

KIC 002141783

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})
002141783-01	OBS	2201.01	116.521592	144.132848	775.0	5.469	19.2	21.6	1.41	6056	7.32	10.35

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
002141783-01	OBS	FP	0.00	0	1	0	0	DEEP_V_SHAPED

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

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

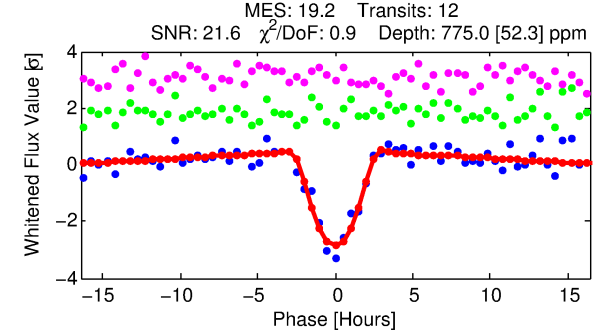
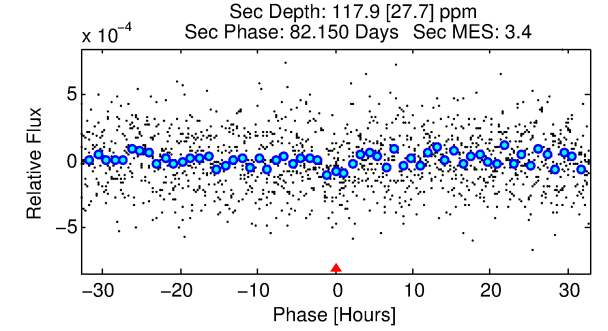
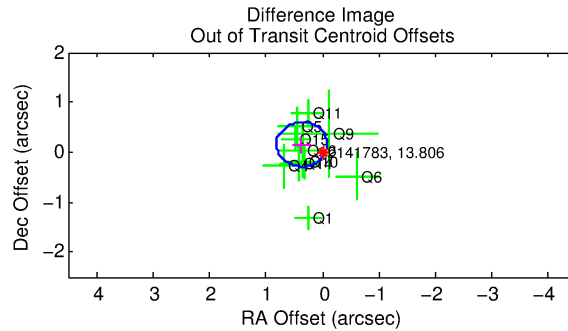
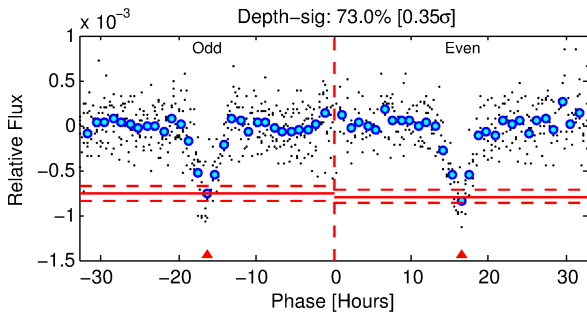
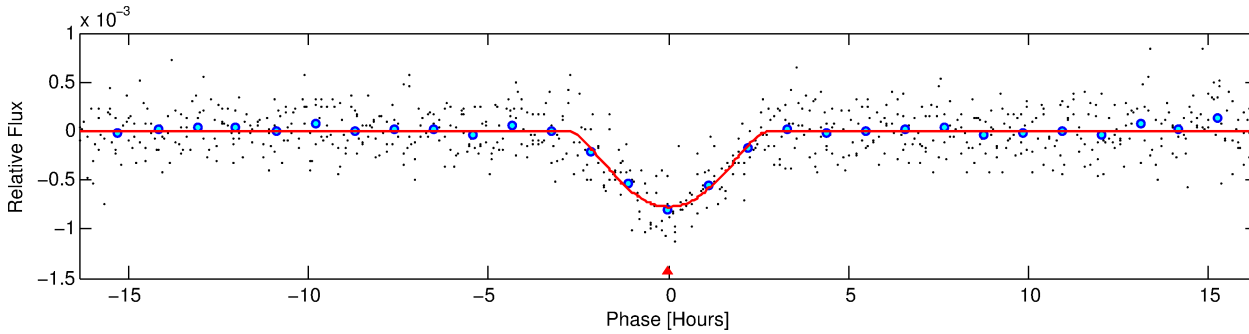
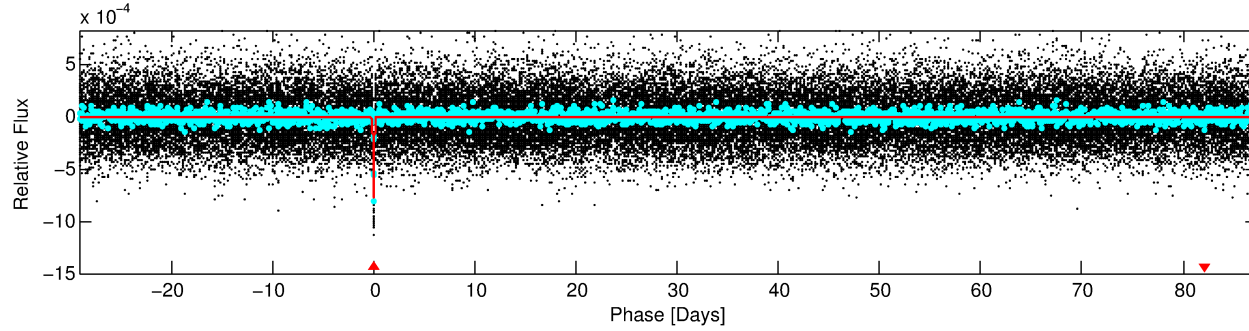
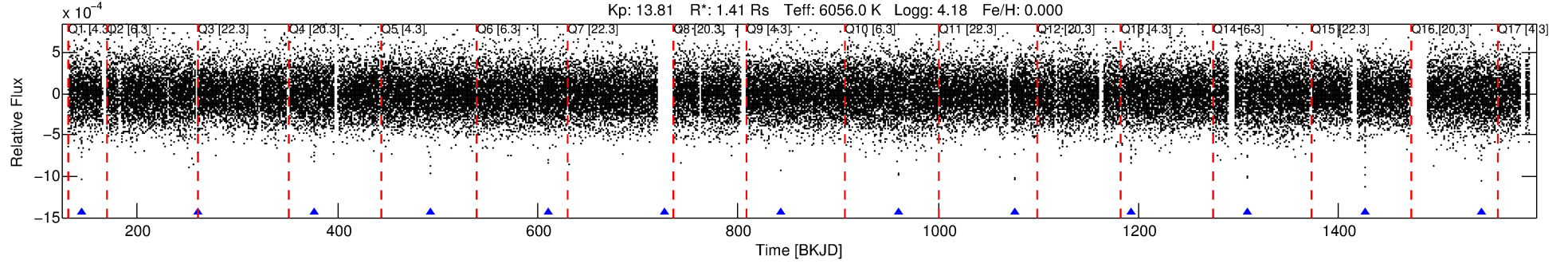
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 002141783-01

No Significant Match Found

DV One-Page Summary

KIC: 2141783 Candidate: 1 of 1 Period: 116.522 d
KOI: K02201.01 Corr: 0.975



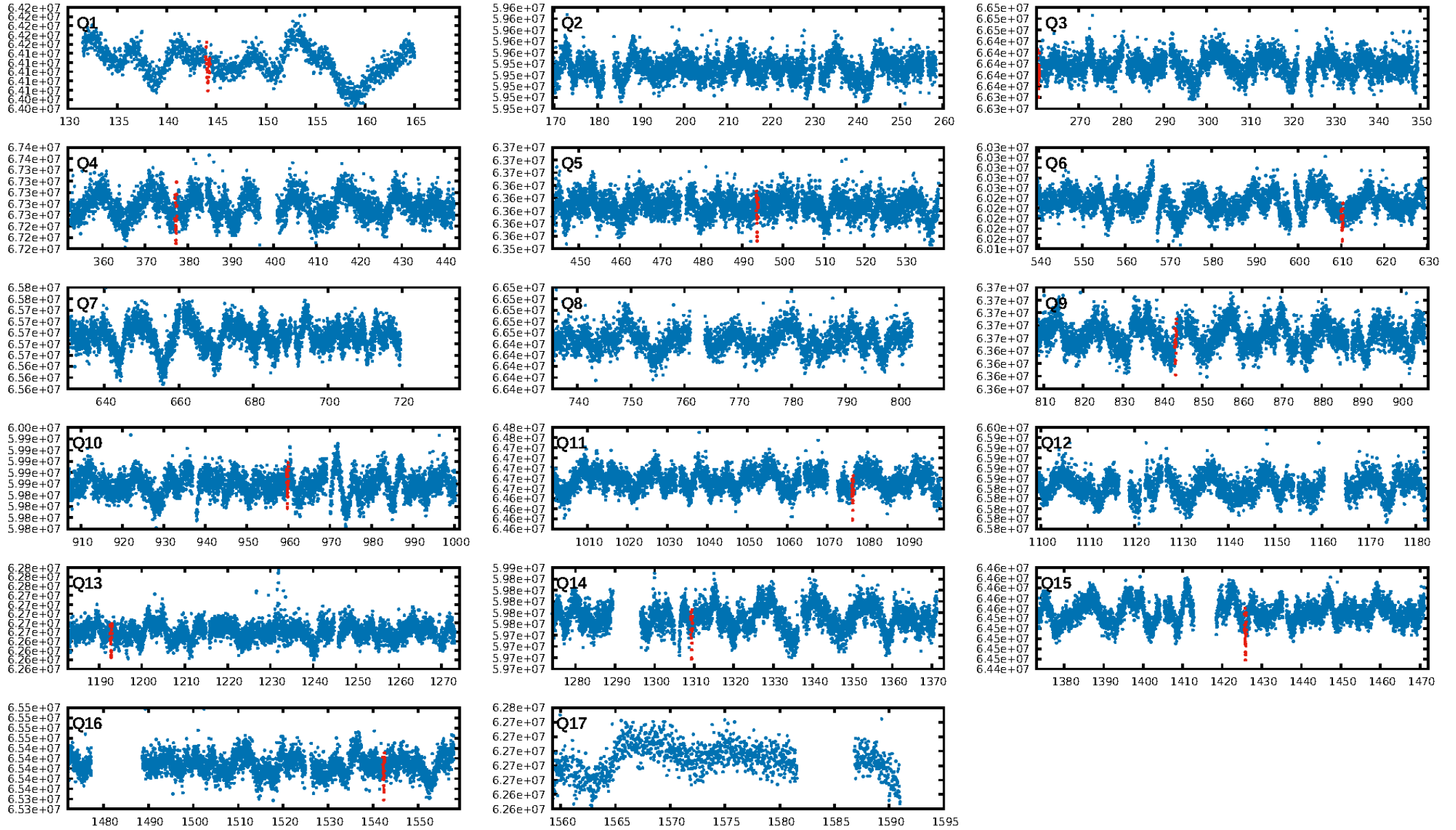
DV Fit Results:

Period = 116.52159 [0.00072] d
Epoch = 144.1328 [0.0050] BKJD
Rp/R* = 0.0475 [0.0666]
a/R* = 52.37 [19.03]
b = 1.00 [0.10]
Seff = 10.35 [3.13]
Teff = 457 [35] K
Rp = 7.32 [10.35] Re
a = 0.4816 [0.0885] AU
Ag = 281.06 [794.55] [0.35σ]
Teffp = 2895 [2036] K [1.20σ]

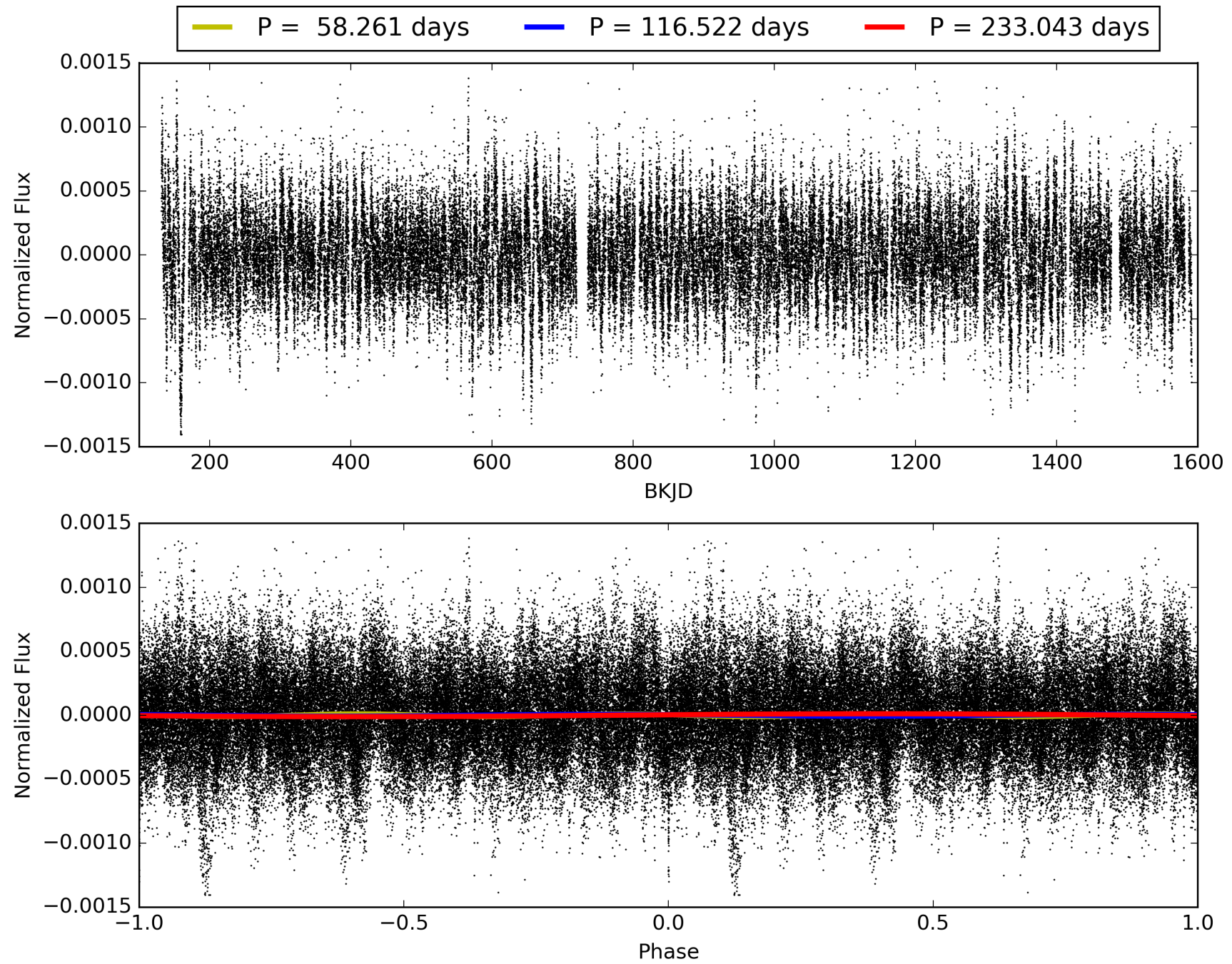
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 70.7%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 2.24e-80
RollingBand-fgt: 1.00 [11/11]
GhostDiagnostic-chr: 4.931
Centroid-sig: 4.1%
Centroid-so: 1.657 arcsec [3.20σ]
OotOffset-rm: 0.400 arcsec [2.69σ]
KicOffset-rm: 0.333 arcsec [2.25σ]
OotOffset-st: 3/2/2/3 [10]
KicOffset-st: 3/2/2/3 [10]
DiffImageQuality-fgm: 1.00 [10/10]
DiffImageOverlap-fno: 1.00 [10/10]

TCE 002141783-01, PDC Light Curves

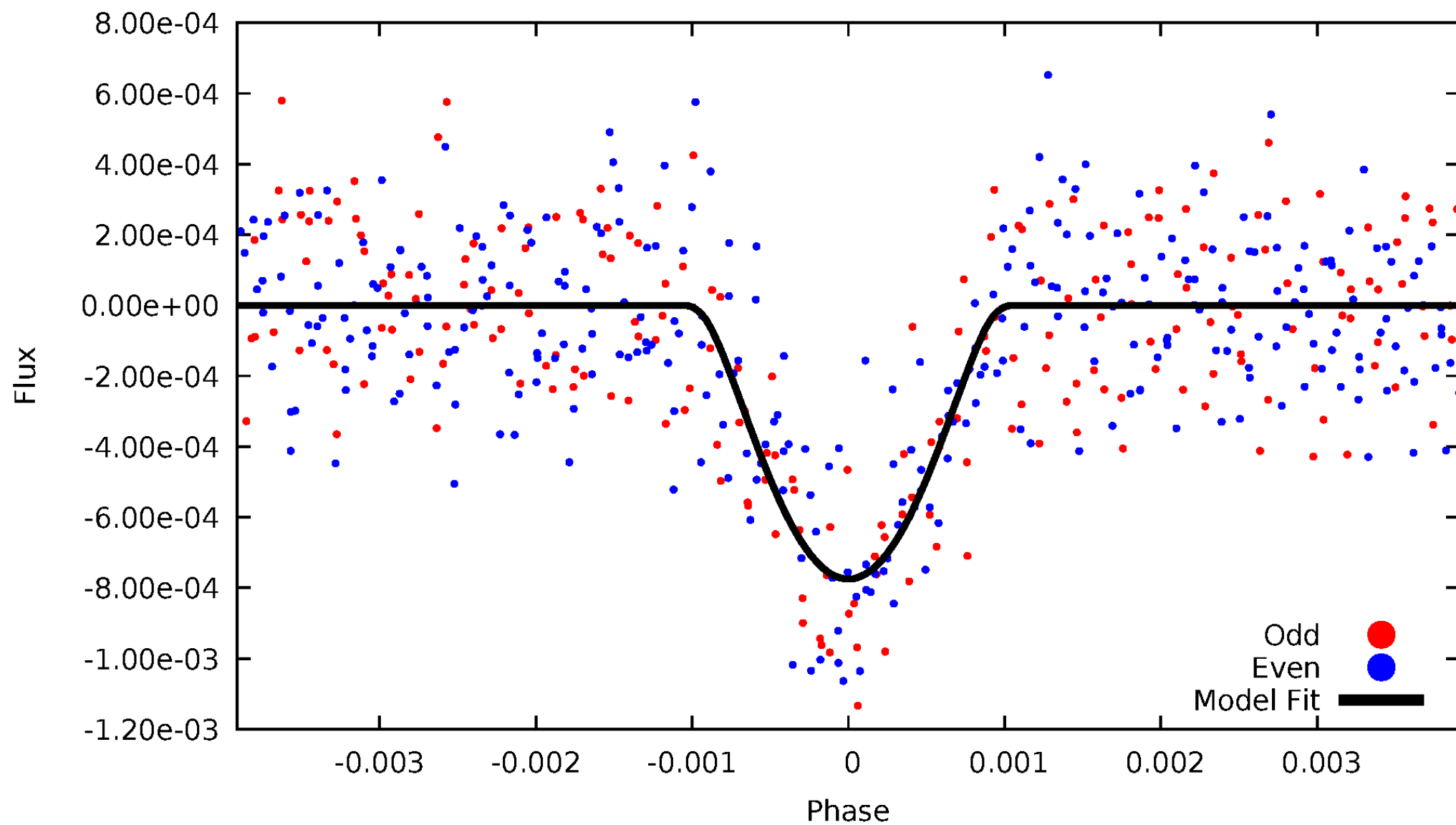


TCE 002141783-01



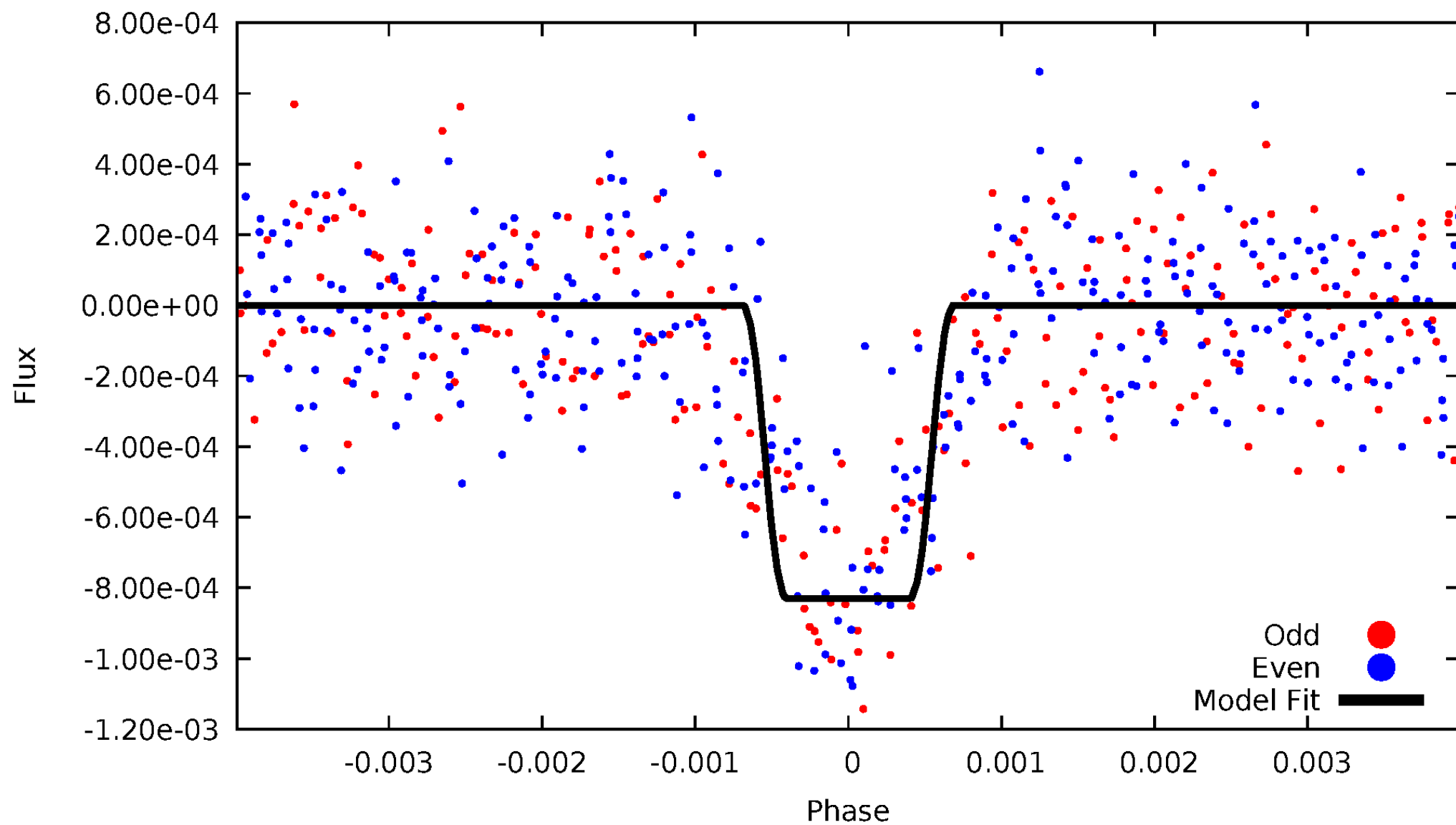
DV Odd/Even

TCE 002141783-01

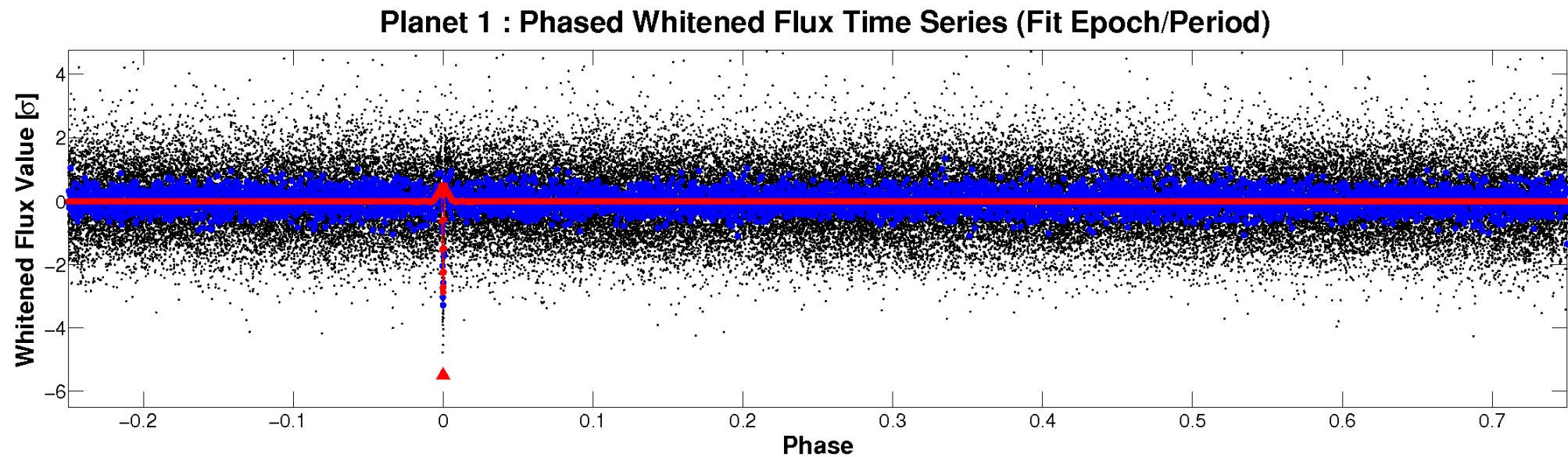
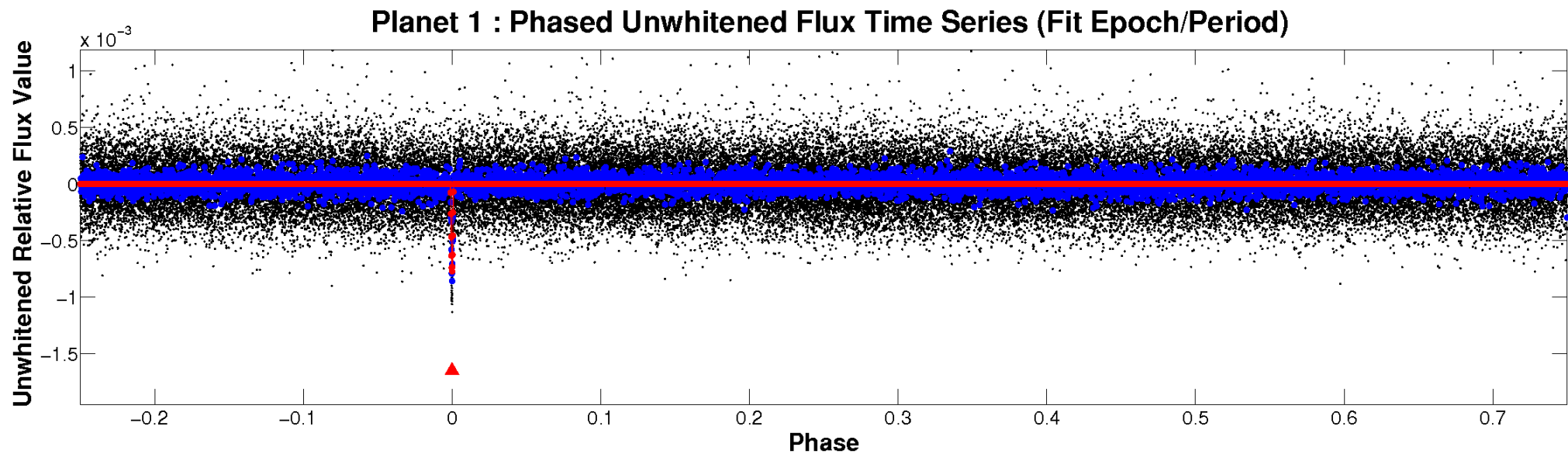


ALT Odd/Even

TCE 002141783-01

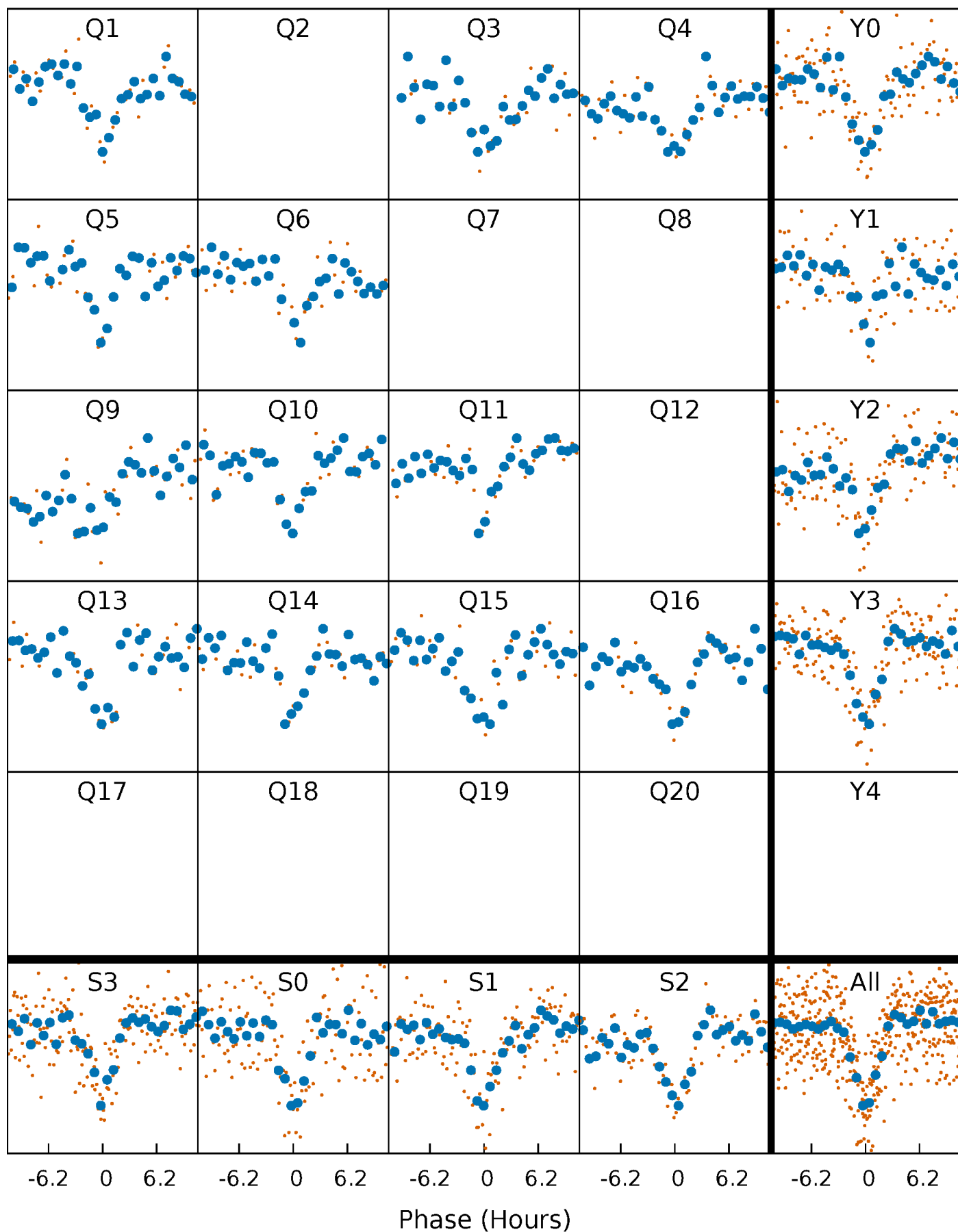


Non-Whitened Vs. Whitened Light Curve



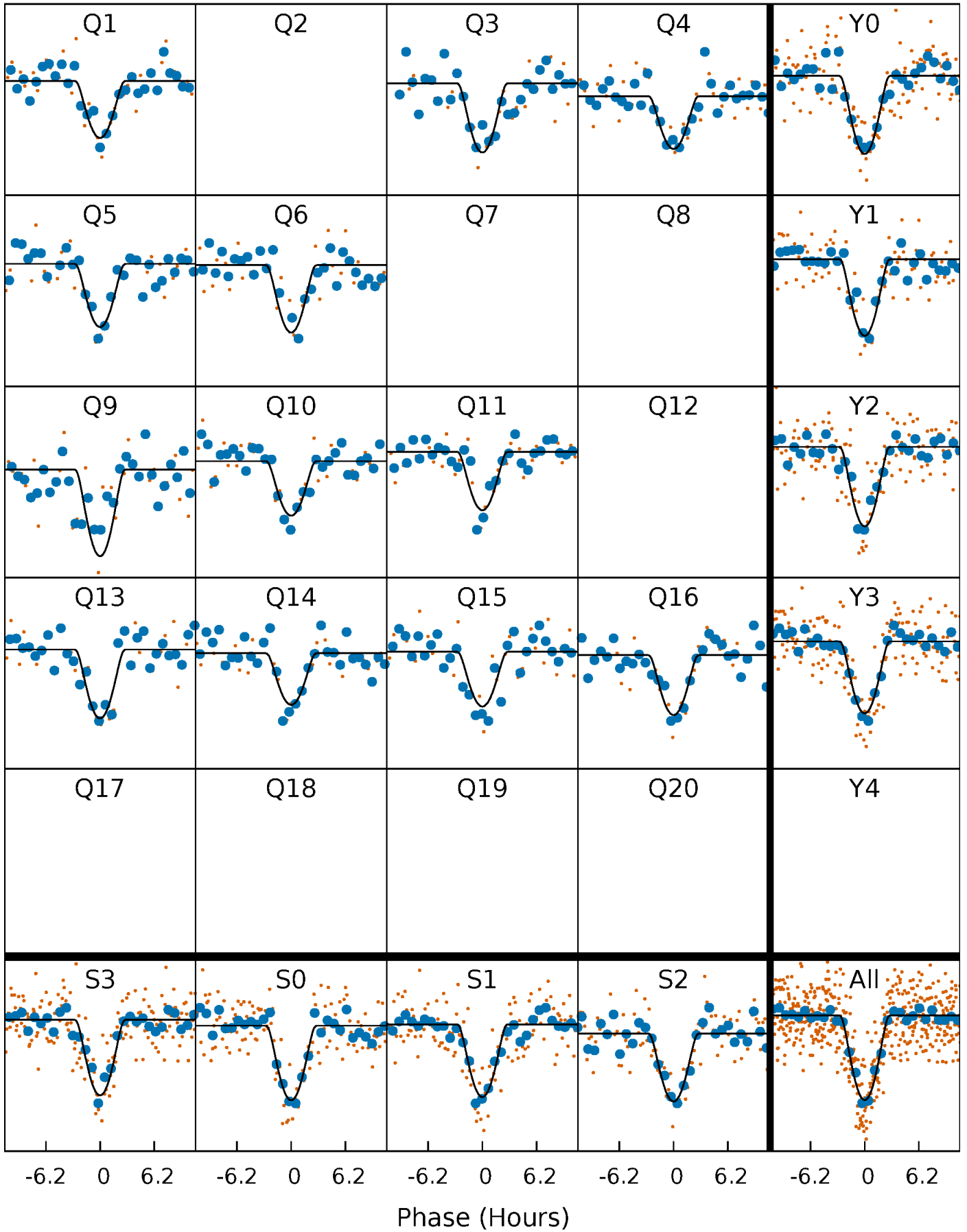
PDC Quarter-Phased Transit Curves

TCE 002141783-01 P=116.521592 Days $T_0=144.132848$ (BKJD)



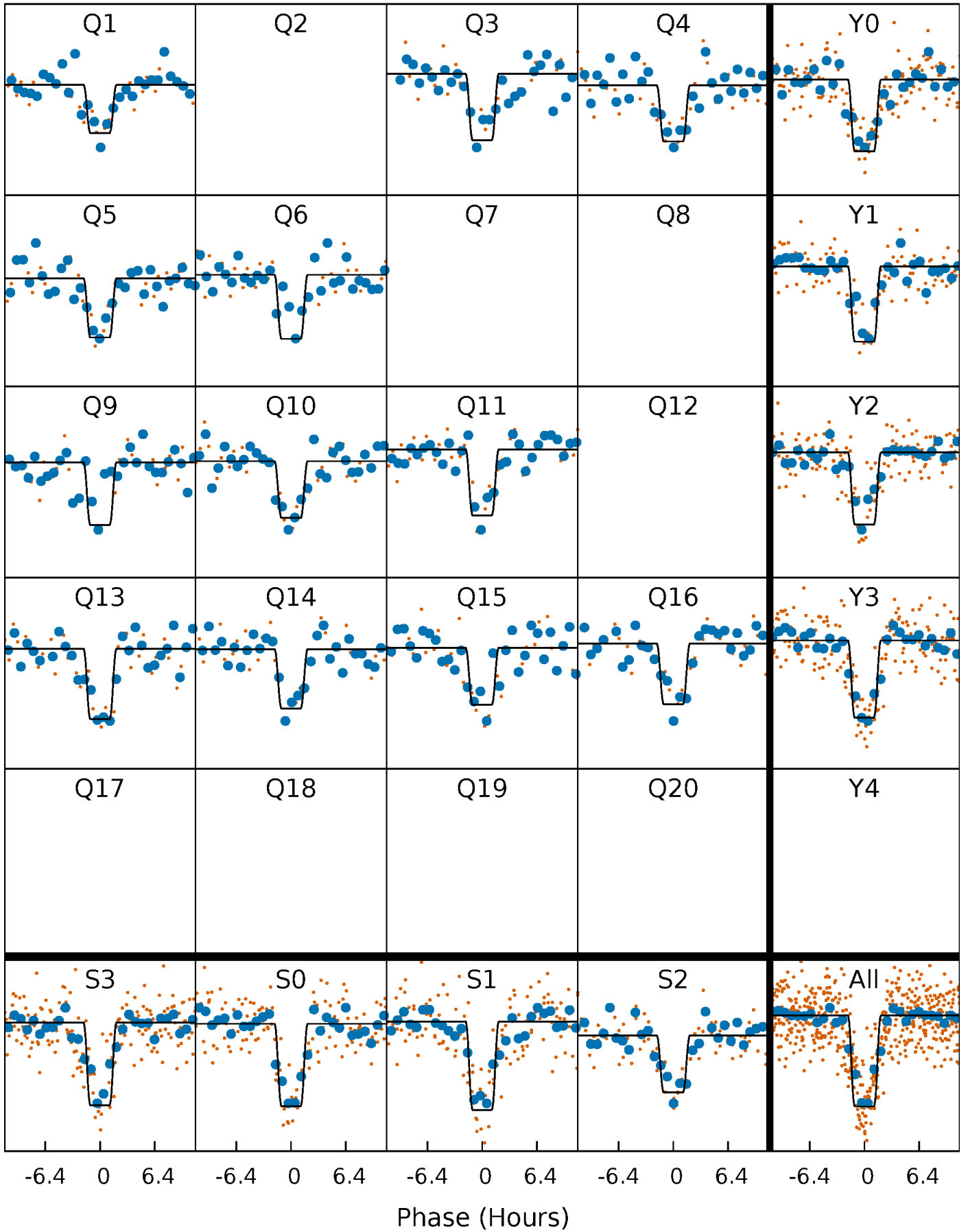
DV Quarter-Phased Transit Curves

TCE 002141783-01 P=116.521592 Days $T_0=144.132848$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

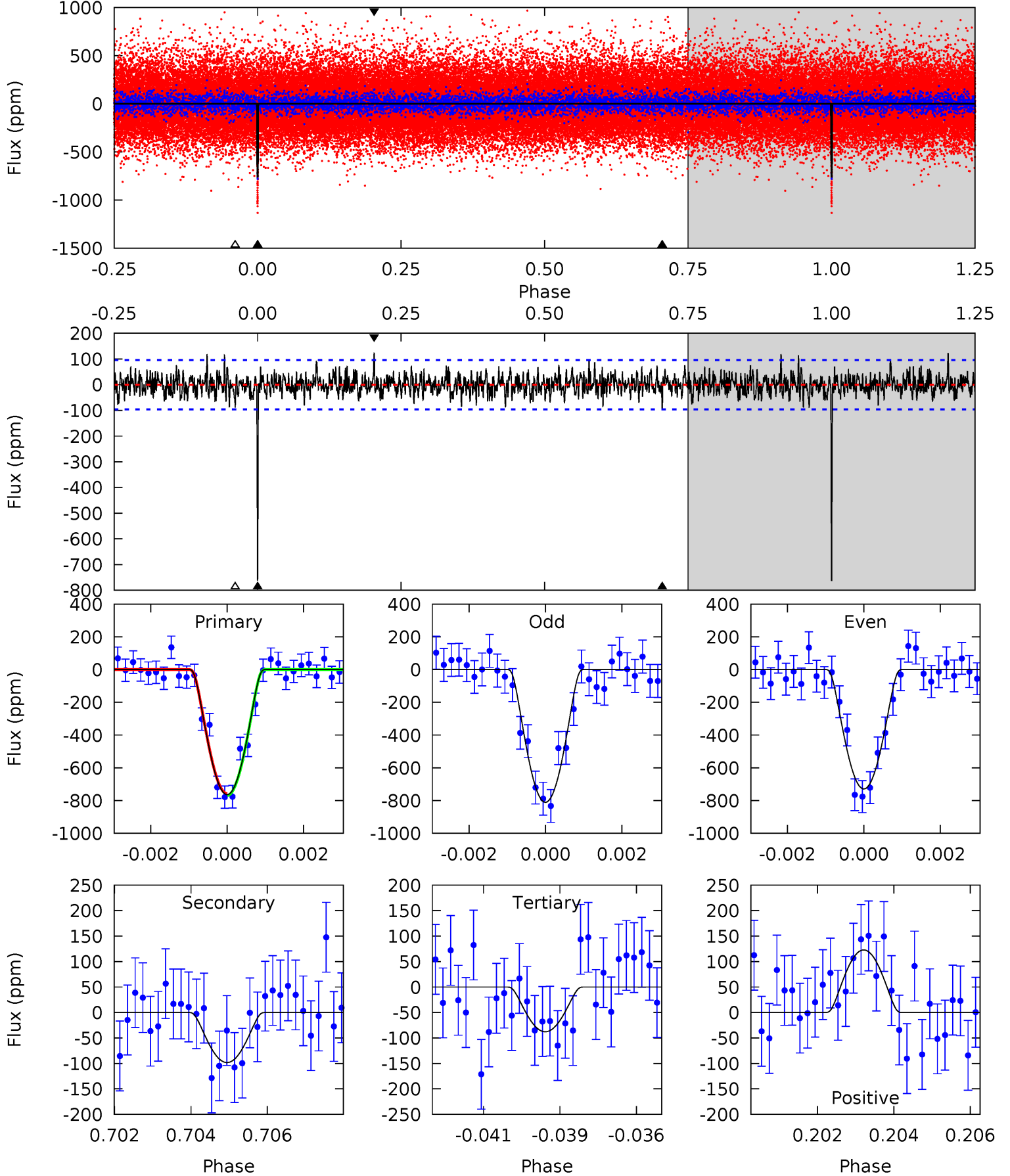
TCE 002141783-01 P=116.520693 Days $T_0=144.138294$ (BKJD)



DV Model-Shift Uniqueness Test

002141783-01, P = 116.521592 Days, E = 27.611256 Days

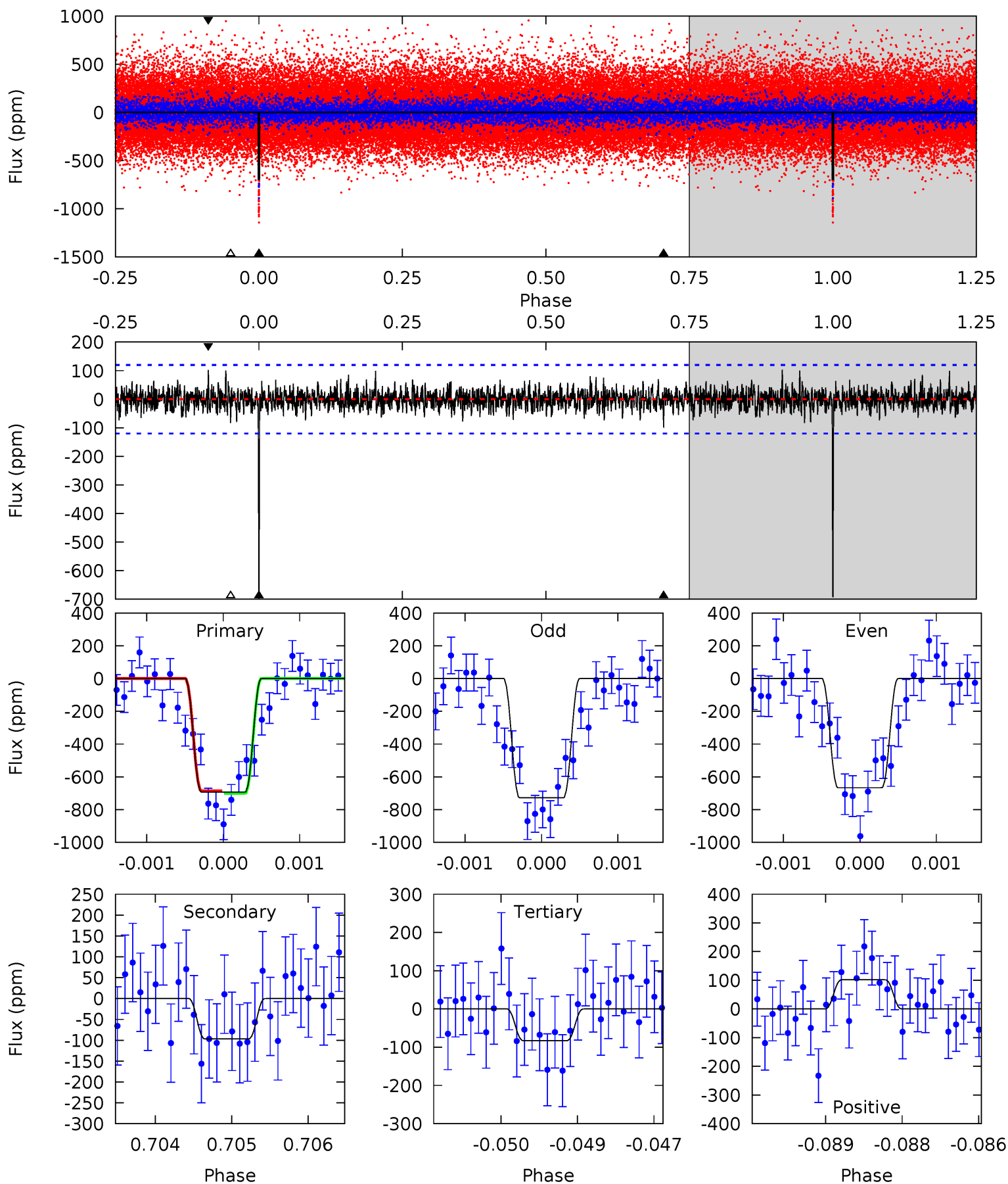
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
42.2	5.43	4.86	6.79	5.31	3.07	1.64	37.4	35.5	0.58	-1.36	2.25	0.99	0.14	0.30



Alt Model-Shift Uniqueness Test

002141783-01, P = 116.520693 Days, E = 27.617601 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
31.1	4.35	3.72	4.57	5.39	3.20	1.11	27.4	26.6	0.63	-0.22	1.38	0.95	0.13	0.37



Stellar Parameters For KIC 002141783

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6056^{+134}_{-122}	$4.179^{+0.168}_{-0.112}$	$0.000^{+0.150}_{-0.150}$	$1.411^{+0.252}_{-0.277}$	$1.096^{+0.112}_{-0.092}$	$0.549^{+0.449}_{-0.179}$
	+2%/-2%	+4%/-3%	+inf%/-inf%	+18%/-20%	+10%/-8%	+82%/-33%
Source	SPE57	SPE57	SPE57	DSEP		

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

Secondary Eclipse Parameters for KIC 002141783-01 / KOI 2201.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-98 ± 18	$9.76^{+8.86}_{-6.21}$	635^{+34}_{-34}	3031^{+1195}_{-479}	133^{+857}_{-97}
Alt.	-97 ± 22	$9.20^{+8.63}_{-6.61}$	639^{+33}_{-36}	3053^{+1692}_{-473}	143^{+1710}_{-106}

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 $A_{obs} \gg 1.0$

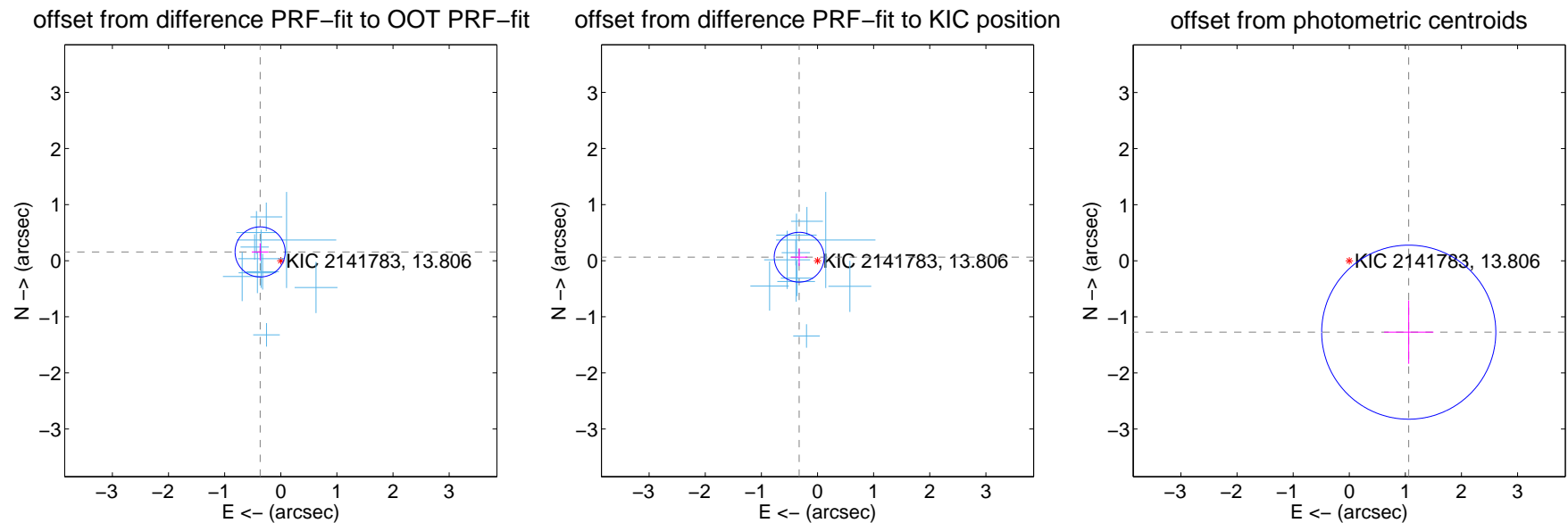
DV Centroid Data

Supplemental centroid analysis for 002141783-01. Kepler magnitude: 13.81. Transit SNR 21.62

There are 10 quarters with good PRF difference image offsets

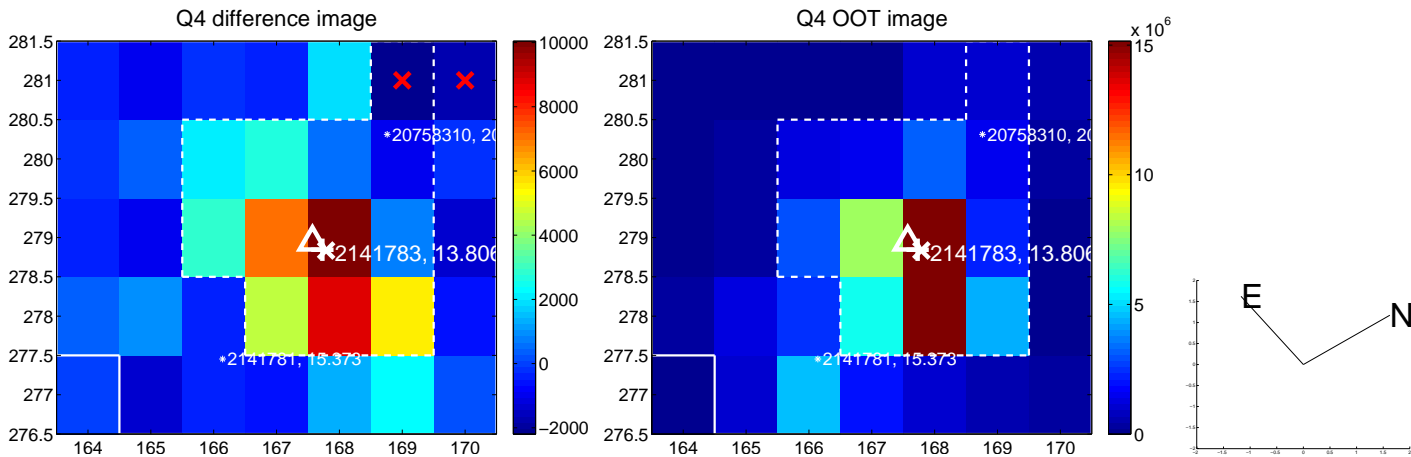
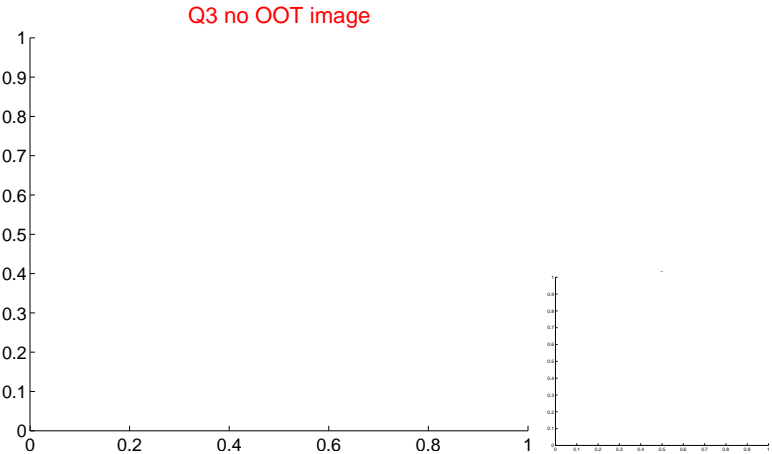
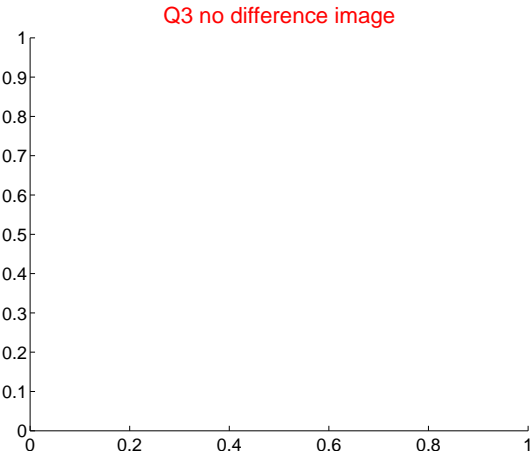
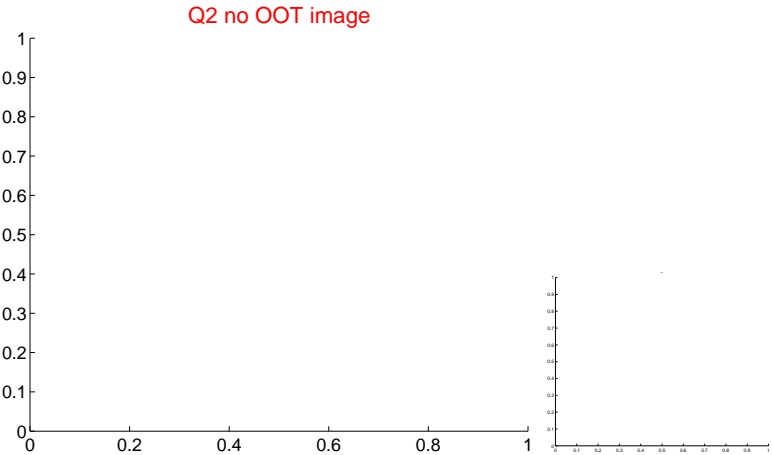
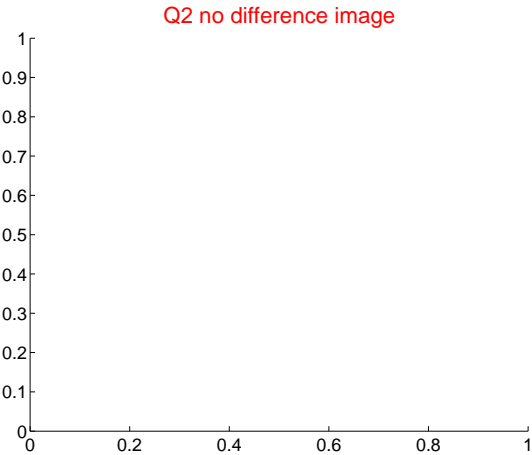
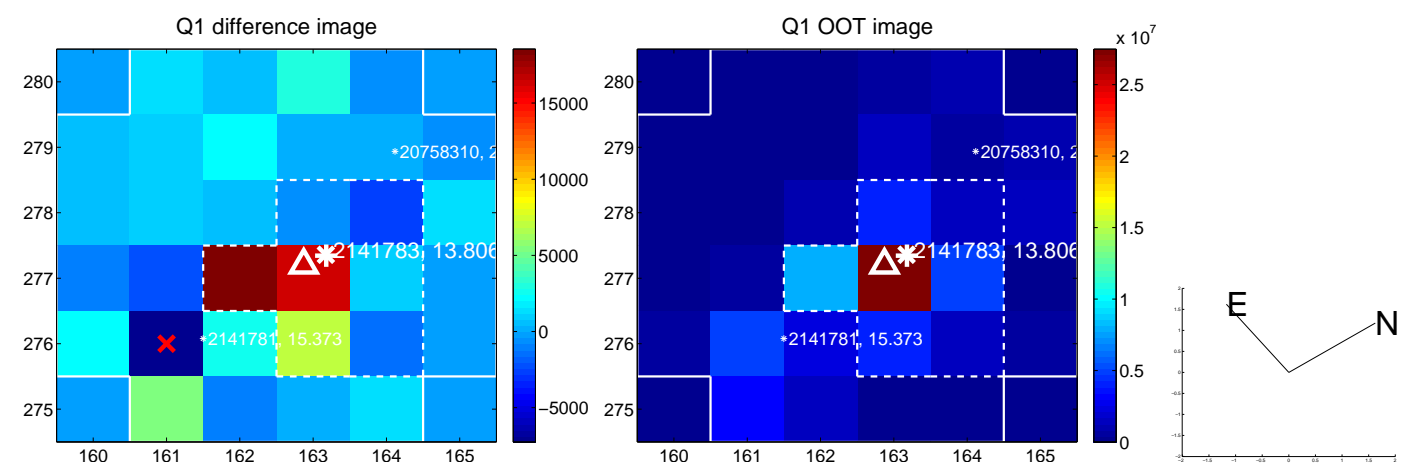
The direct PRF centroid is offset from the target star catalog position by about 0.19 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.400 ± 0.149	2.69	0.368 ± 0.148	0.157 ± 0.155
PRF-fit source offset from KIC position	0.333 ± 0.148	2.25	0.327 ± 0.148	0.062 ± 0.155
photometric centroid source offset	1.66 ± 0.52	3.20	-1.06 ± 0.44	-1.27 ± 0.56

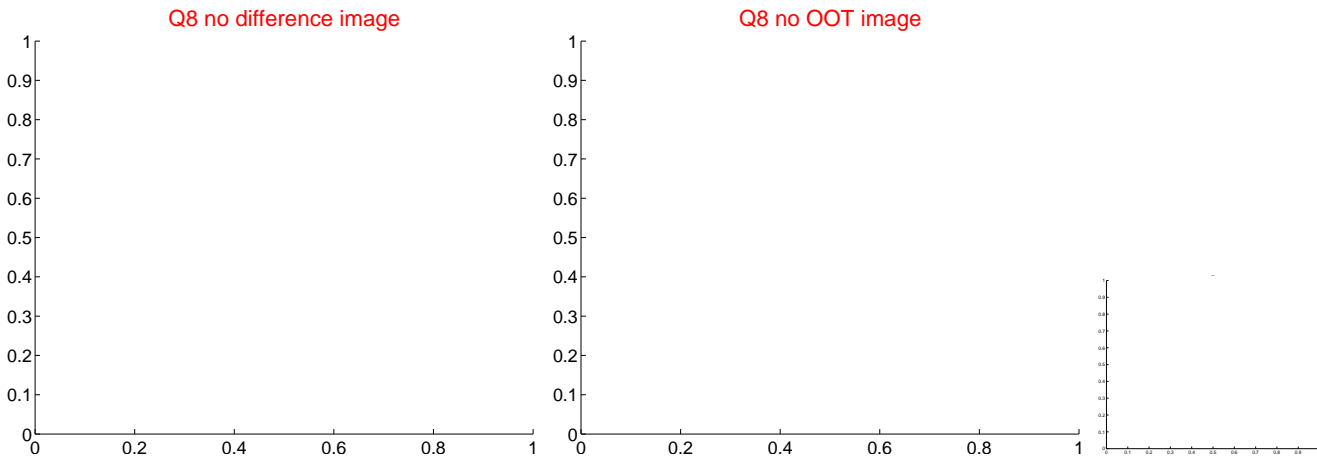
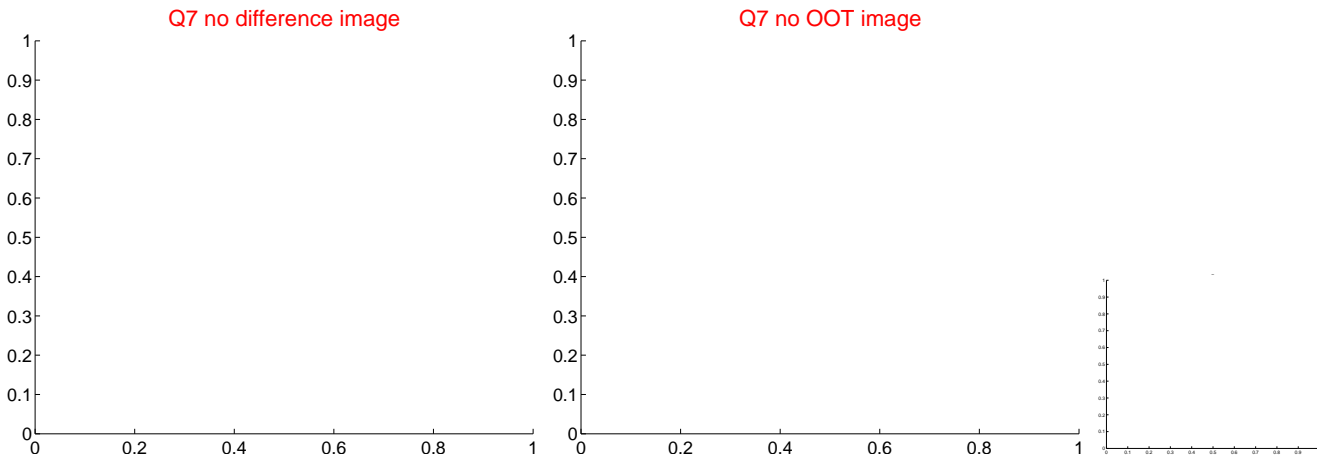
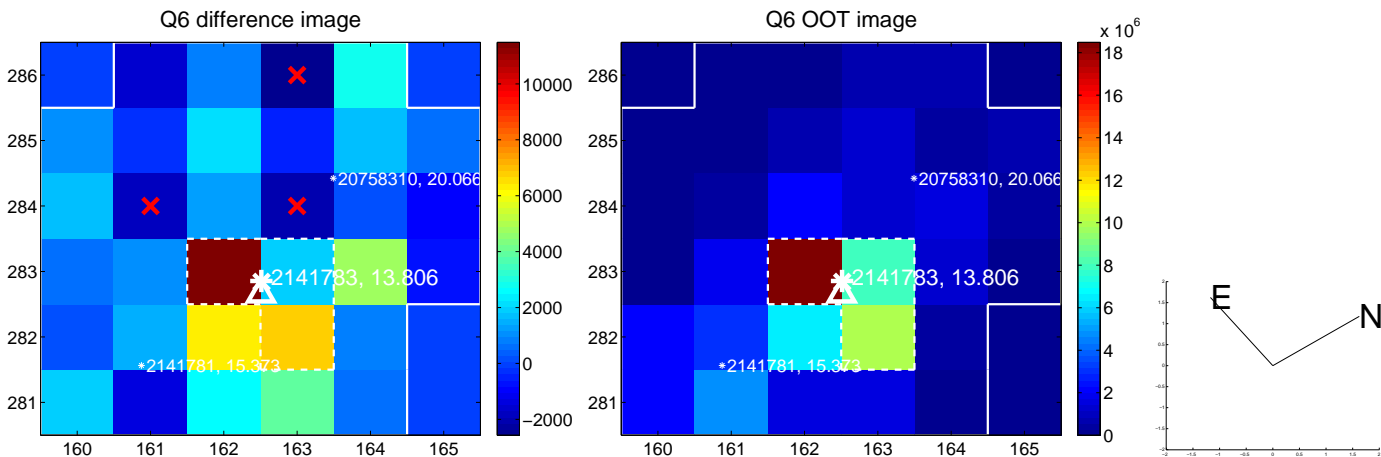
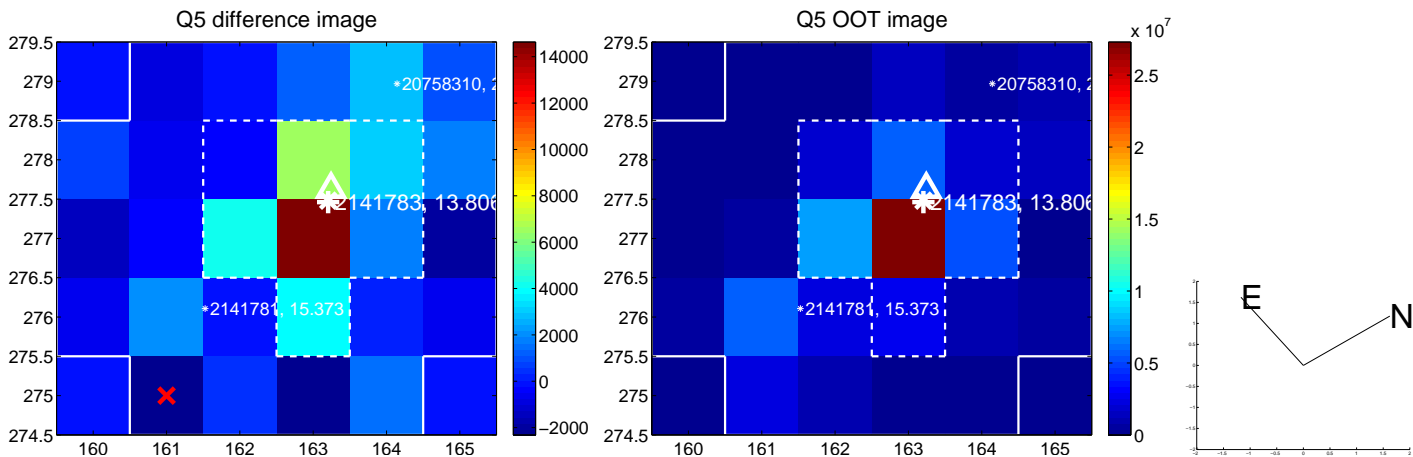


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

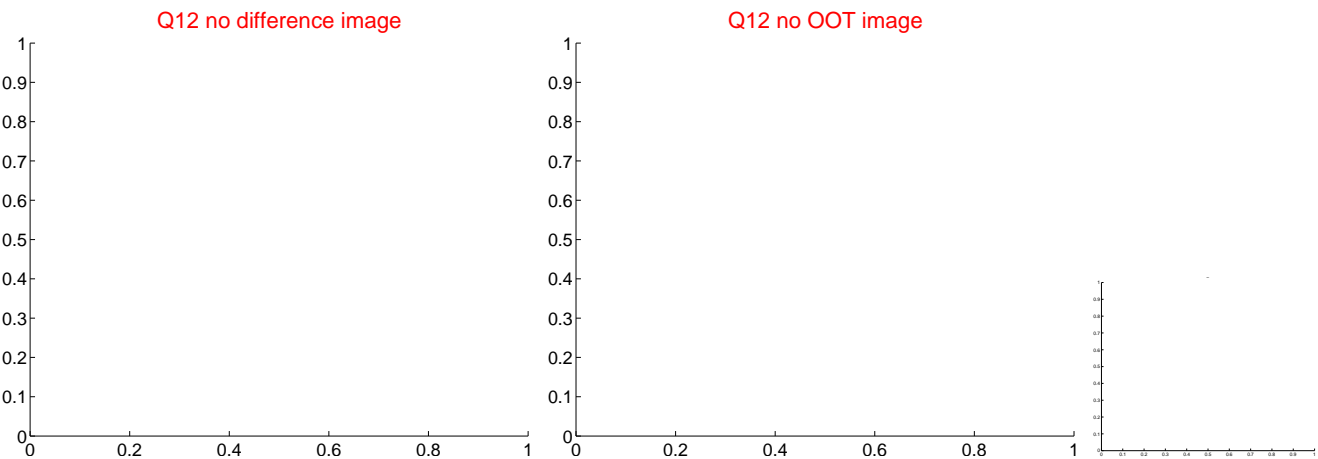
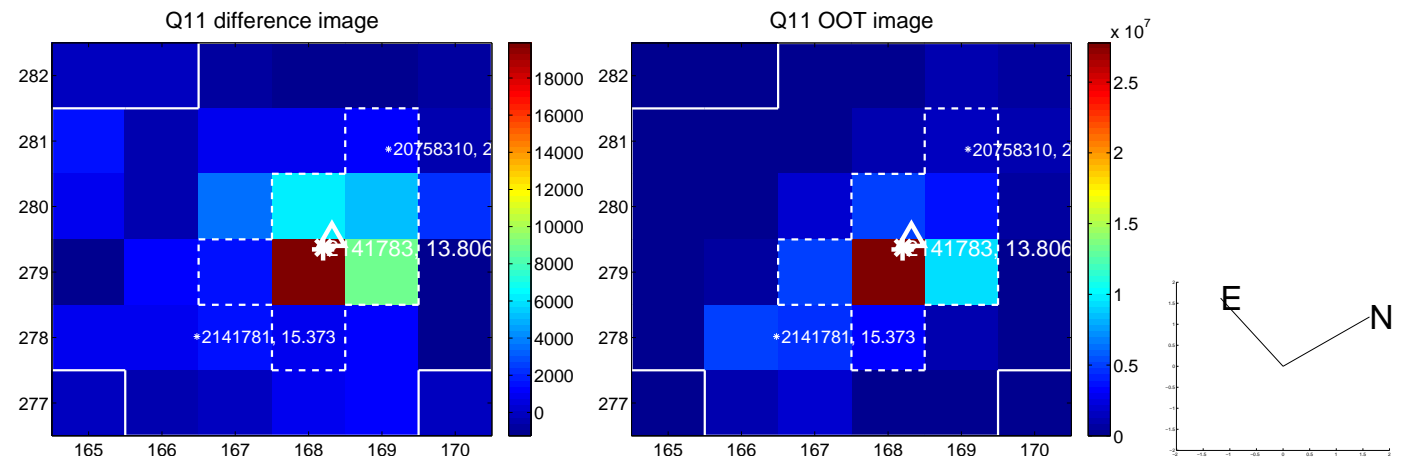
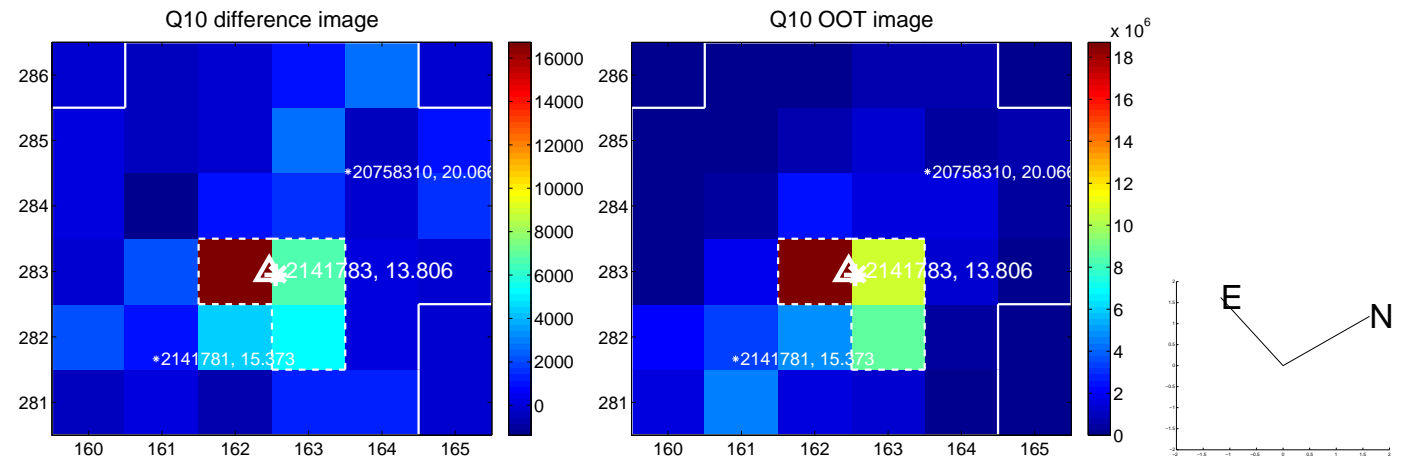
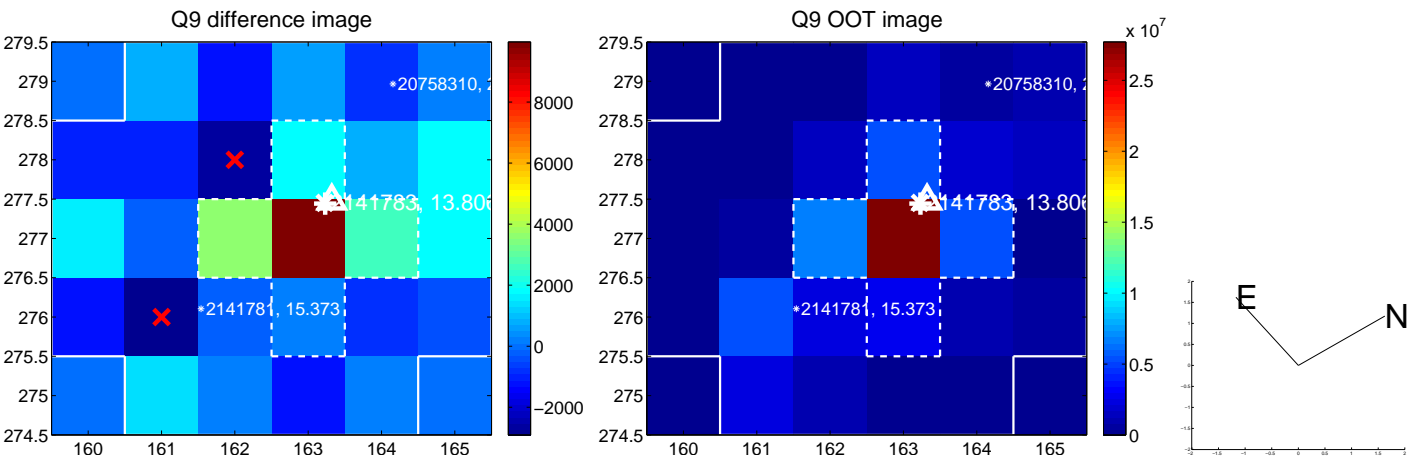
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



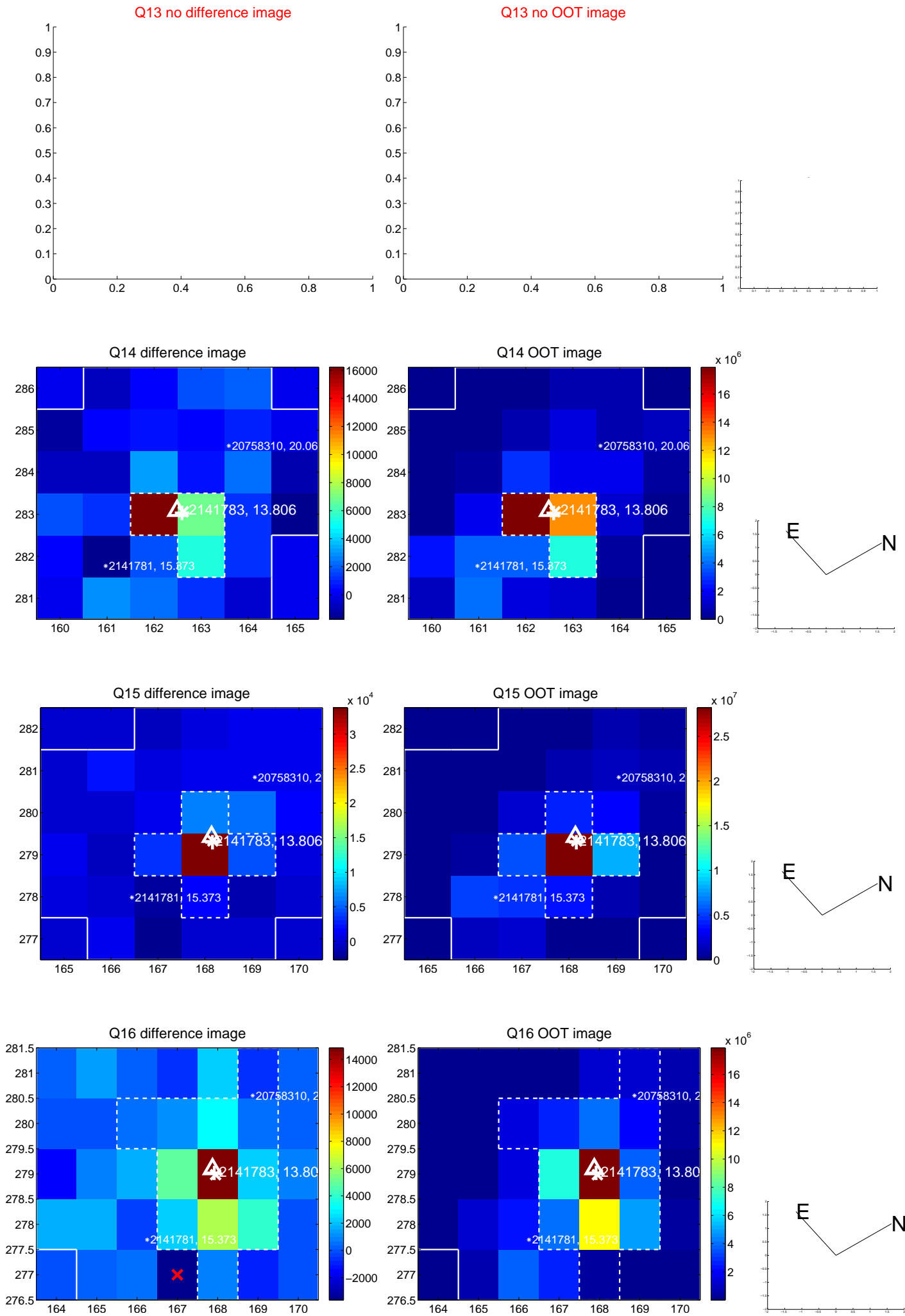
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



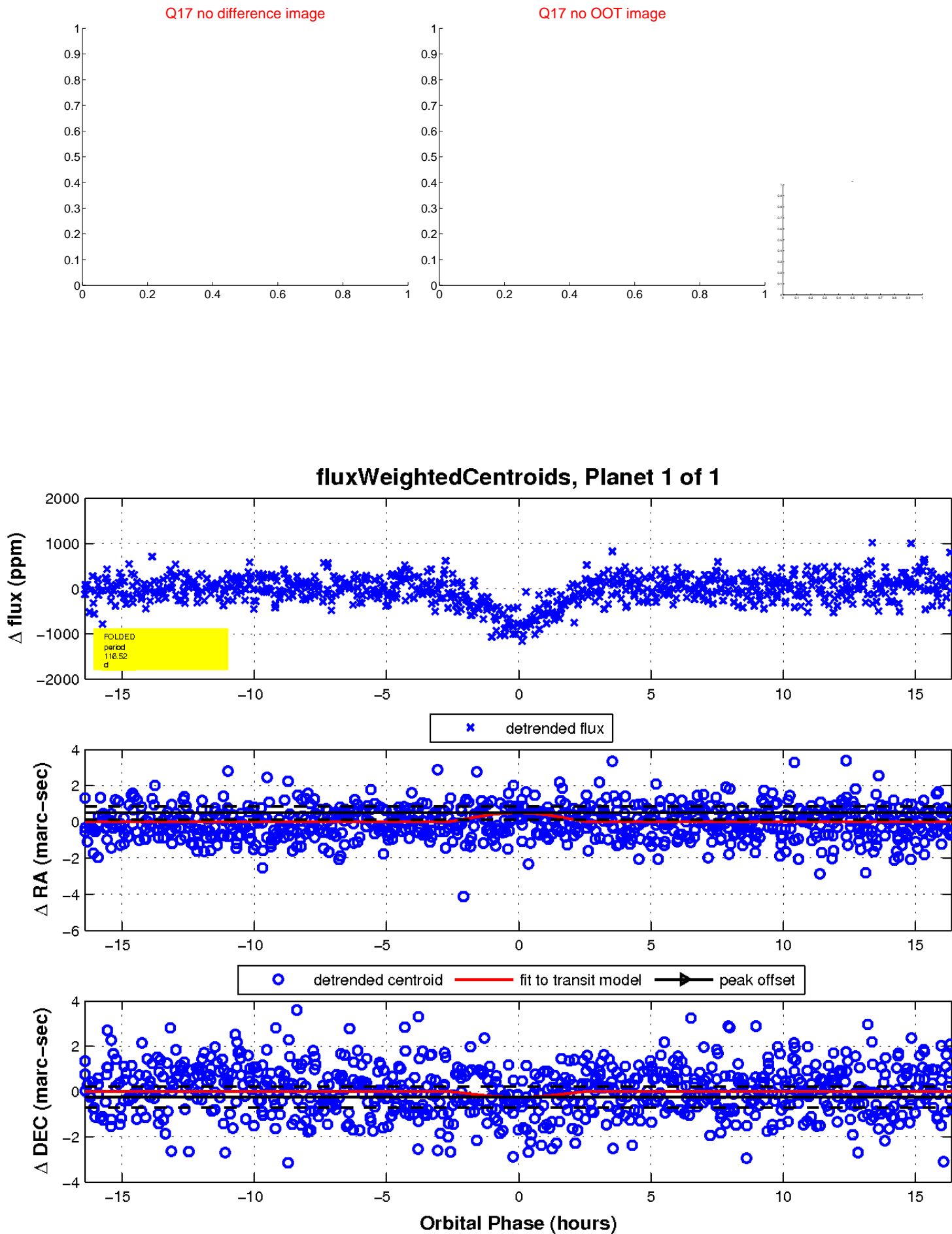
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

