

KIC 004656049

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})
004656049-01	OBS	0629.01	40.699262	131.870648	430.6	7.235	32.5	34.9	1.36	6419	3.27	52.17

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004656049-01	OBS	PC	1.00	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.

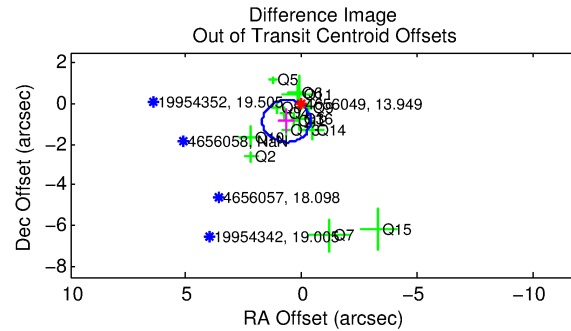
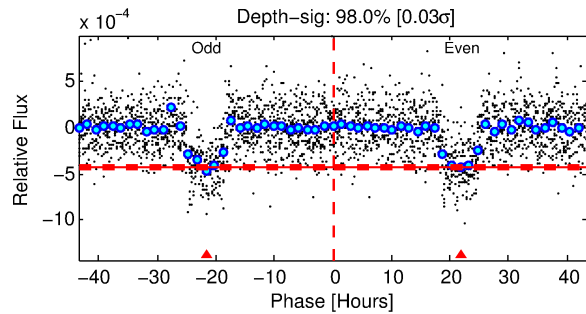
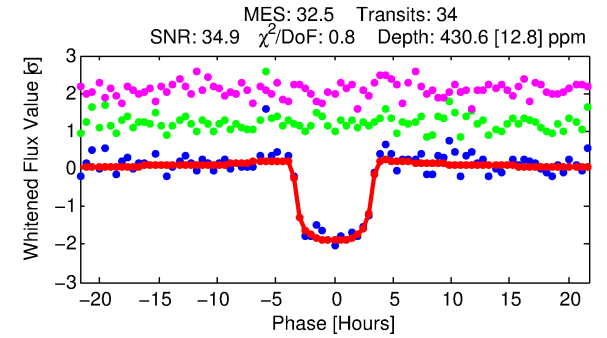
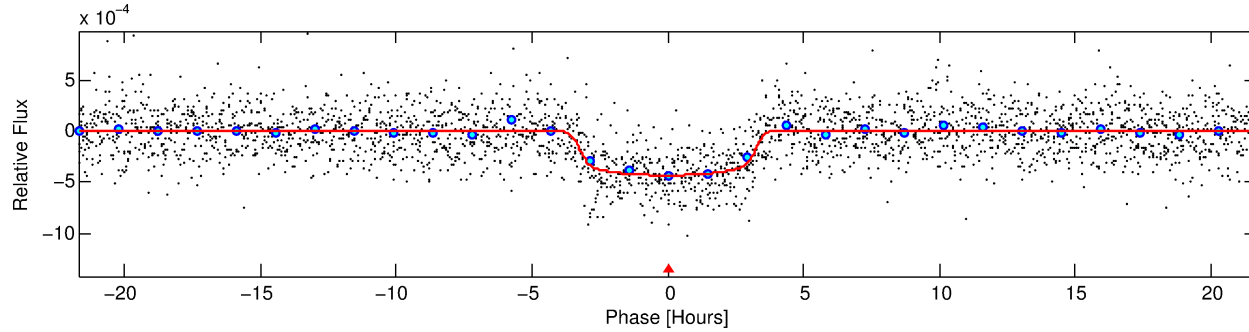
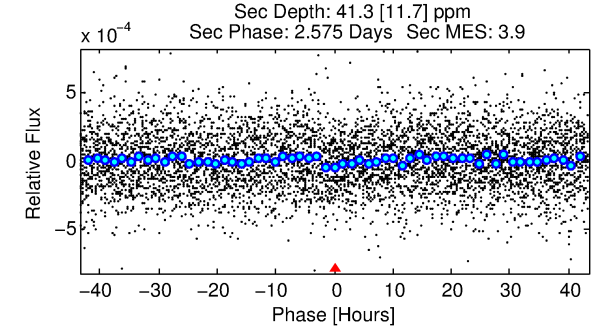
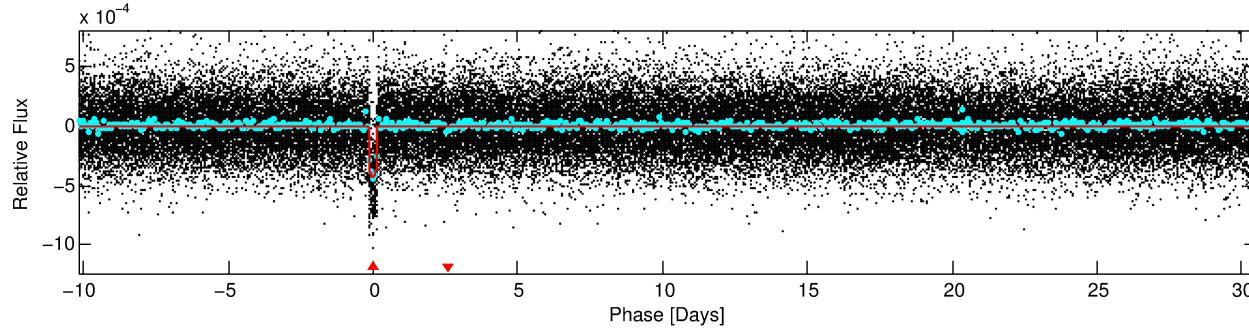
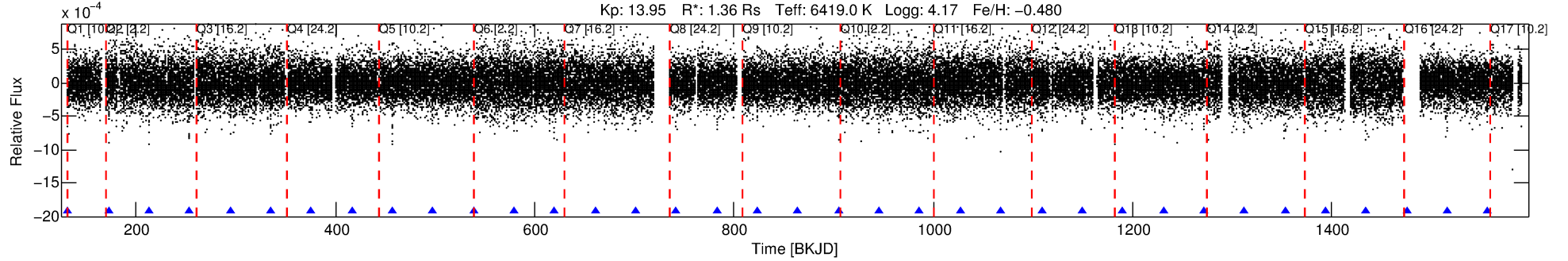
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 004656049-01

No Significant Match Found

DV One-Page Summary

KIC: 4656049 Candidate: 1 of 1 Period: 40.699 d
KOI: K00629.01 Corr: 0.995



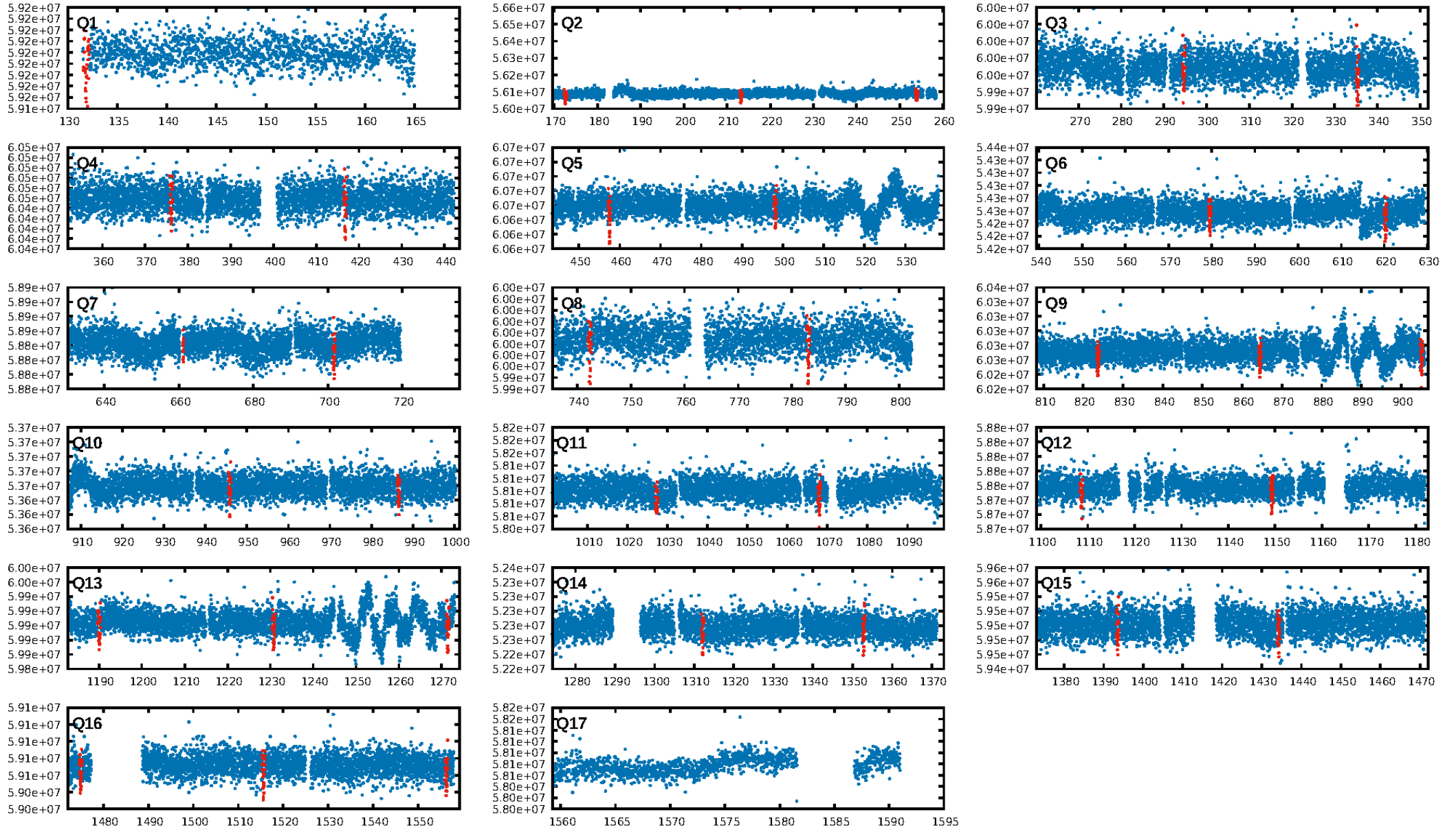
DV Fit Results:

Period = 40.69926 [0.00019] d
Epoch = 131.8706 [0.0039] BKJD
Rp/R* = 0.0220 [0.0010]
a/R* = 21.72 [5.01]
b = 0.89 [0.06]
Seff = 52.17 [22.42]
Teq = 685 [74] K
Rp = 3.27 [0.88] Re
a = 0.2326 [0.0594] AU
Ag = 114.72 [58.05] [1.96σ]
Teffp = 3468 [283] K [9.52σ]

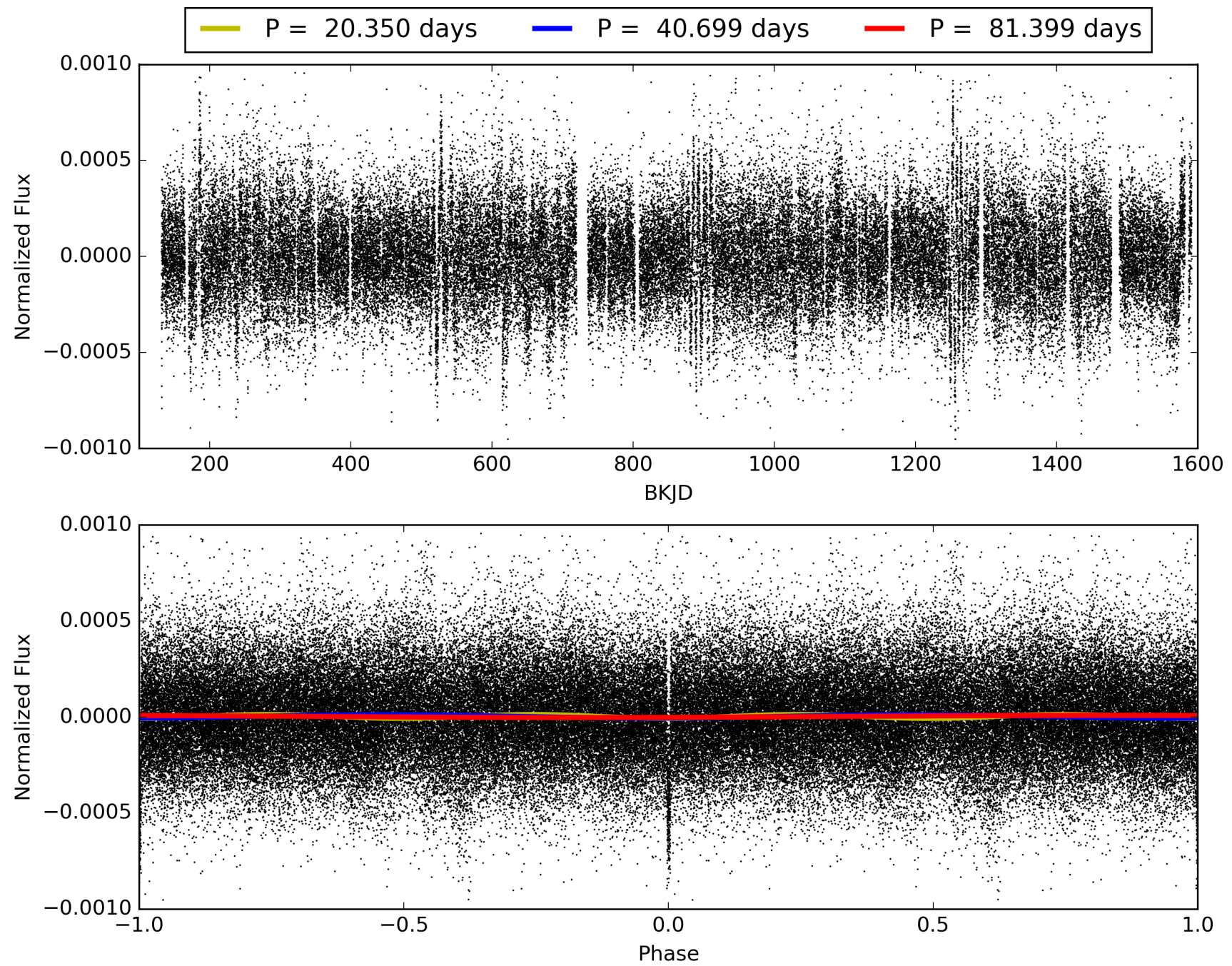
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 100.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 2.04e-222
RollingBand-fgt: 1.00 [33/33]
GhostDiagnostic-chr: 14.88
Centroid-sig: 54.9%
Centroid-so: 0.346 arcsec [0.88σ]
OotOffset-rm: 1.082 arcsec [3.12σ]
KicOffset-rm: 0.823 arcsec [2.29σ]
OotOffset-st: 4/4/4/3 [15]
KicOffset-st: 4/4/4/3 [15]
DiffImageQuality-fgm: 0.80 [12/15]
DiffImageOverlap-fno: 1.00 [15/15]

TCE 004656049-01, PDC Light Curves

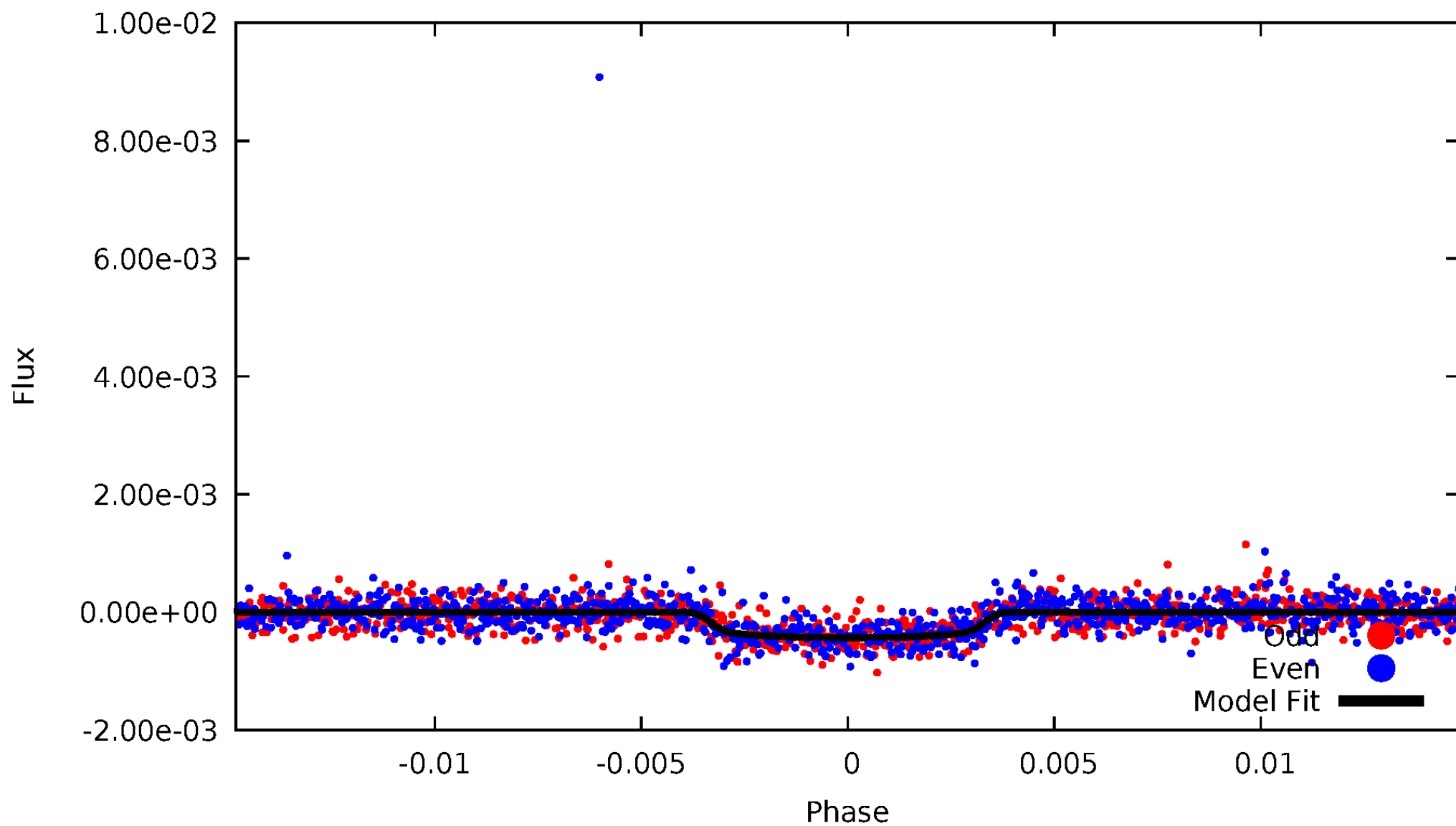


TCE 004656049-01



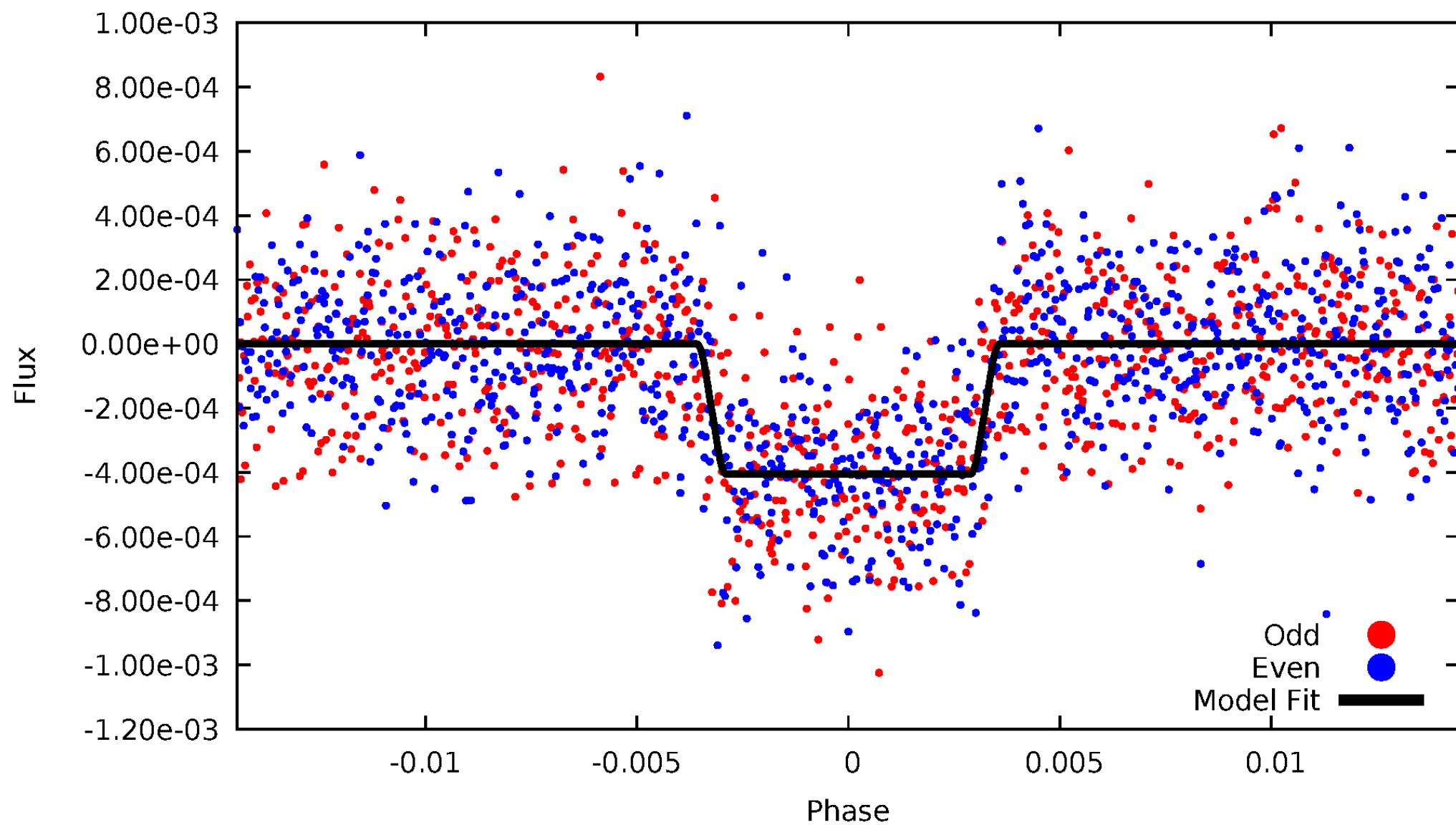
DV Odd/Even

TCE 004656049-01

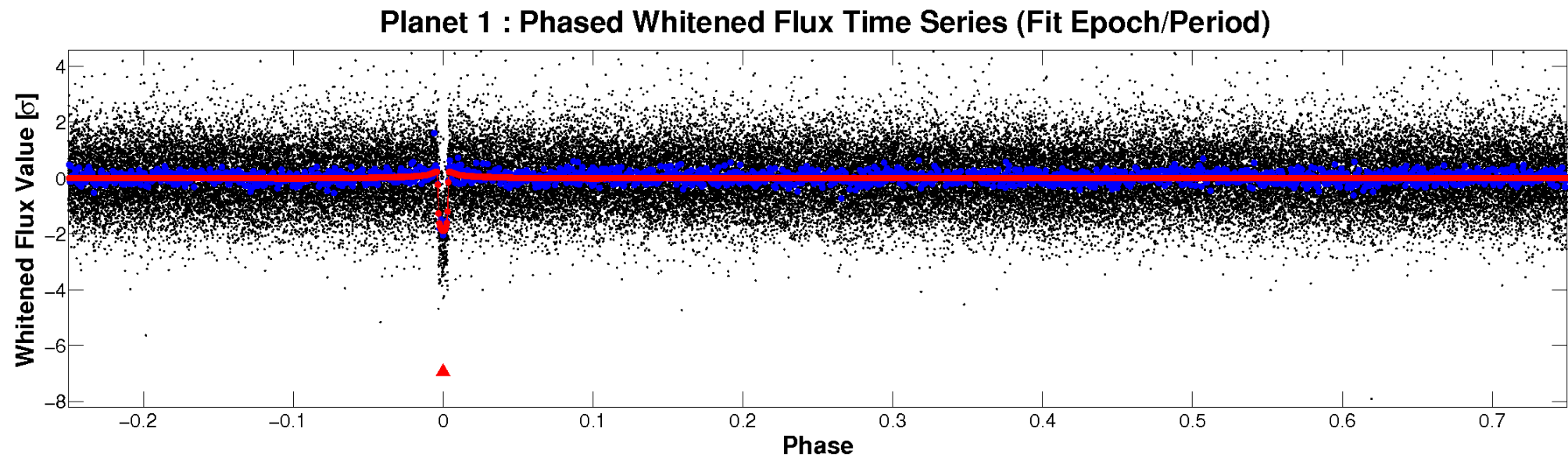
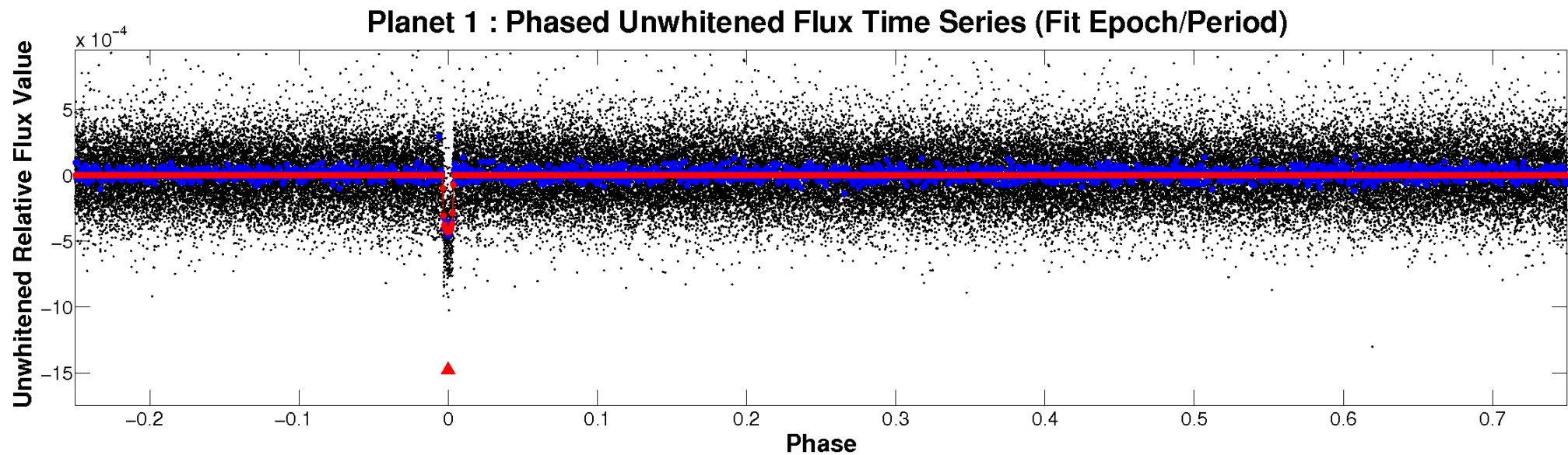


ALT Odd/Even

TCE 004656049-01

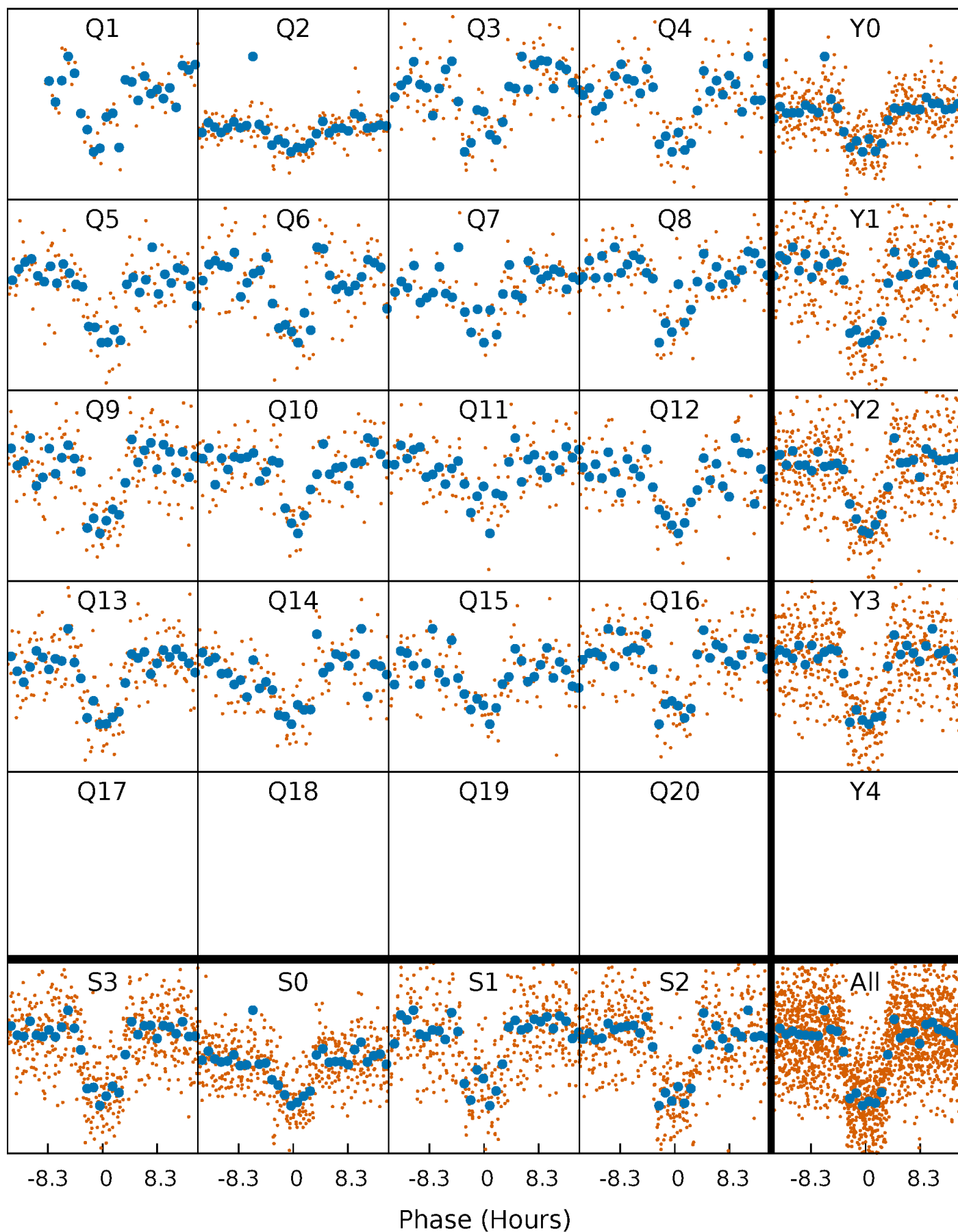


Non-Whitened Vs. Whitened Light Curve



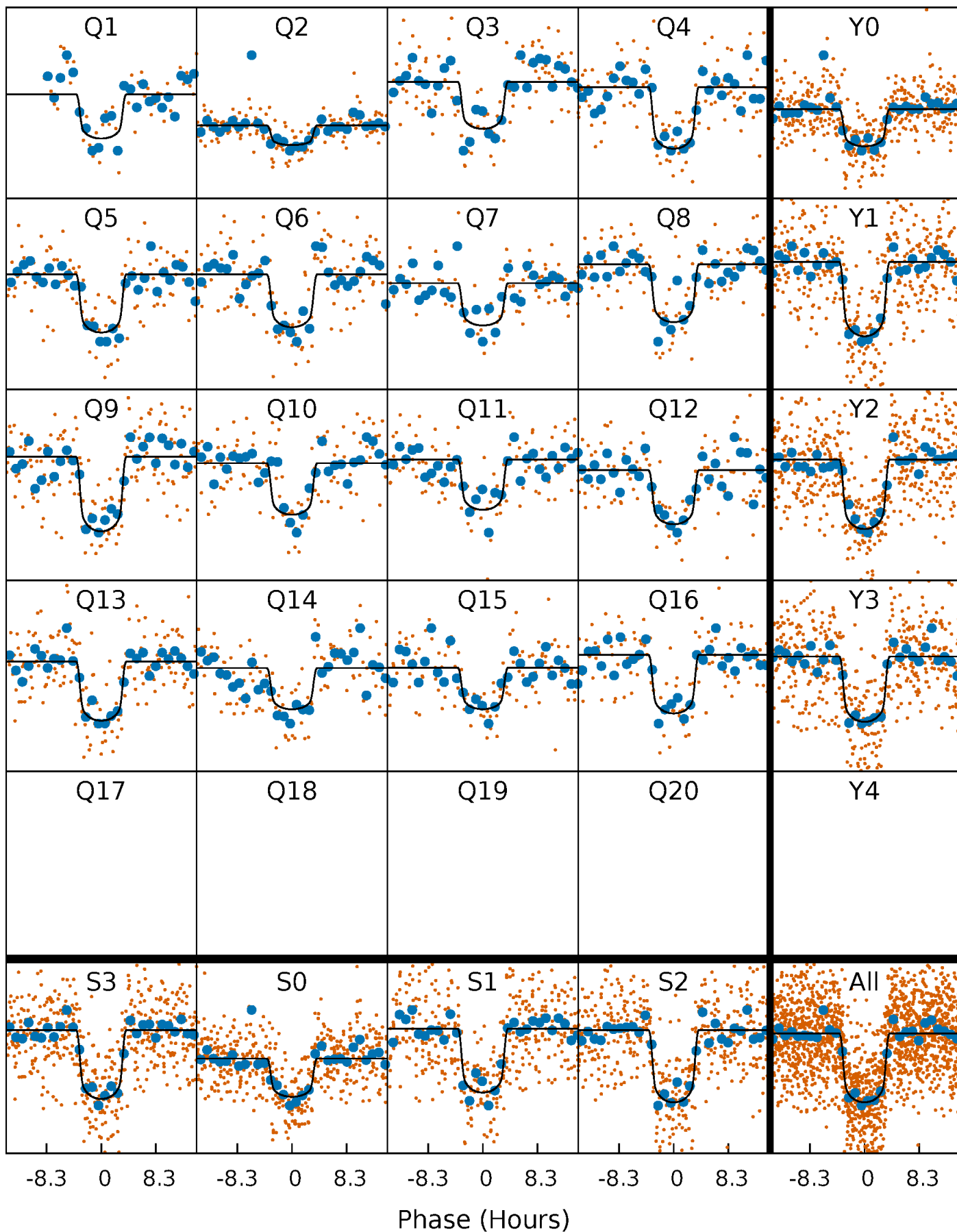
PDC Quarter-Phased Transit Curves

TCE 004656049-01 P= 40.699262 Days $T_0=131.870648$ (BKJD)



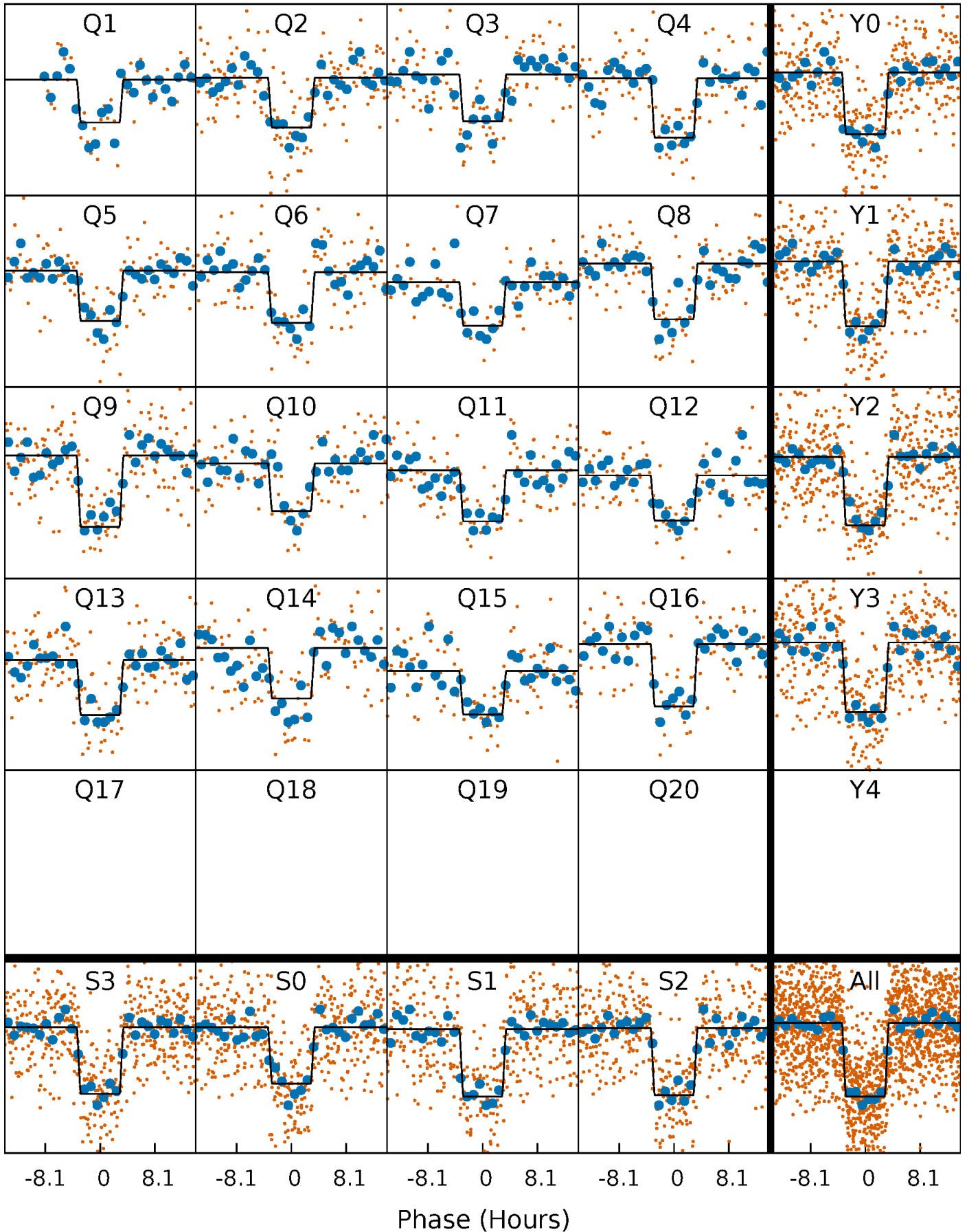
DV Quarter-Phased Transit Curves

TCE 004656049-01 P= 40.699262 Days $T_0=131.870648$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

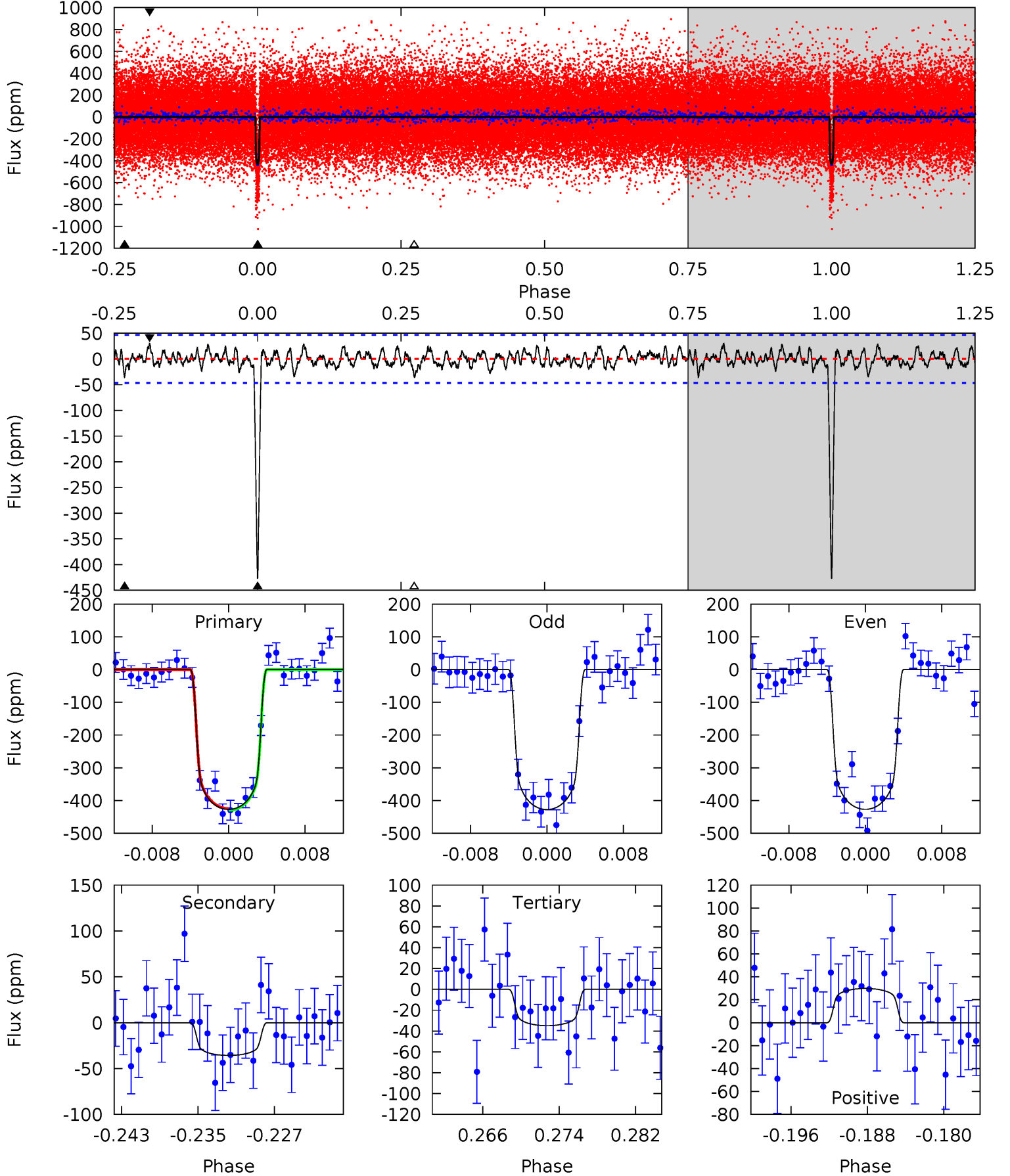
TCE 004656049-01 P= 40.699064 Days $T_0=131.874634$ (BKJD)



DV Model-Shift Uniqueness Test

004656049-01, P = 40.699262 Days, E = 91.171386 Days

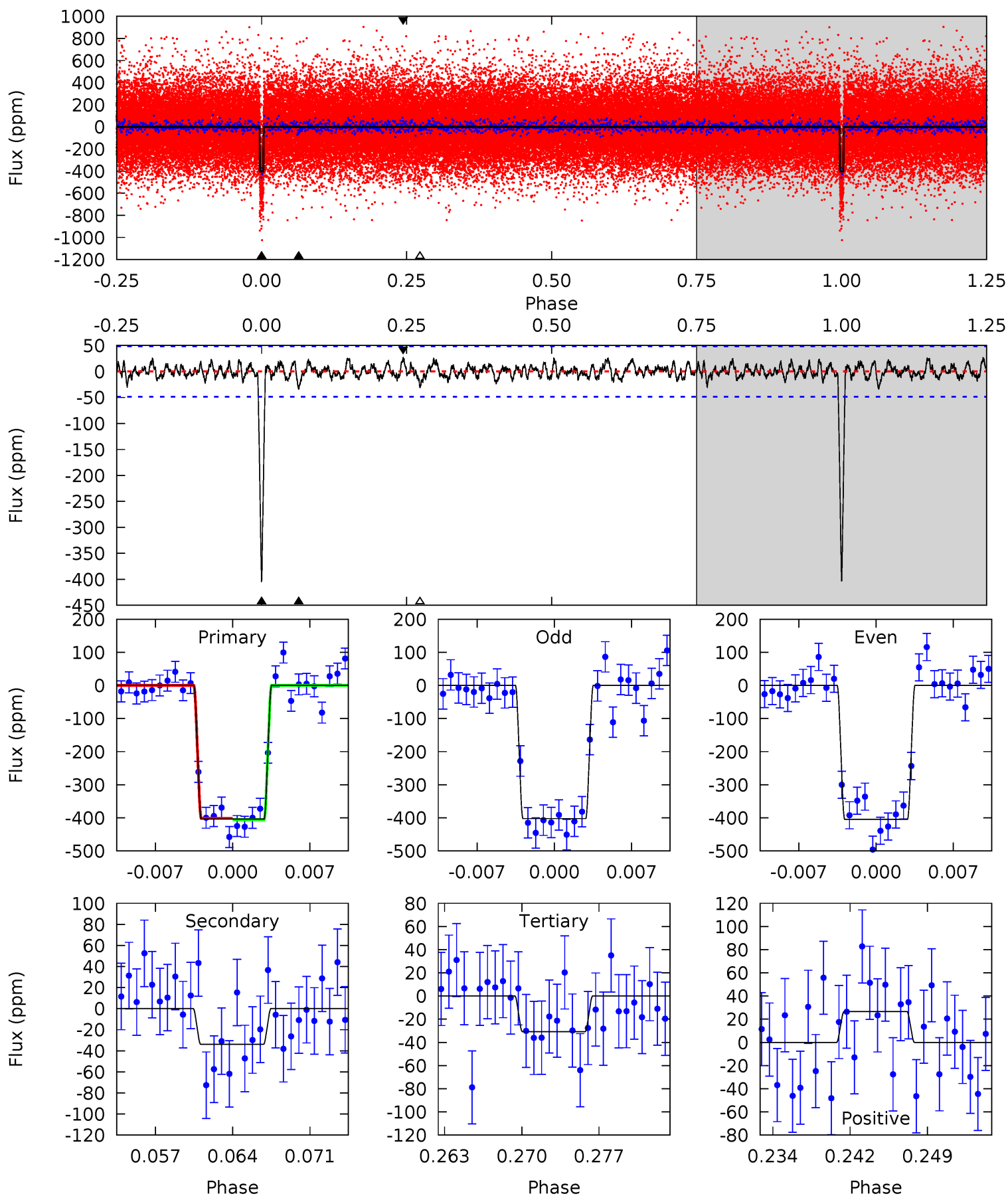
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
46.4	3.88	3.79	3.24	5.07	2.66	1.25	42.6	43.2	0.09	0.63	0.04	0.99	0.07	0.28



Alt Model-Shift Uniqueness Test

004656049-01, P = 40.699064 Days, E = 91.175570 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
42.1	3.53	3.21	2.77	5.09	2.69	1.02	38.9	39.3	0.32	0.76	0.11	0.99	0.06	0.21



Stellar Parameters For KIC 004656049

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6419^{+175}_{-213}	$4.175^{+0.240}_{-0.160}$	$-0.480^{+0.300}_{-0.300}$	$1.362^{+0.362}_{-0.362}$	$1.012^{+0.157}_{-0.115}$	$0.564^{+0.723}_{-0.258}$
	+3%/-3%	+6%/-4%	+62%/-62%	+27%/-27%	+16%/-11%	+128%/-46%
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 004656049-01 / KOI 0629.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-36 ± 9	$3.26^{+0.52}_{-0.49}$	950^{+73}_{-79}	3733^{+189}_{-193}	99^{+48}_{-32}
Alt.	-34 ± 10	$3.01^{+0.44}_{-0.47}$	953^{+68}_{-80}	3797^{+210}_{-235}	109^{+62}_{-36}

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

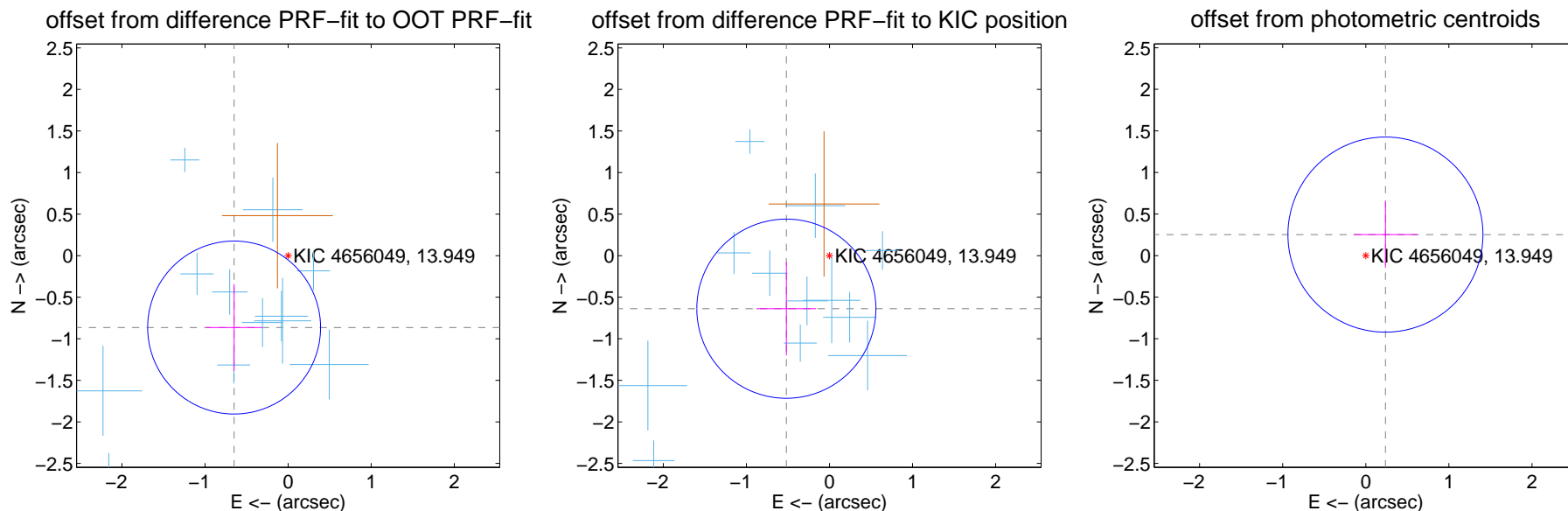
DV Centroid Data

Supplemental centroid analysis for 004656049-01. Kepler magnitude: 13.95. Transit SNR 34.93

There are 12 quarters with good PRF difference image offsets

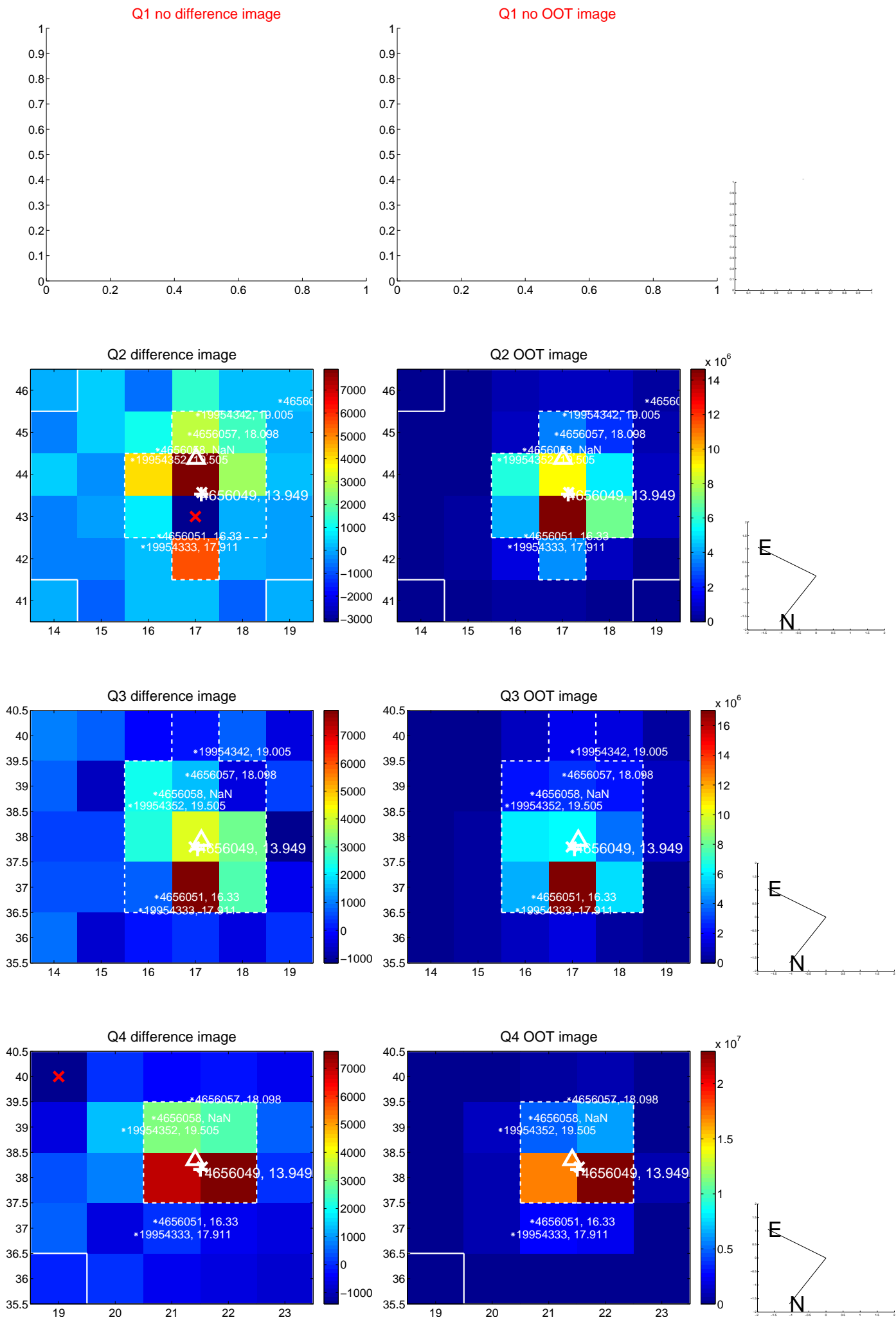
The direct PRF centroid is offset from the target star catalog position by about 0.26 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.082 ± 0.347	3.12	0.650 ± 0.338	-0.865 ± 0.523
PRF-fit source offset from KIC position	0.823 ± 0.359	2.29	0.519 ± 0.360	-0.638 ± 0.562
photometric centroid source offset	0.35 ± 0.39	0.88	-0.24 ± 0.38	0.25 ± 0.40

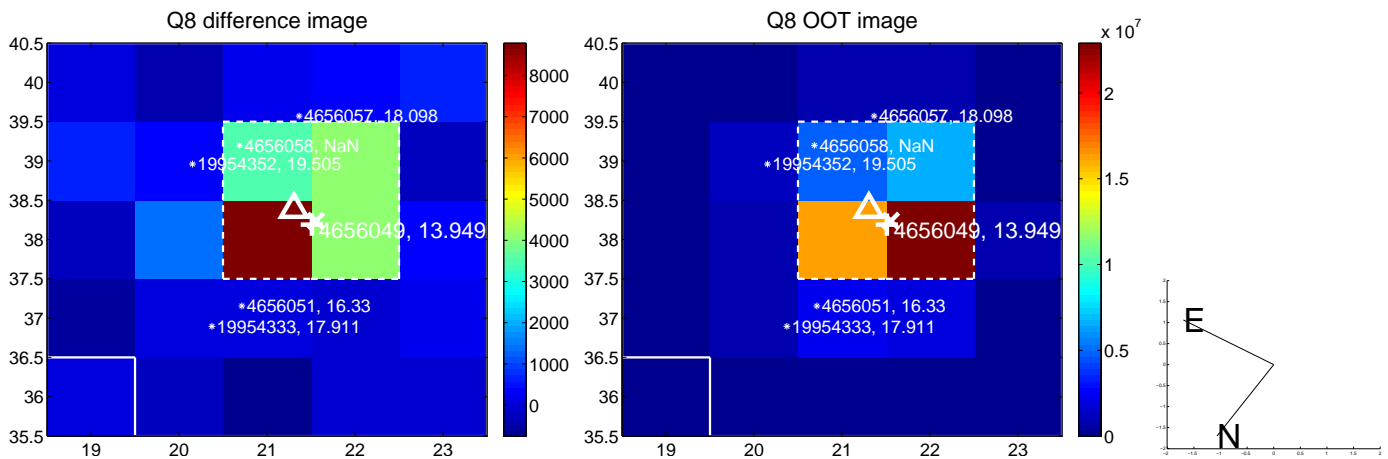
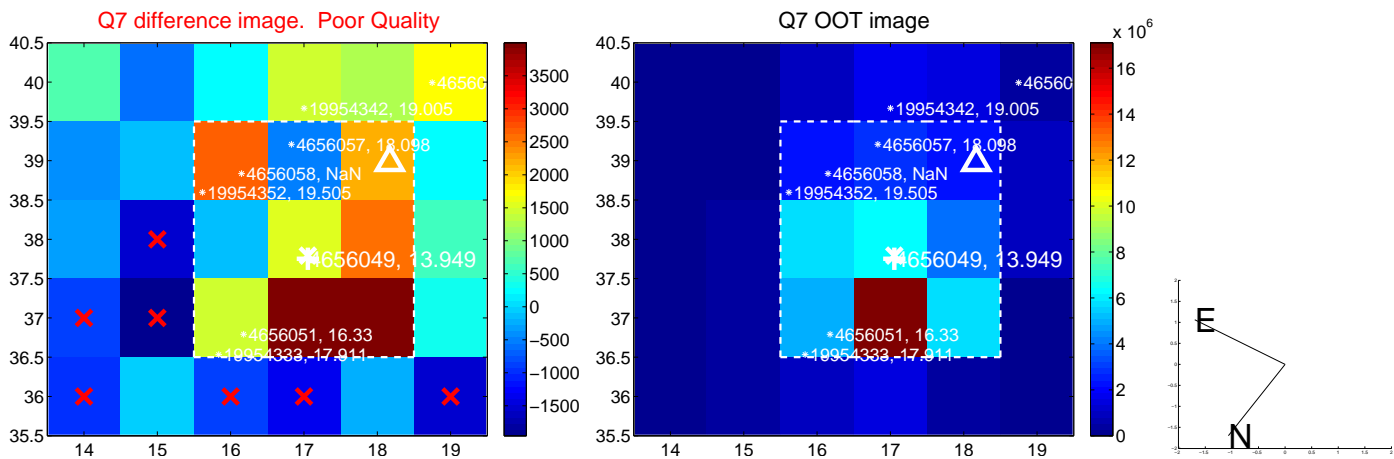
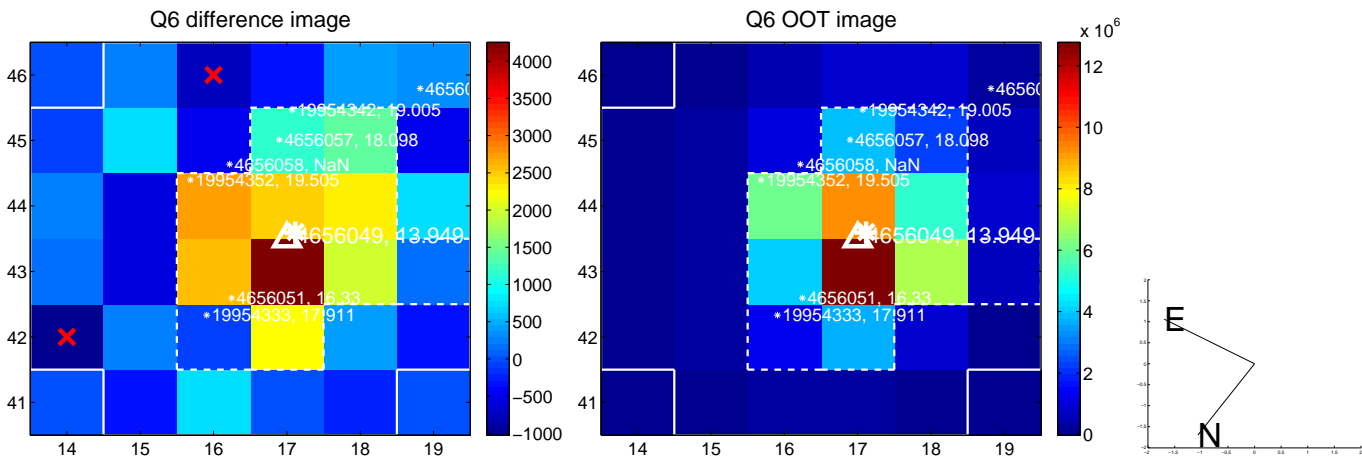
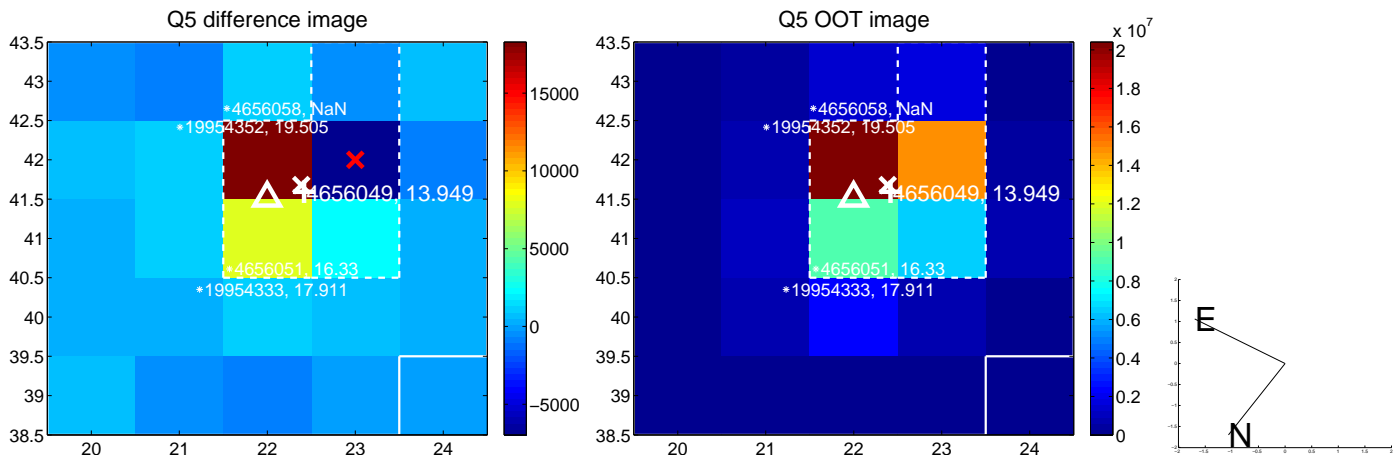


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

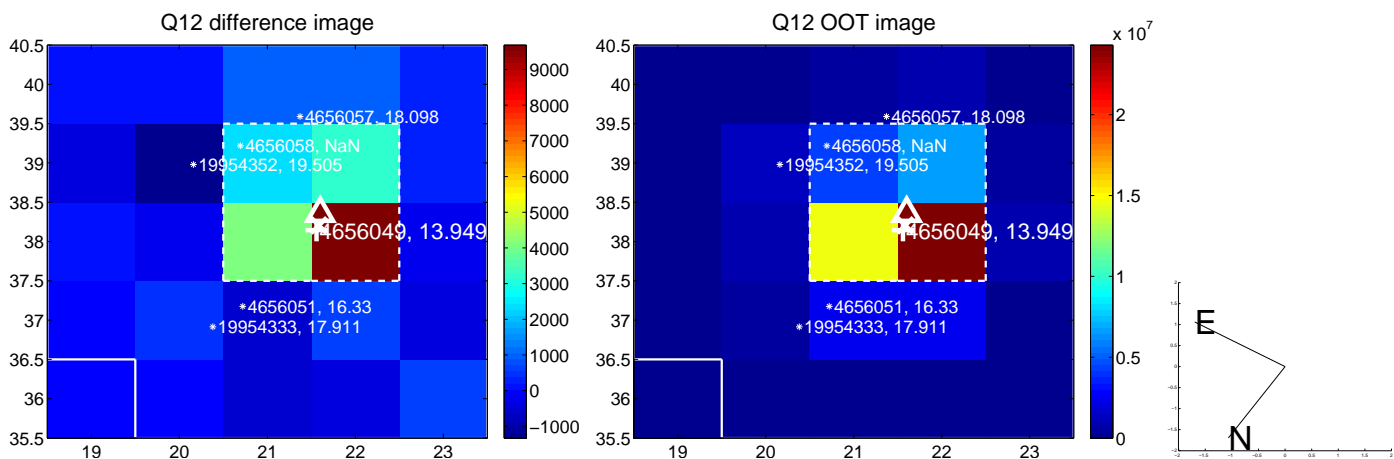
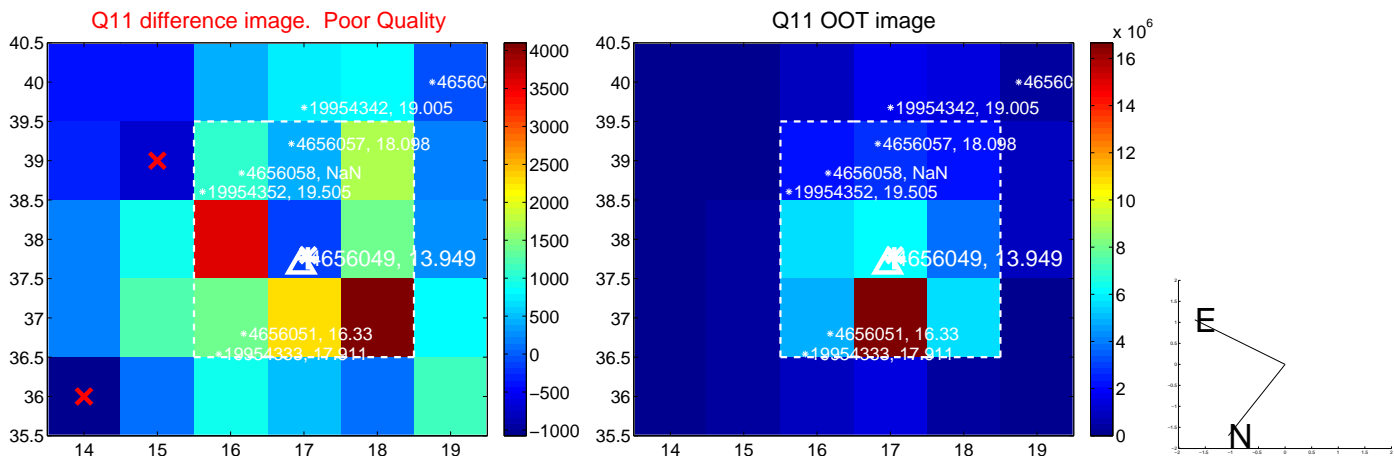
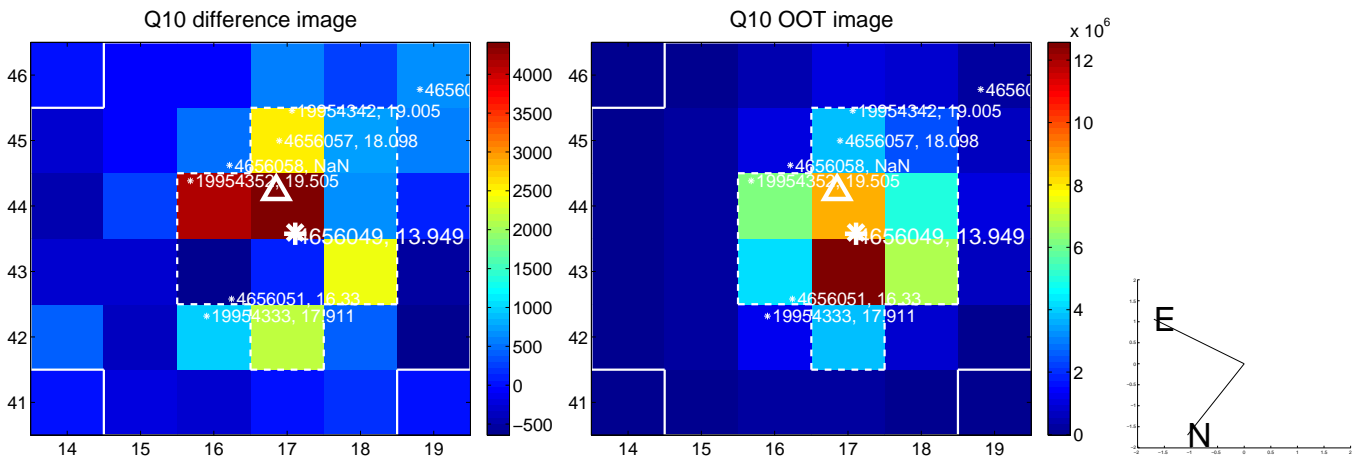
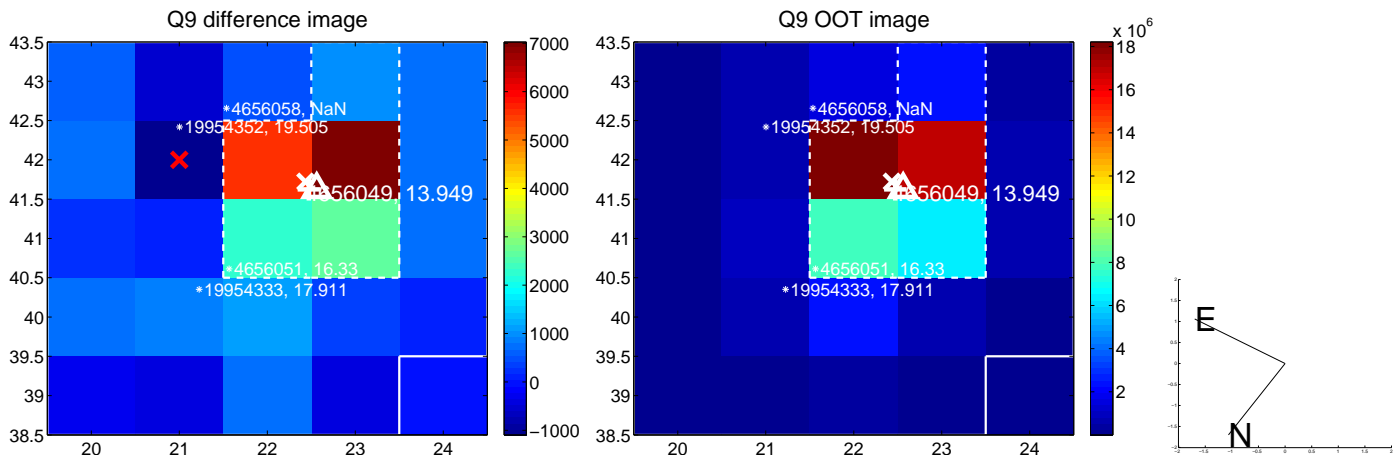
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



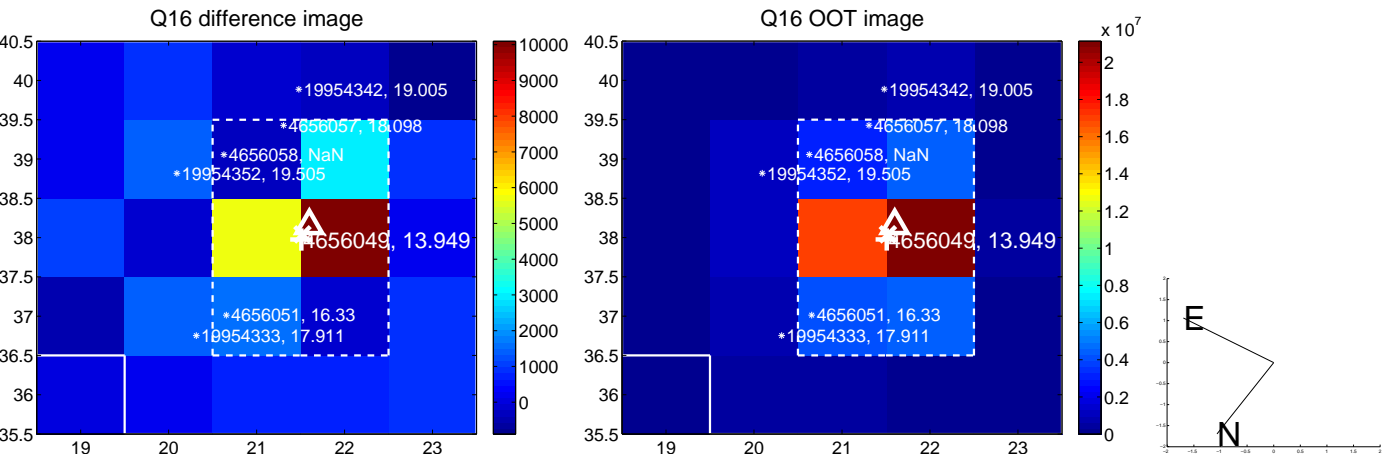
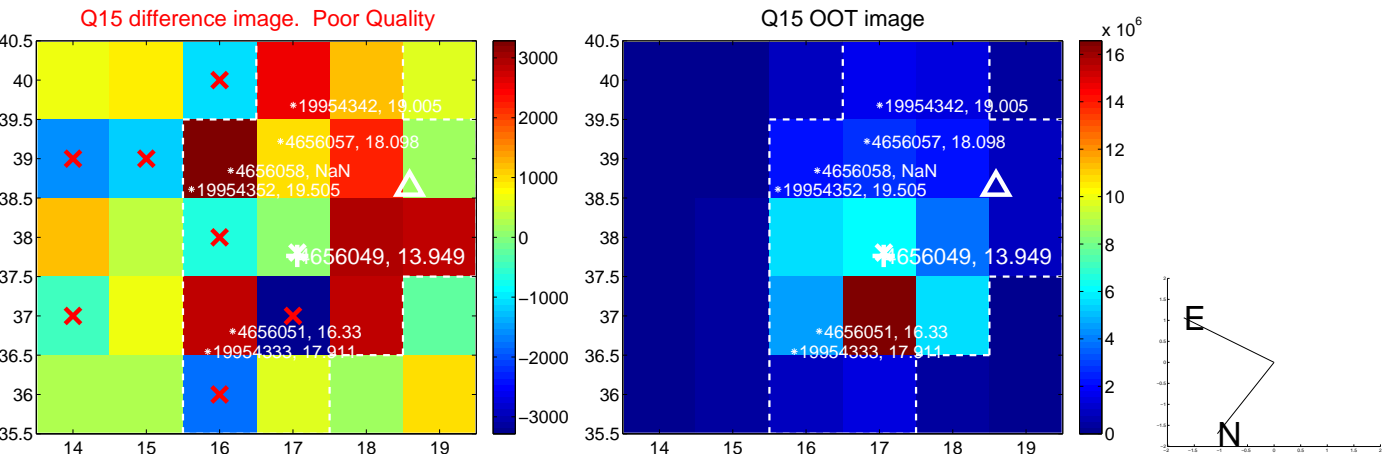
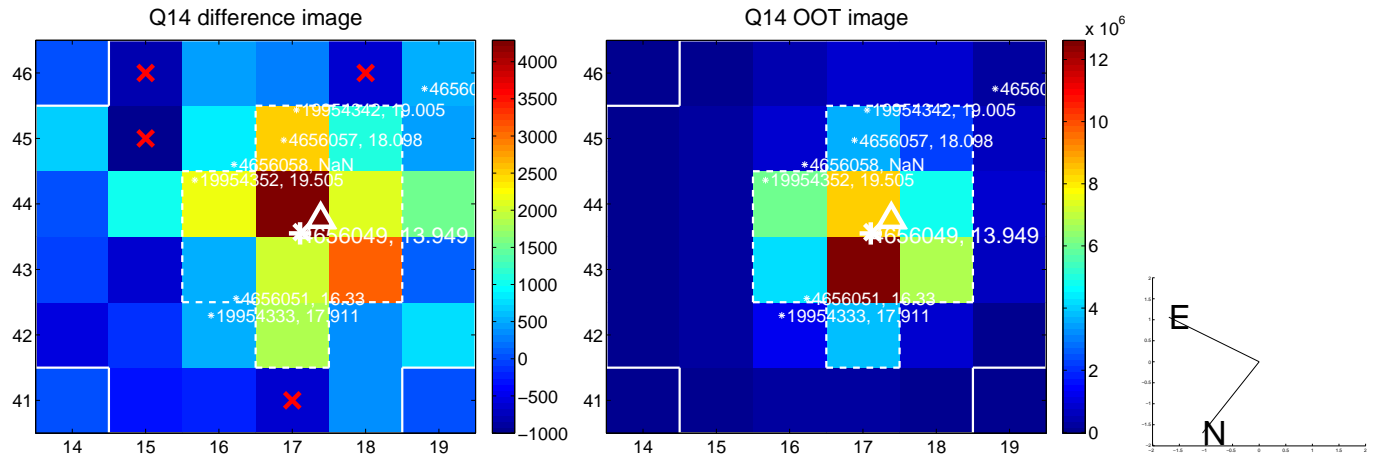
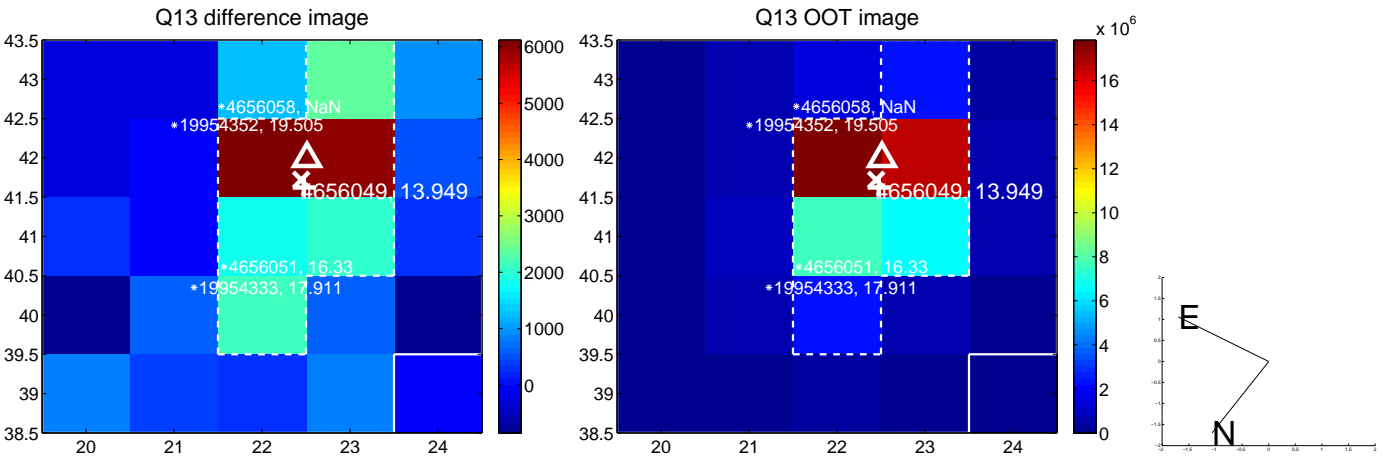
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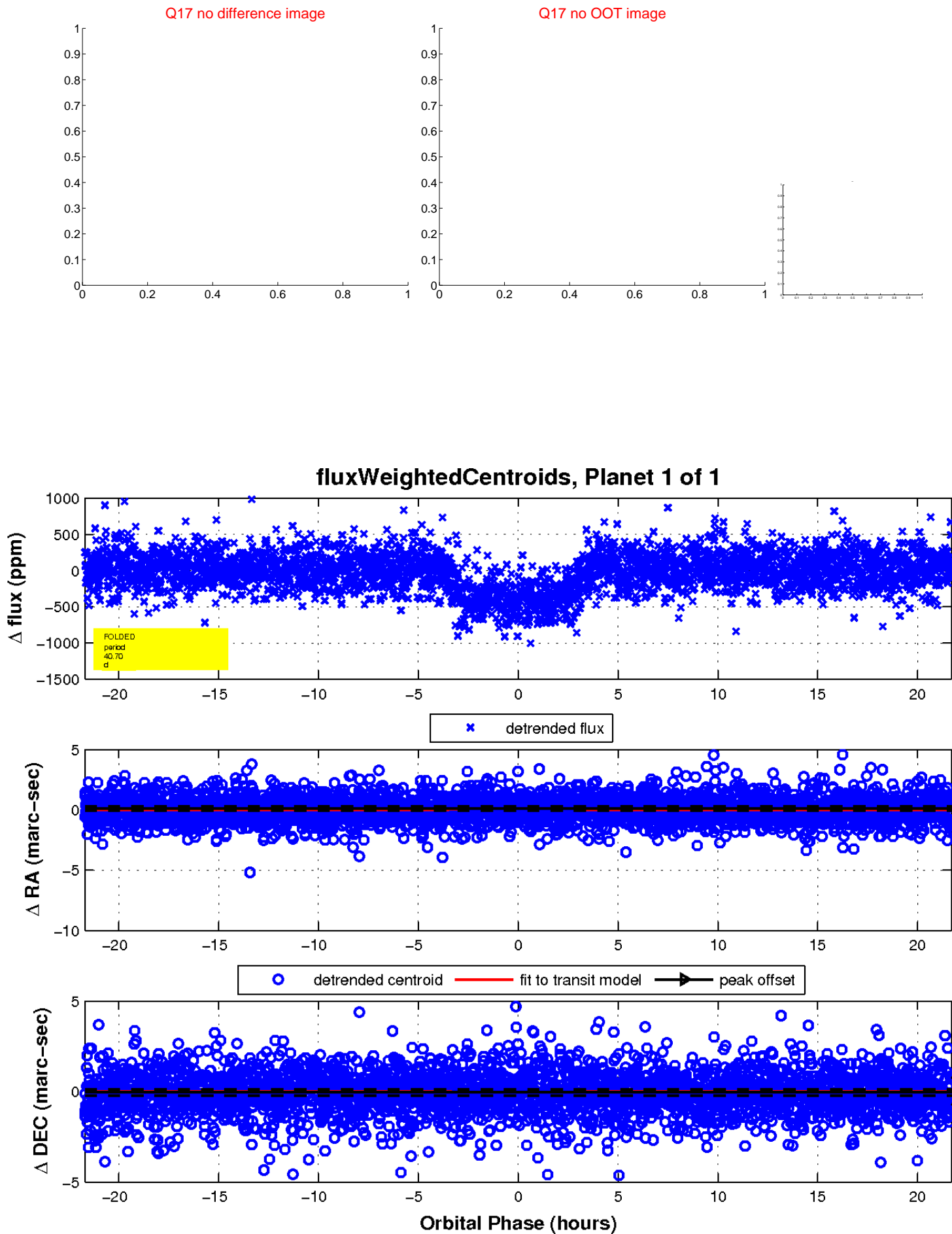
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UKIRT Image

Declination

