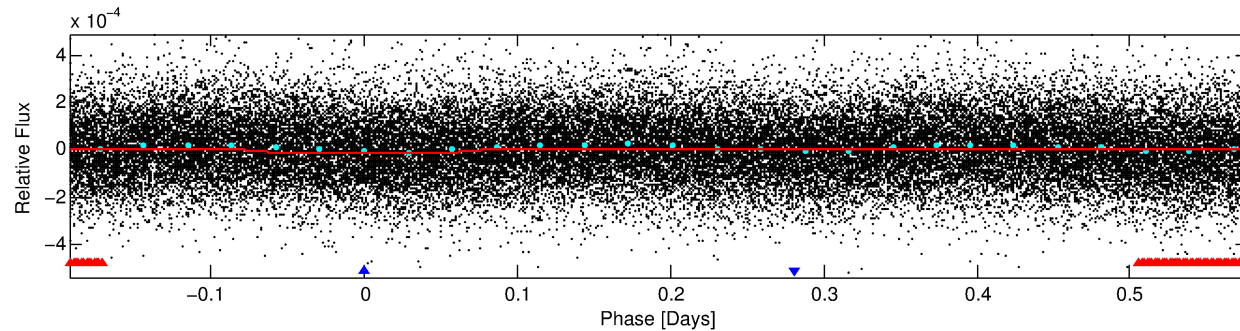
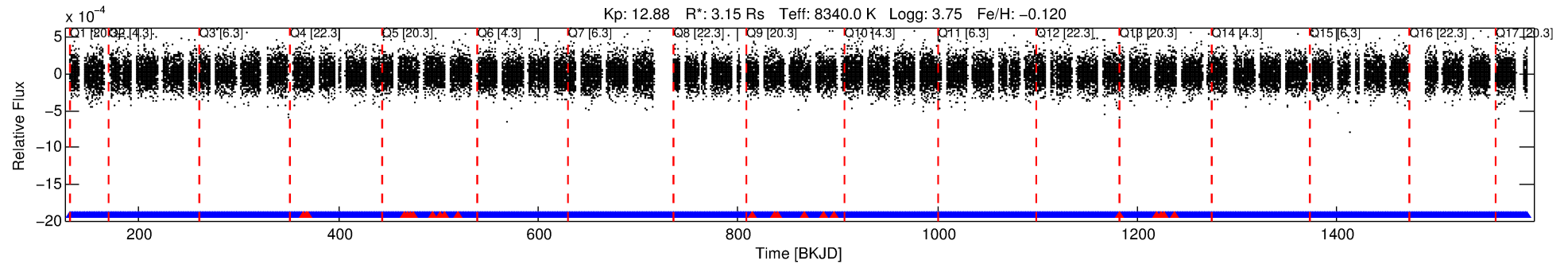
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005129777-02

No Significant Match Found

DV One-Page Summary

KIC: 5129777 Candidate: 2 of 2 Period: 0.769 d



DV Fit Results:

Period = 0.76934 [0.00001] d
Epoch = 131.7980 [0.0048] BKJD
Rp/R* = 0.0039 [0.0013]
a/R* = 1.20 [0.81]
b = 0.90 [0.46]
Seff = 98994.03 [76103.70]
Teq = 4523 [869] K
Rp = 1.33 [0.74] Re
a = 0.0208 [0.0094] AU
Ag = 1.73 [1.80] [0.41σ]
Teffp = 8022 [1494] K [2.02σ]

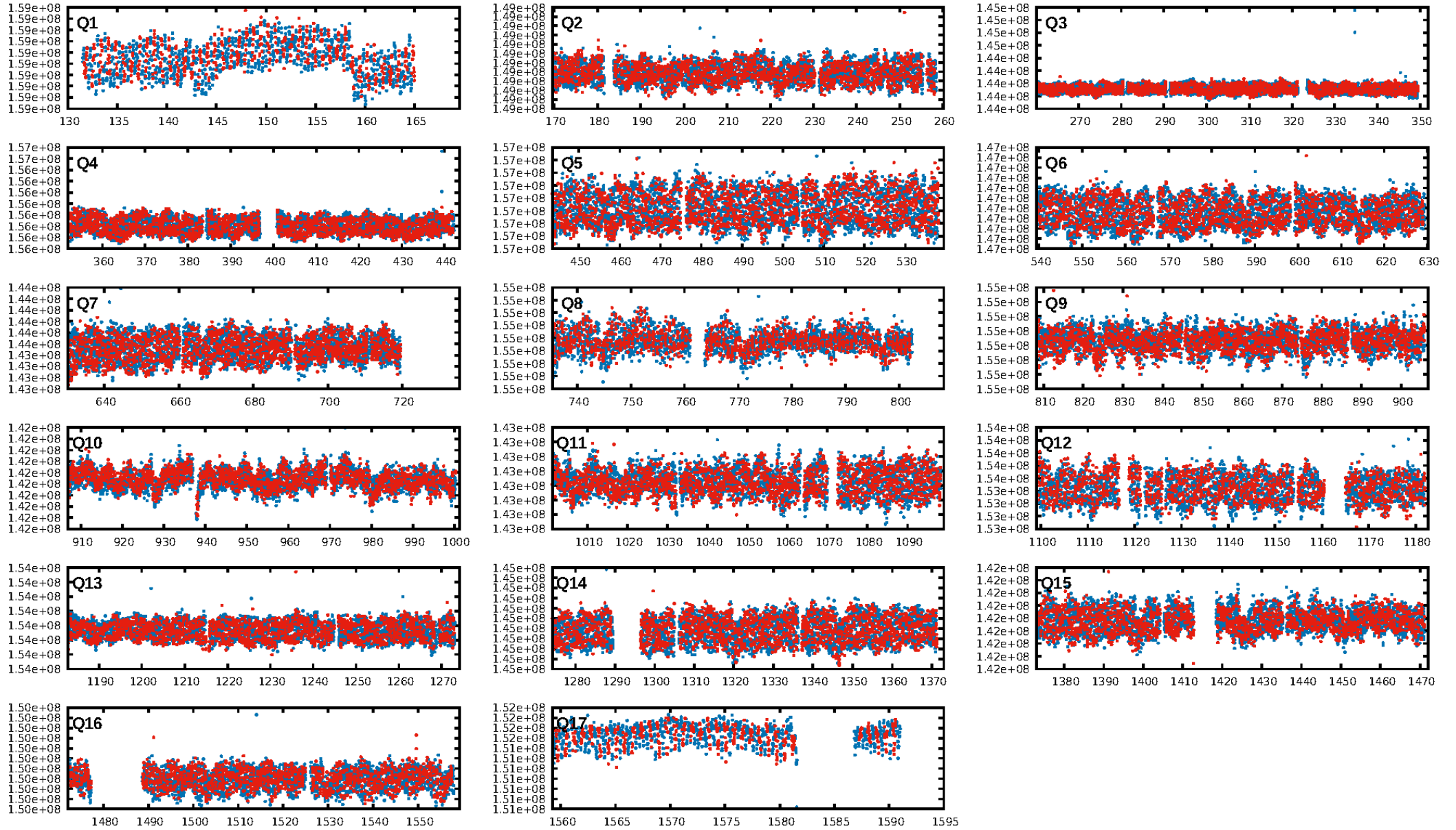
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [14.29σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGoF-sig: N/A
Bootstrap-pfa: 6.50e-13
RollingBand-fgt: 0.98 [1300/1325]
GhostDiagnostic-chr: 1.924
Centroid-sig: 2.0%
Centroid-so: 3.564 arcsec [2.00σ]
OotOffset-rm: 0.129 arcsec [0.27σ]
KicOffset-rm: 0.068 arcsec [0.15σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.53 [9/17]
DiffImageOverlap-fno: 1.00 [17/17]

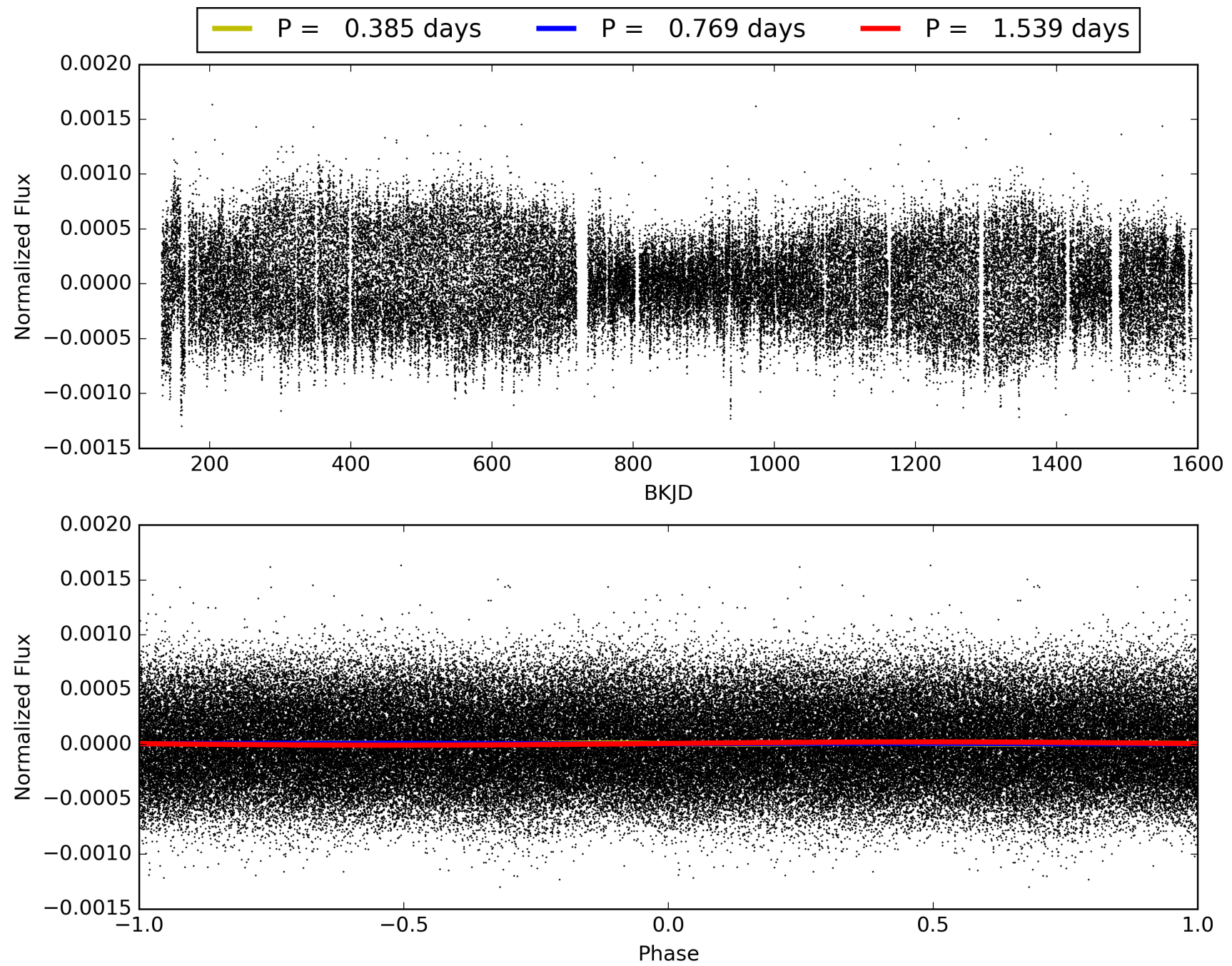
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 00:03:30 Z

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

TCE 005129777-02, PDC Light Curves

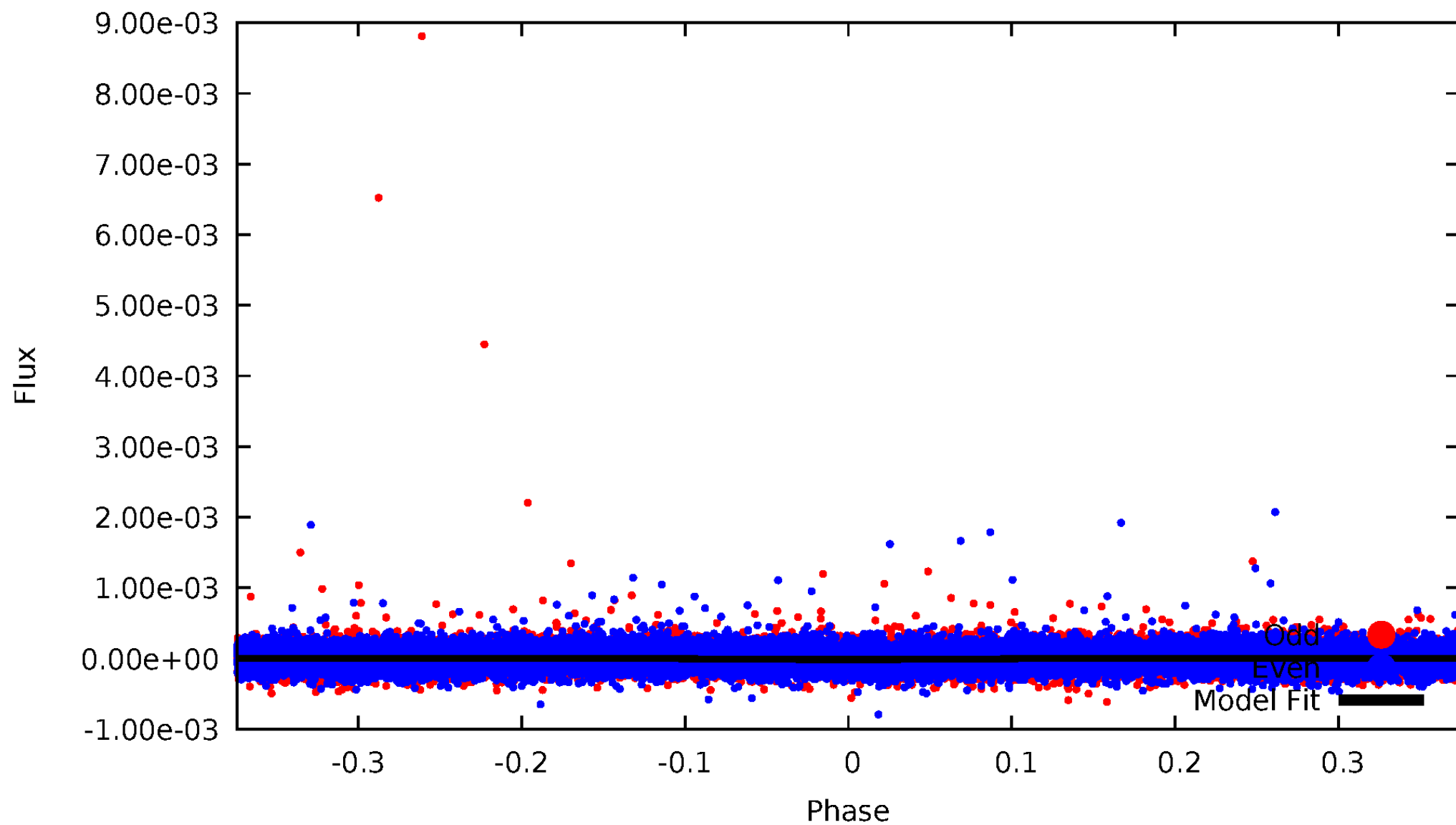


TCE 005129777-02



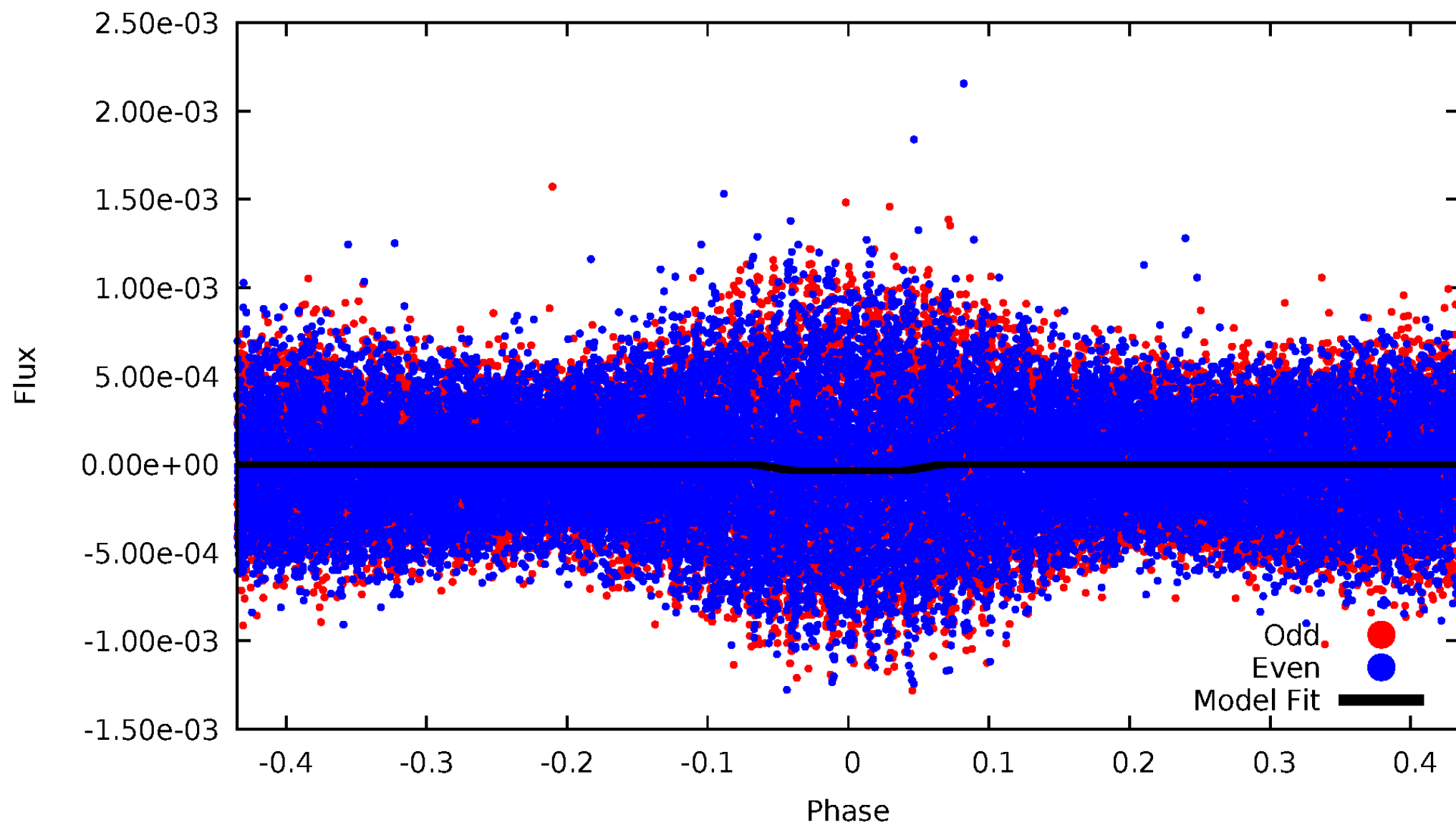
DV Odd/Even

TCE 005129777-02



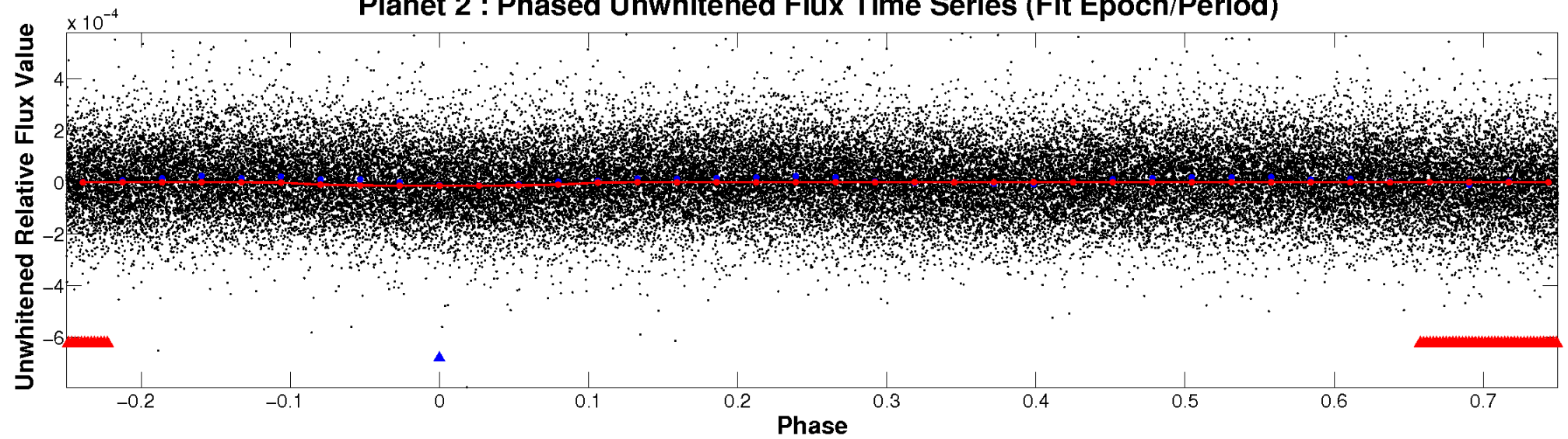
ALT Odd/Even

TCE 005129777-02

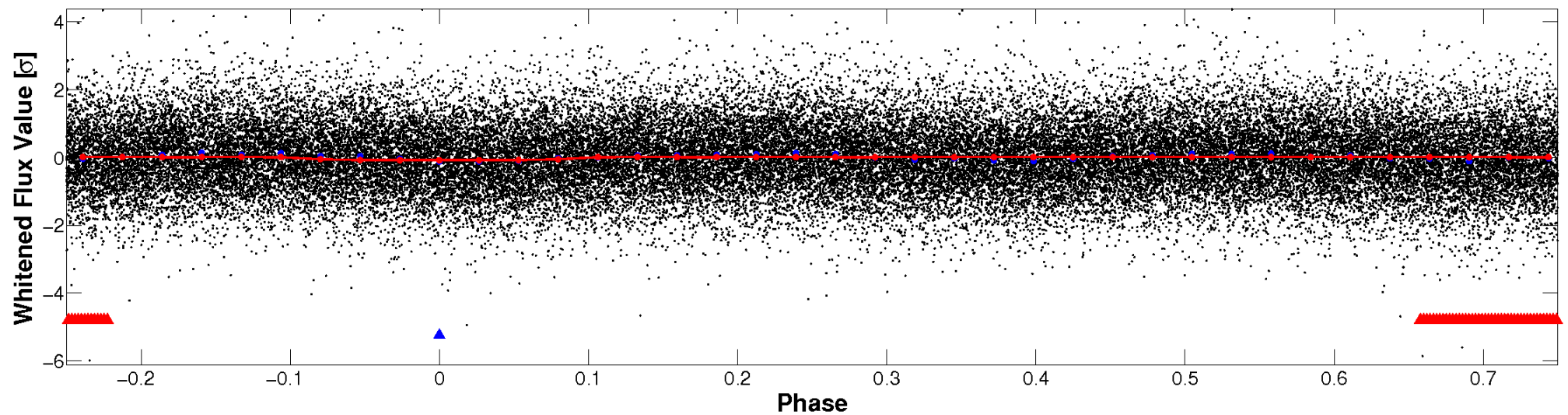


Non-Whitened Vs. Whitened Light Curve

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

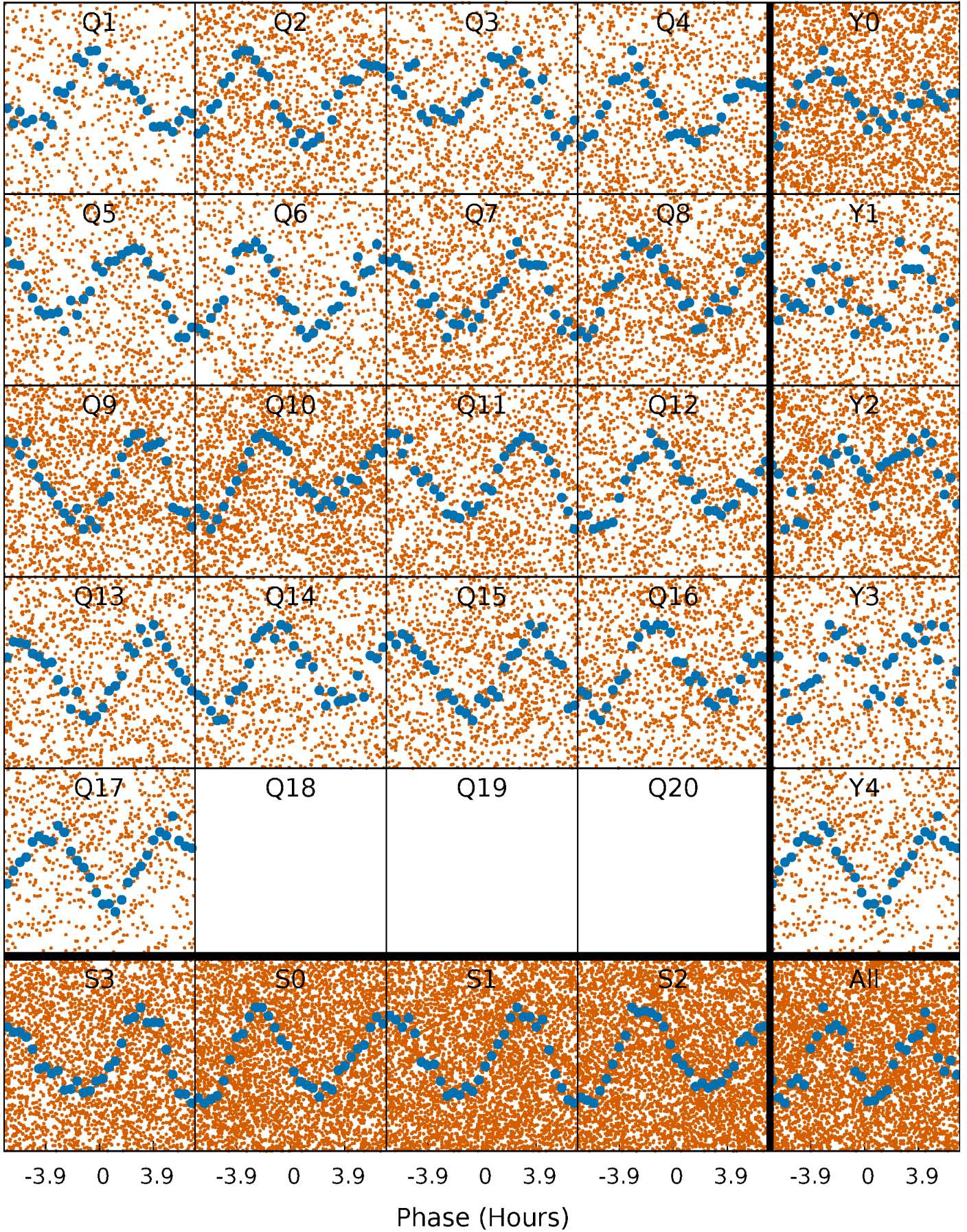


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



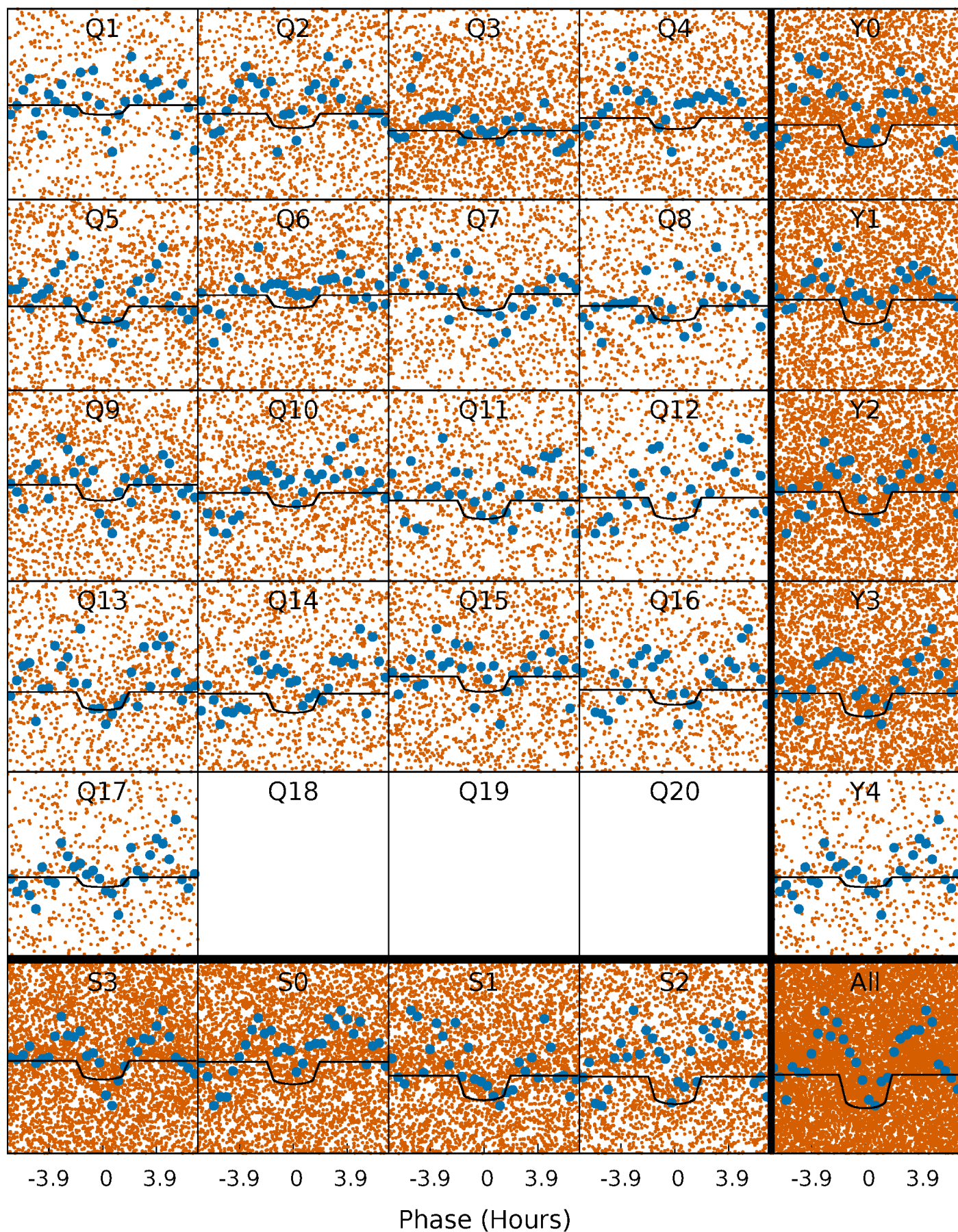
PDC Quarter-Phased Transit Curves

TCE 005129777-02 P= 0.769338 Days $T_0=131.797958$ (BKJD)



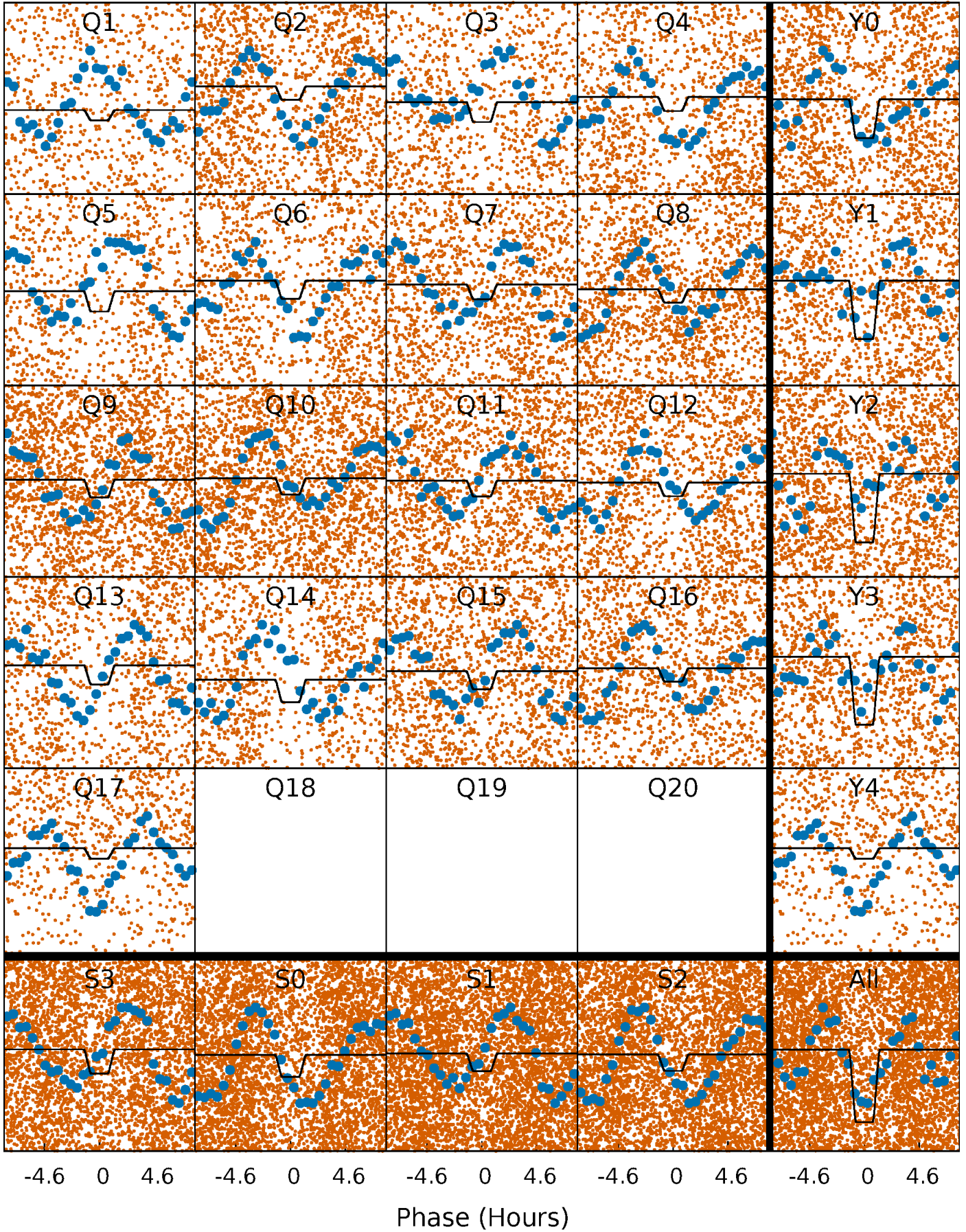
DV Quarter-Phased Transit Curves

TCE 005129777-02 P= 0.769338 Days $T_0=131.797958$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

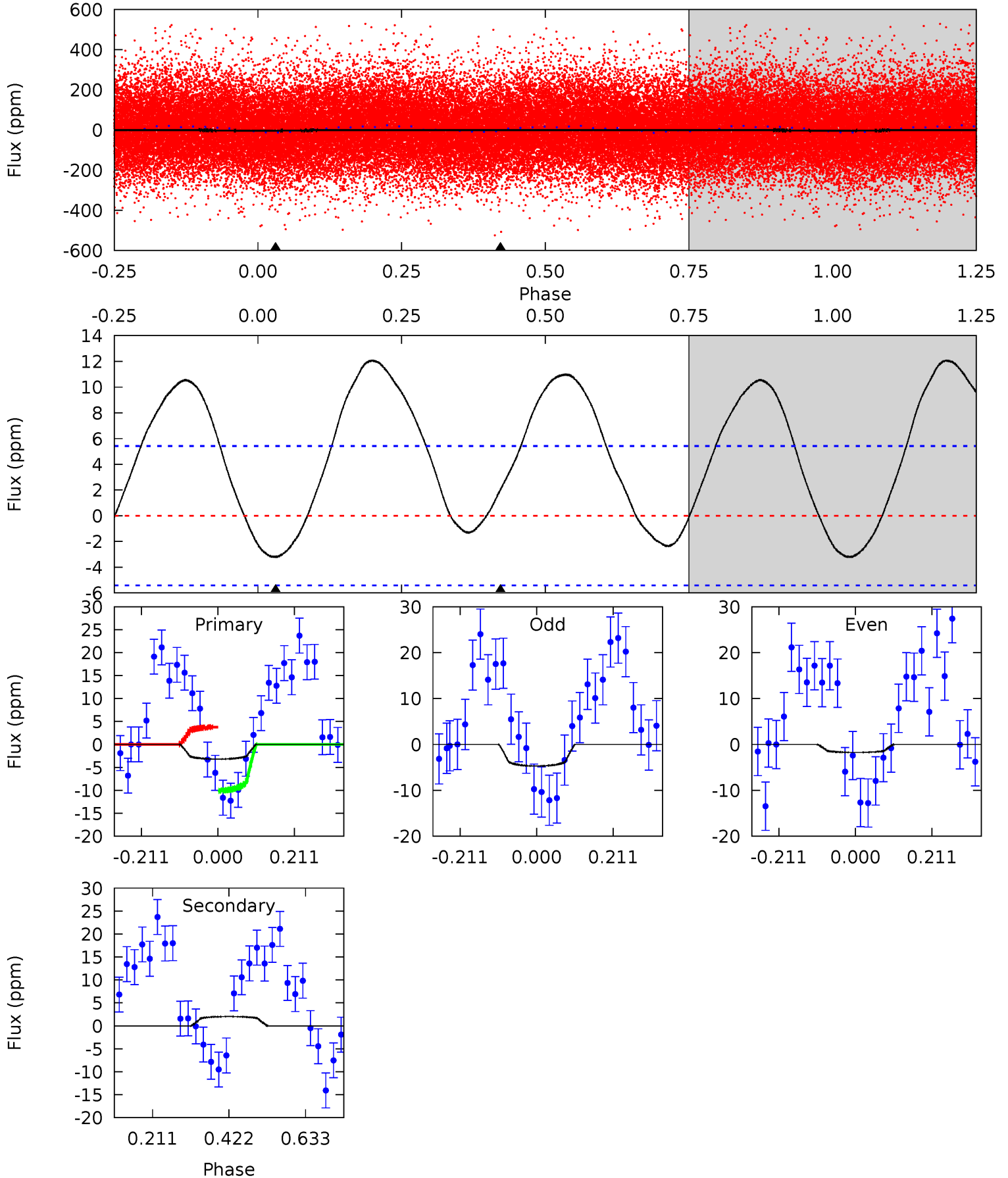
TCE 005129777-02 P= 0.769368 Days $T_0=131.797132$ (BKJD)



DV Model-Shift Uniqueness Test

005129777-02, P = 0.769338 Days, E = 131.028620 Days

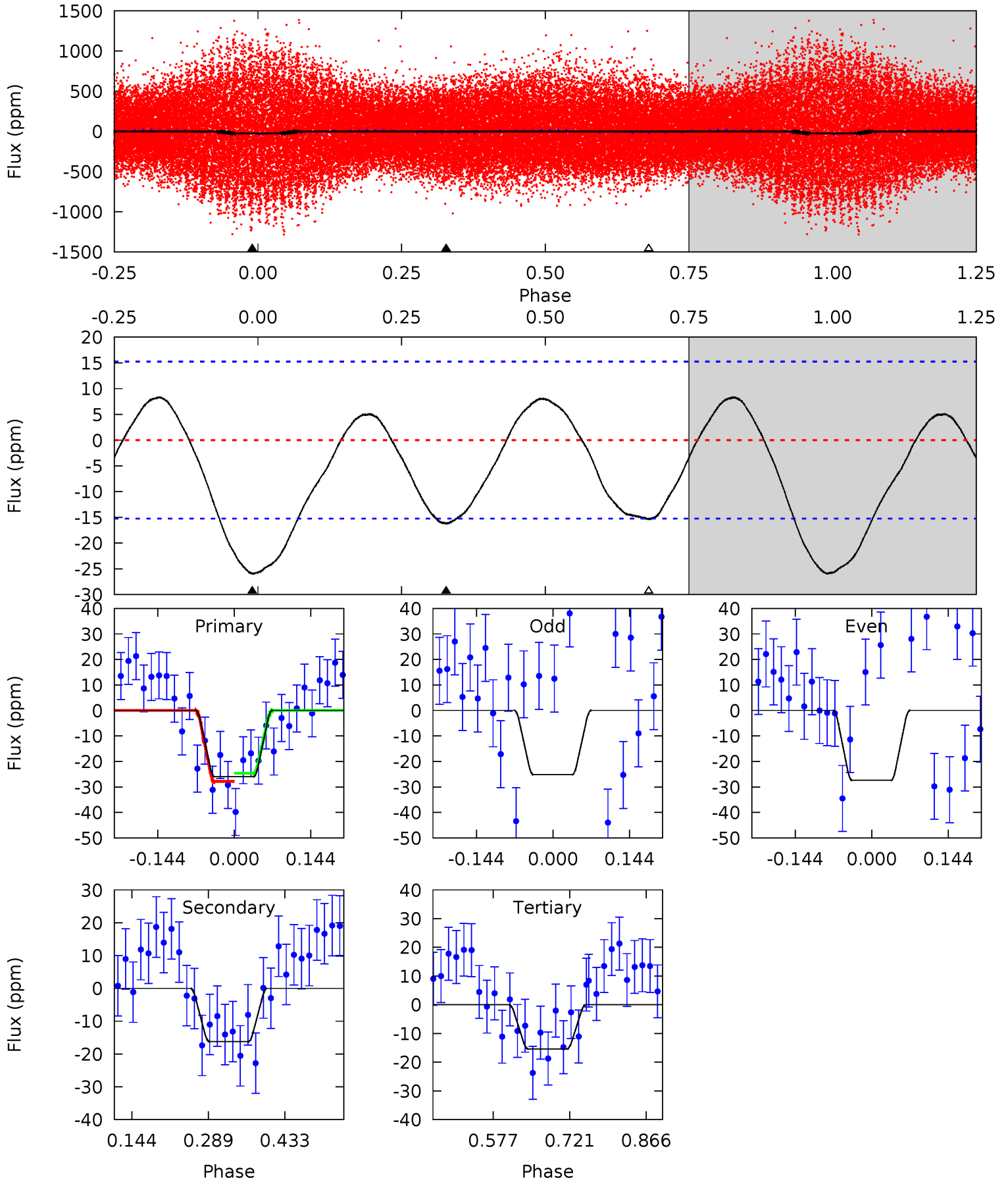
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2.61	-1.65	0	0	4.41	1.25	2.40	2.61	2.61	-1.65	-1.65	1.20	0.73	0.79	2.55



Alt Model-Shift Uniqueness Test

005129777-02, P = 0.769368 Days, E = 131.027764 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.65	4.78	4.52	0	4.49	1.46	2.47	3.12	7.65	0.26	4.78	0.33	0.72	0.24	0.51



Stellar Parameters For KIC 005129777

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	8340^{+202}_{-376}	$3.751^{+0.448}_{-0.140}$	$-0.120^{+0.300}_{-0.350}$	$3.150^{+0.806}_{-1.382}$	$2.039^{+0.341}_{-0.468}$	$0.092^{+0.366}_{-0.038}$
	+2%/-5%	+12%/-4%	+250%/-292%	+26%/-44%	+17%/-23%	+399%/-41%
Source	KIC0	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 005129777-02 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	2 ± 1	$1.17^{+0.56}_{-0.48}$	6103^{+532}_{-795}	-5804^{+745}_{-984}	$-0.323^{+0.229}_{-0.672}$
Alt.	-16 ± 3	$1.87^{+0.68}_{-0.60}$	6123^{+506}_{-756}	6078^{+1263}_{-1129}	$1.086^{+1.183}_{-0.506}$

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

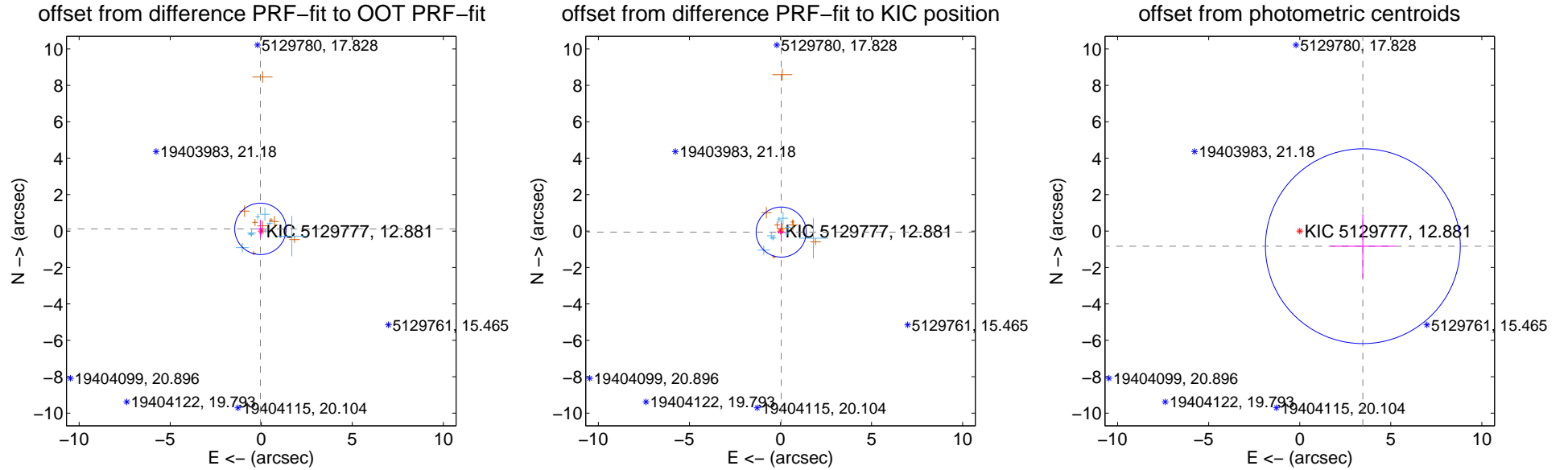
DV Centroid Data

Supplemental centroid analysis for 005129777-02. Kepler magnitude: 12.88. Transit SNR 7.09

There are 9 quarters with good PRF difference image offsets

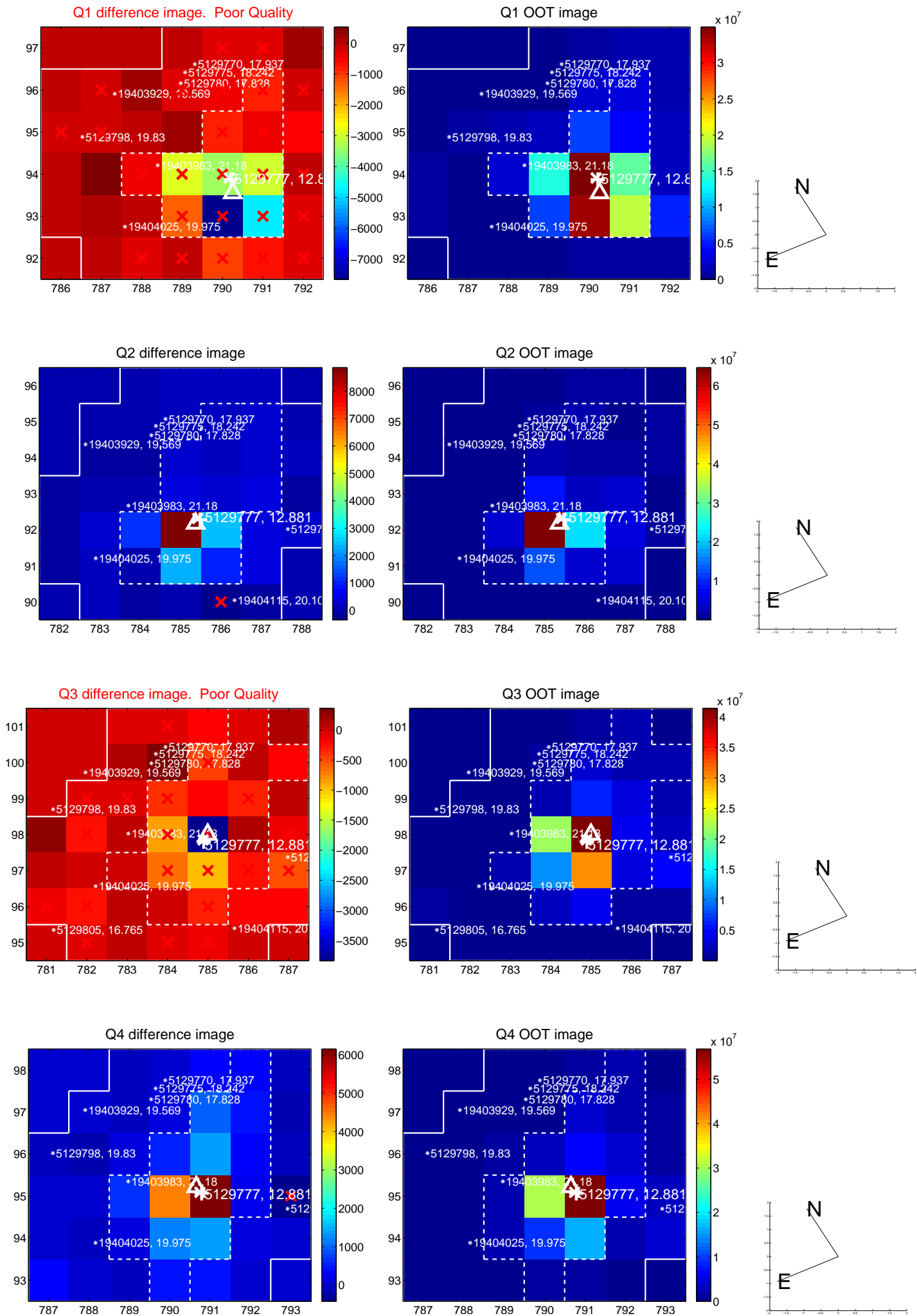
The direct PRF centroid is offset from the target star catalog position by about 0.25 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.129 ± 0.471	0.27	0.047 ± 0.195	0.120 ± 0.497
PRF-fit source offset from KIC position	0.068 ± 0.458	0.15	-0.037 ± 0.199	-0.057 ± 0.527
photometric centroid source offset	3.56 ± 1.78	2.00	-3.47 ± 1.78	-0.83 ± 1.76

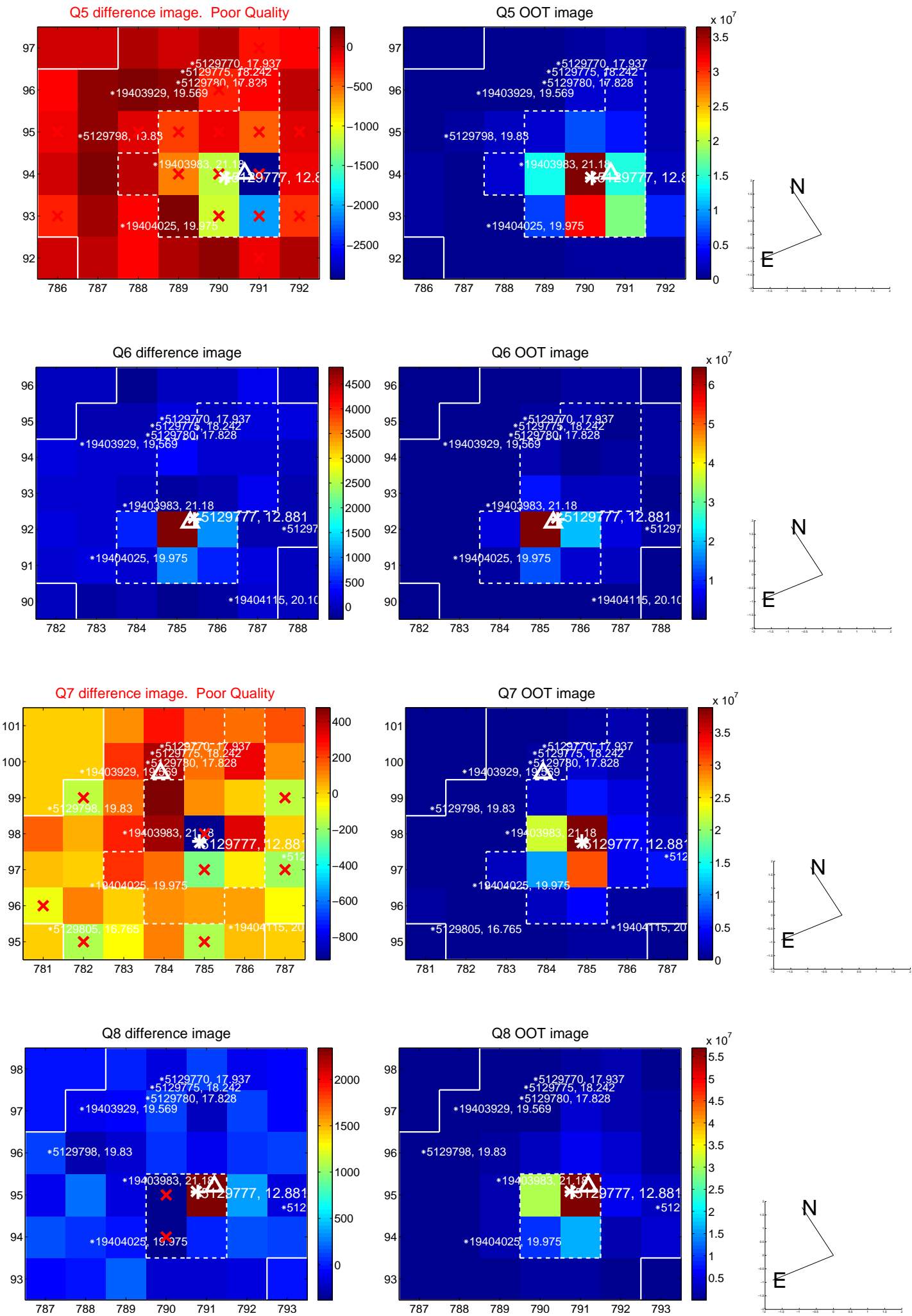


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

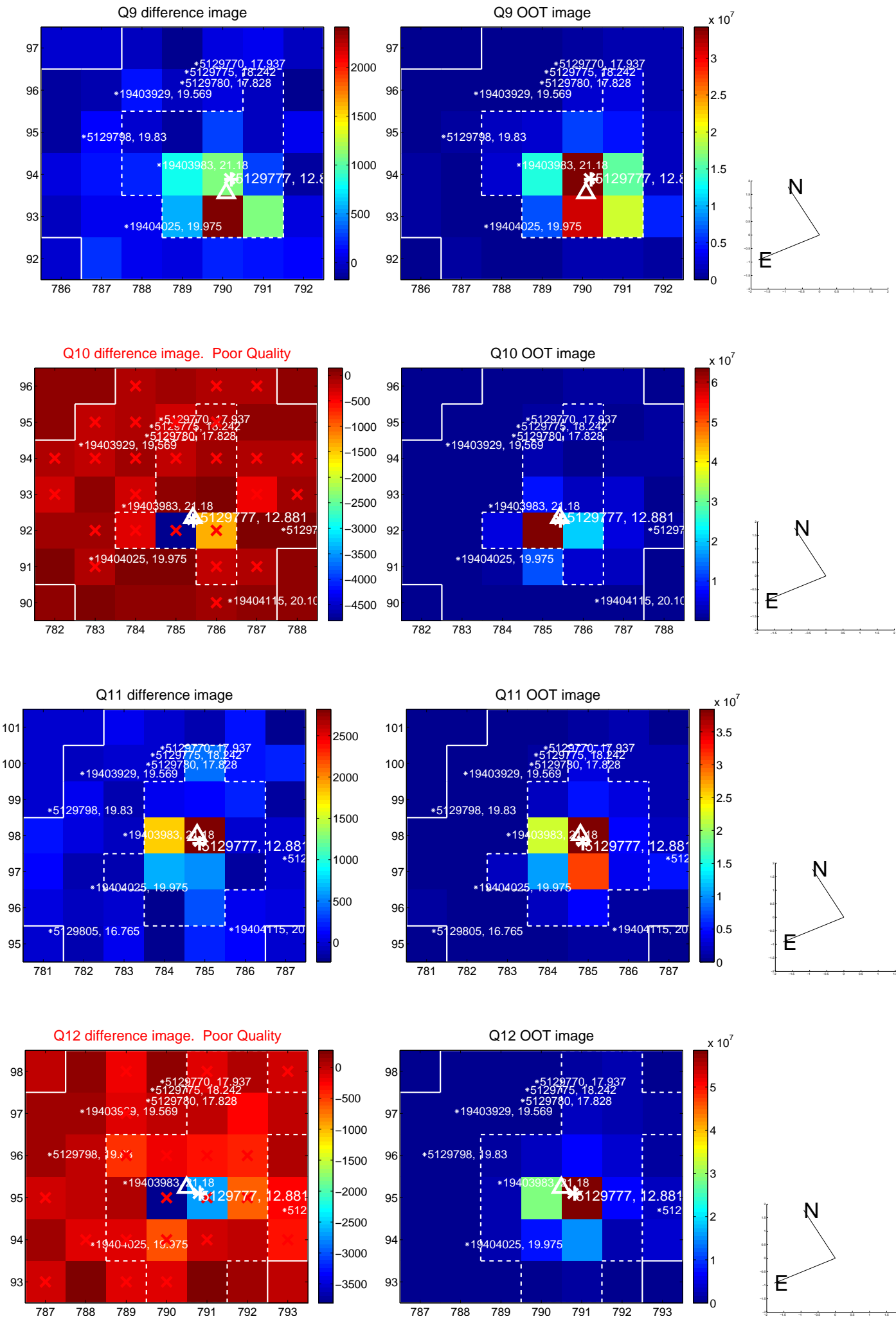
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



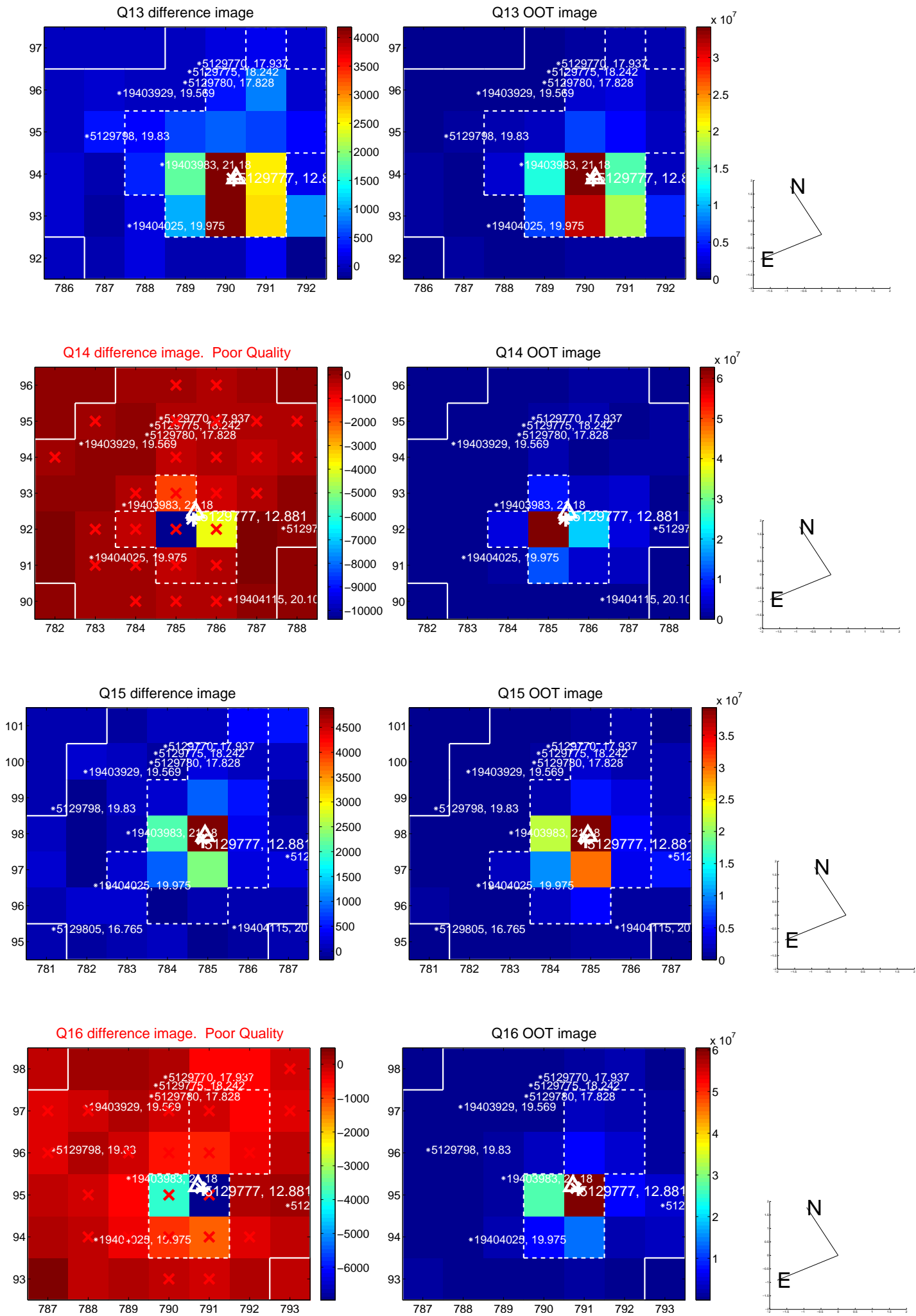
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



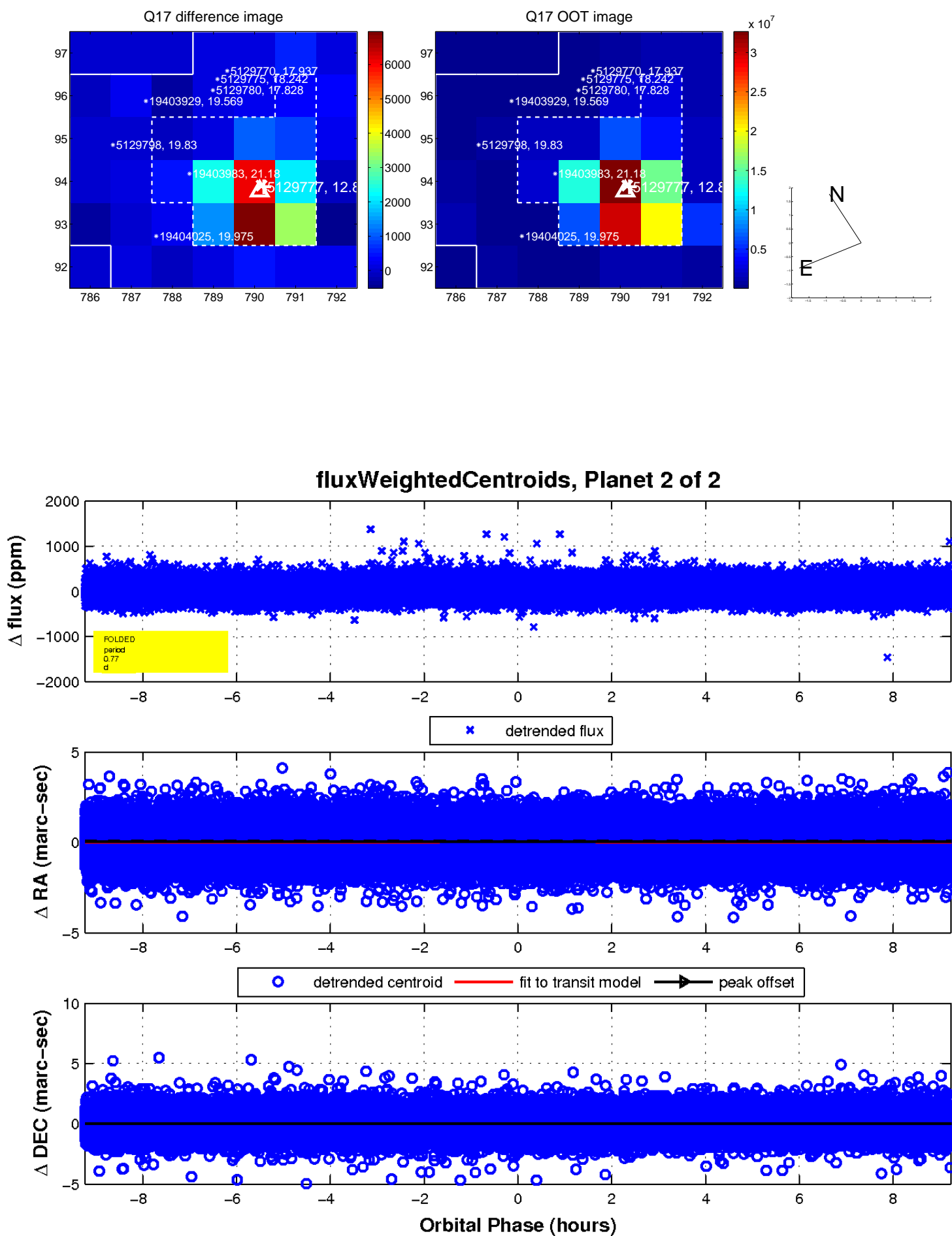
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

