

# KIC 004077625

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
004077625-01	OBS	No	4.556481	133.419413	3.6	29.180	8.0	4.6	2.12	9898	0.44	7508.08

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004077625-01	OBS	FP	0.00	1	0	0	0	<del>SWEET_NTL</del> — <del>LPP_DV</del> — <del>MOD_NONUNIQ_DV</del> — <del>CENT_SATURATED</del>

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

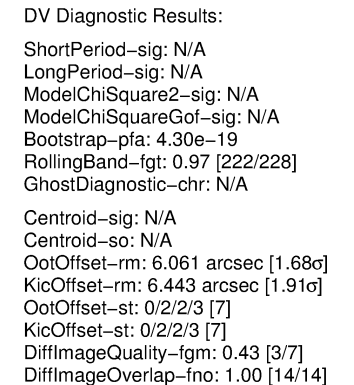
N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.

See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

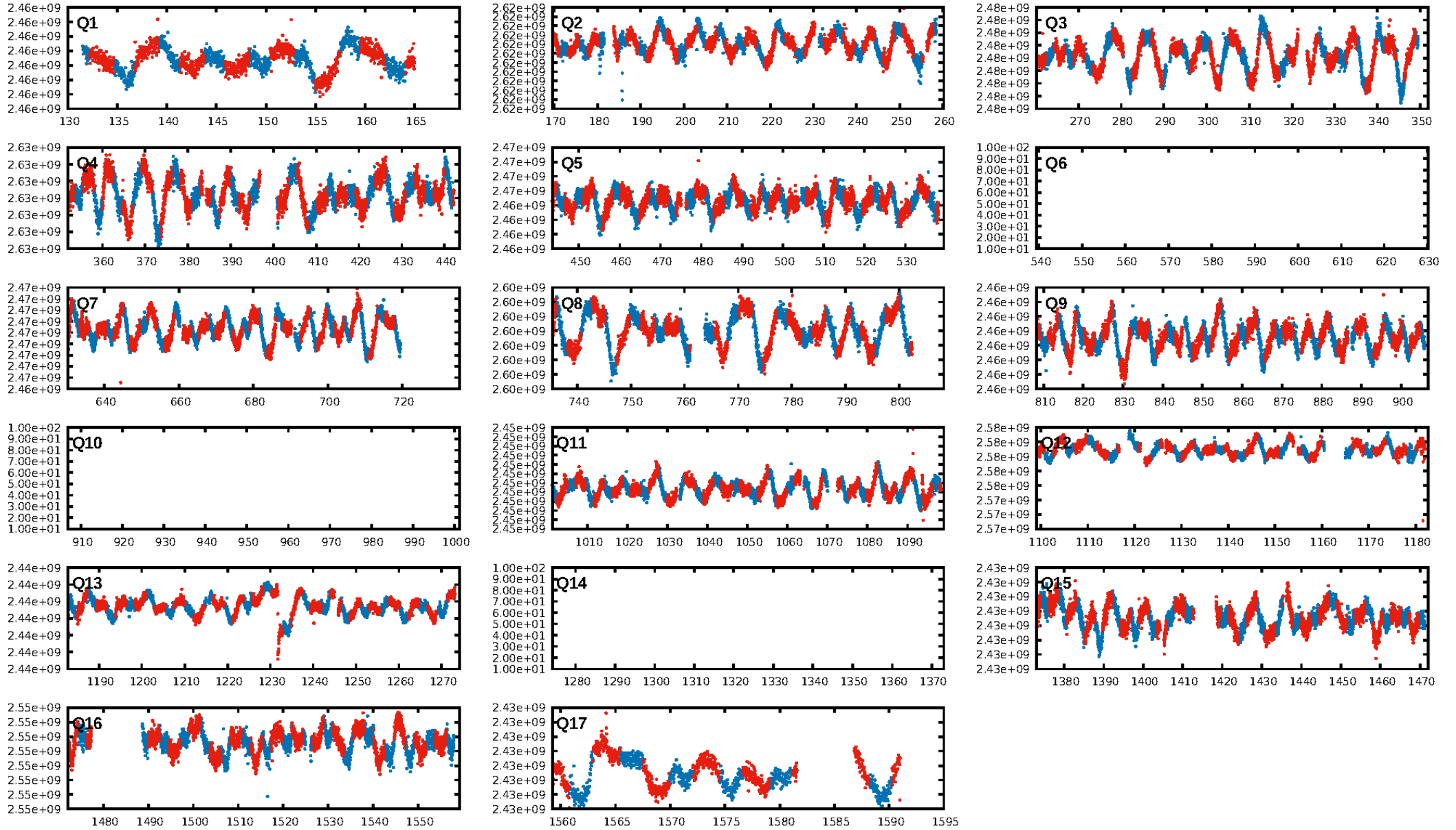
## Ephemeris Match Information For 004077625-01

No Significant Match Found

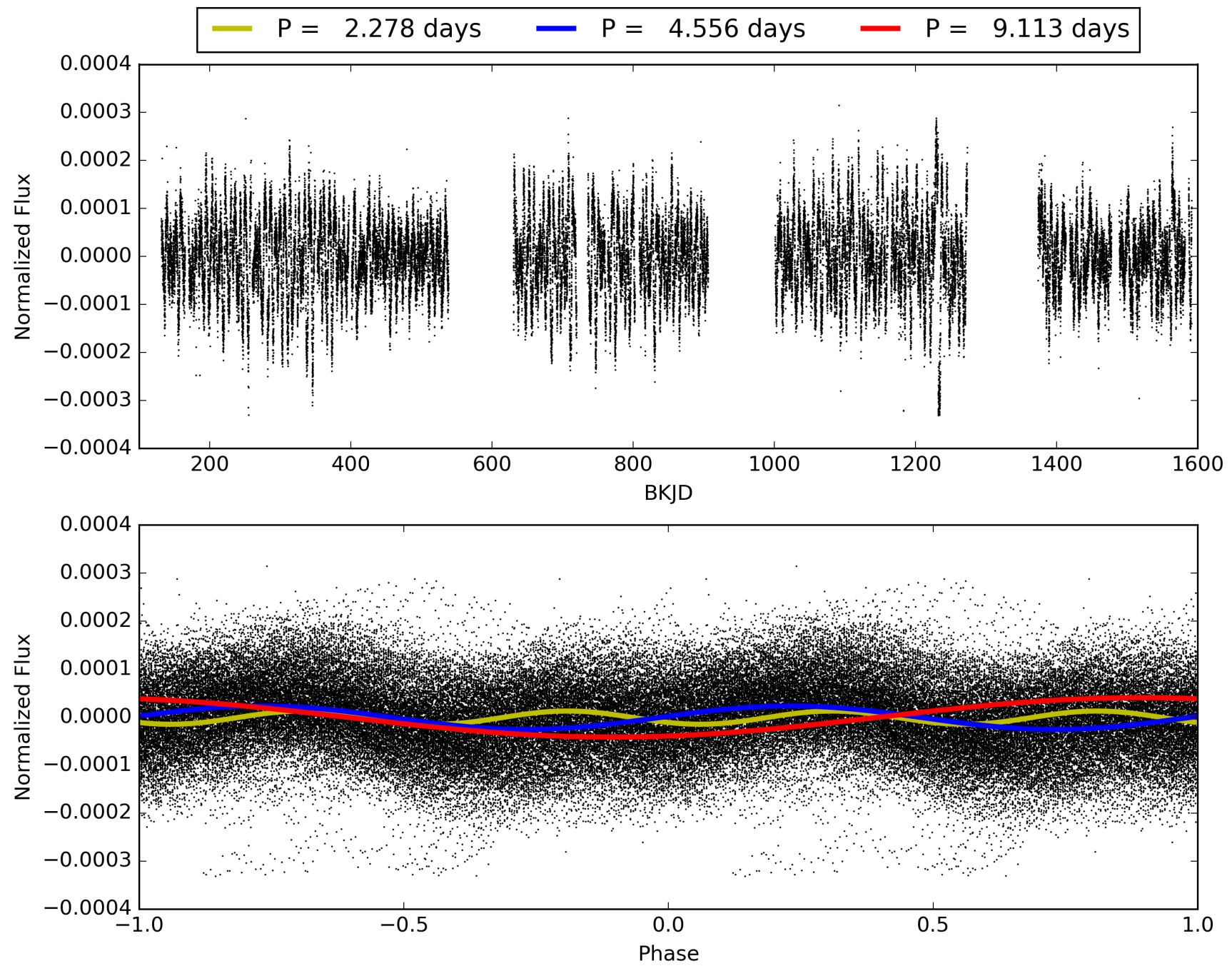
## KIC: 4077625    Candidate: 1 of 1    Period: 4.556 d



# TCE 004077625-01, PDC Light Curves

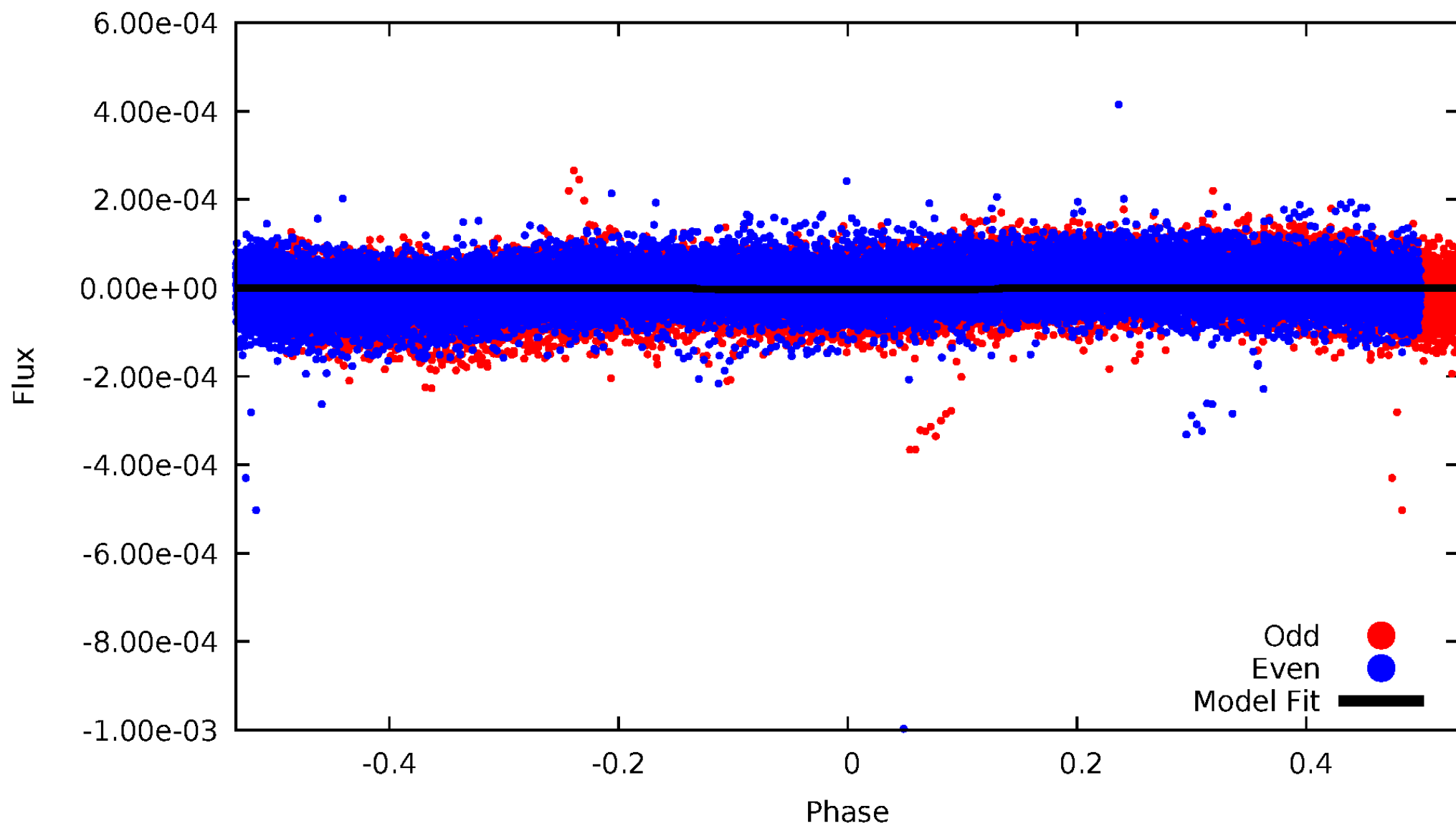


TCE 004077625-01



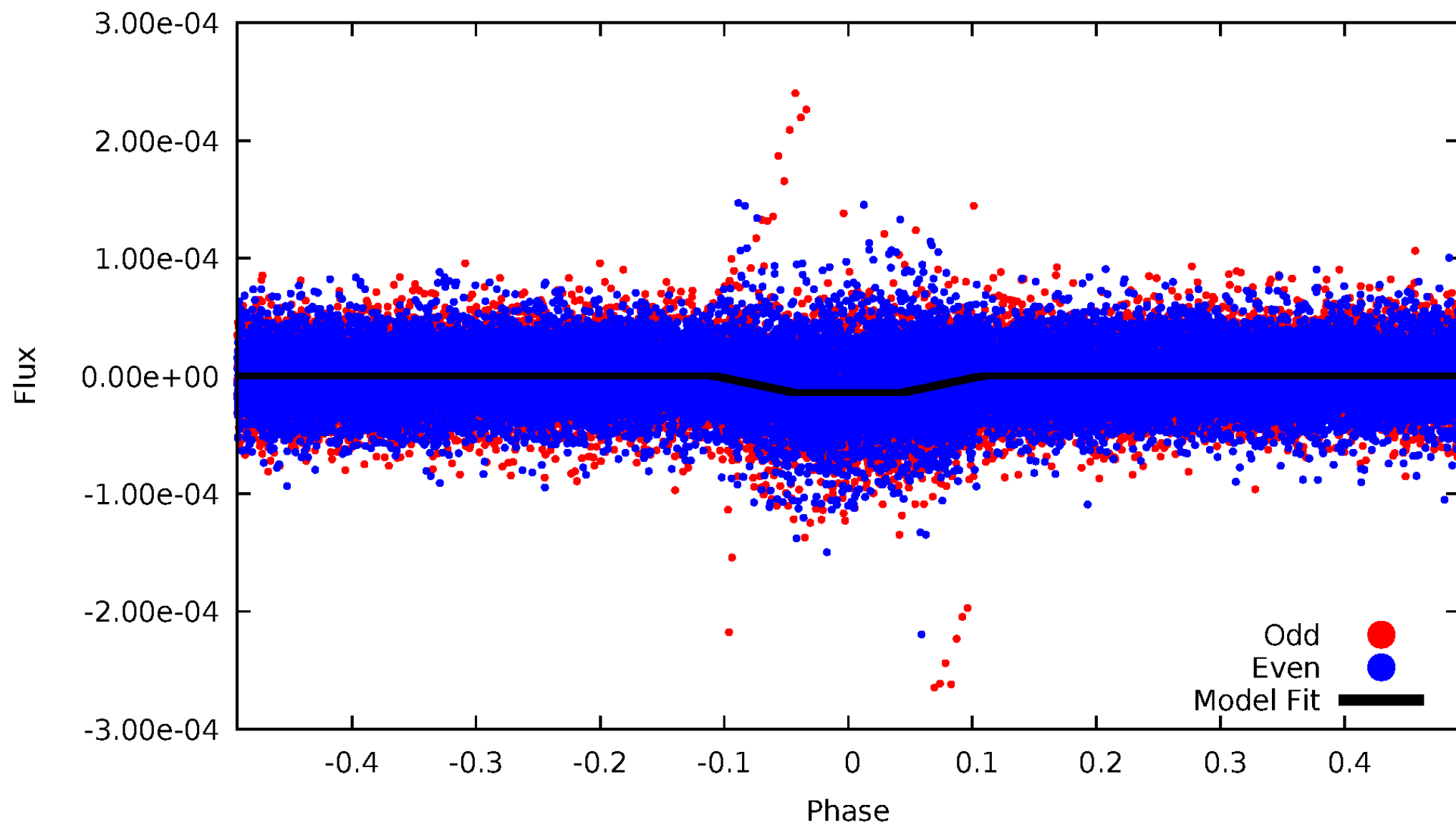
# DV Odd/Even

TCE 004077625-01



# ALT Odd/Even

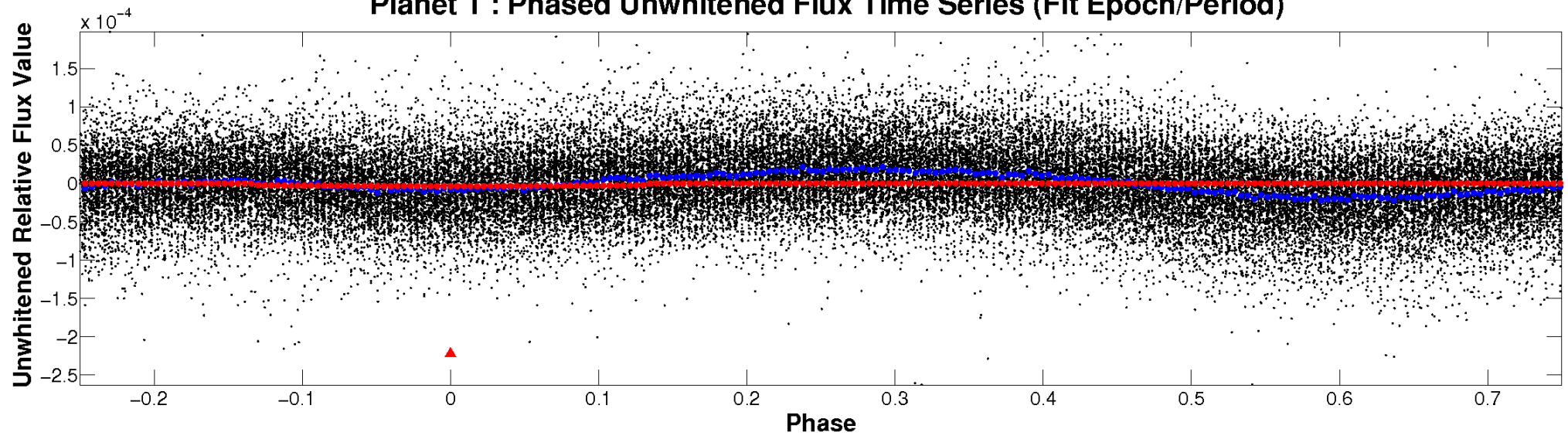
TCE 004077625-01



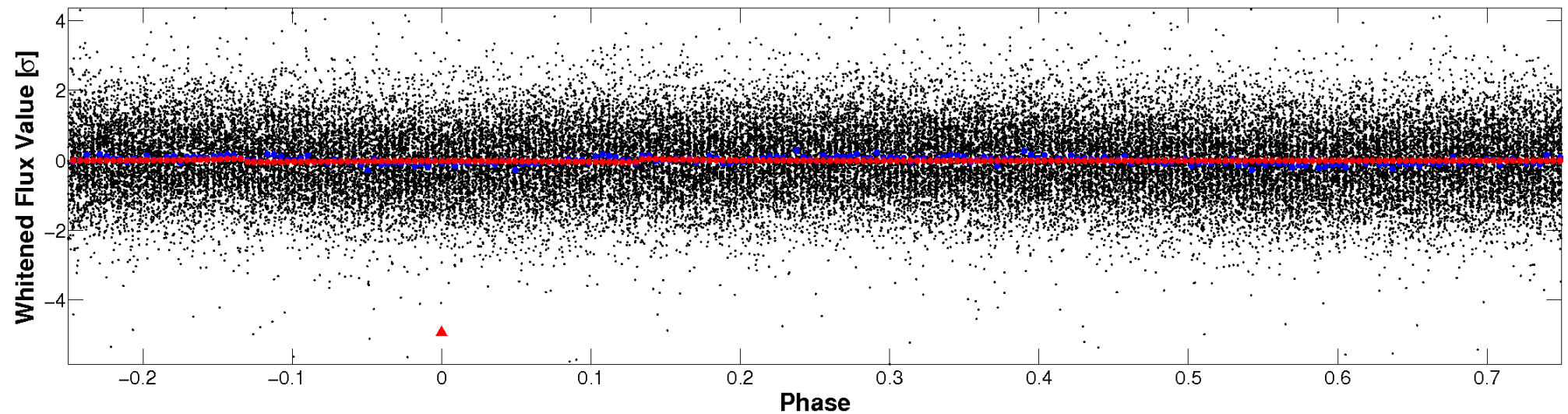


# Non-Whitened Vs. Whitened Light Curve

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

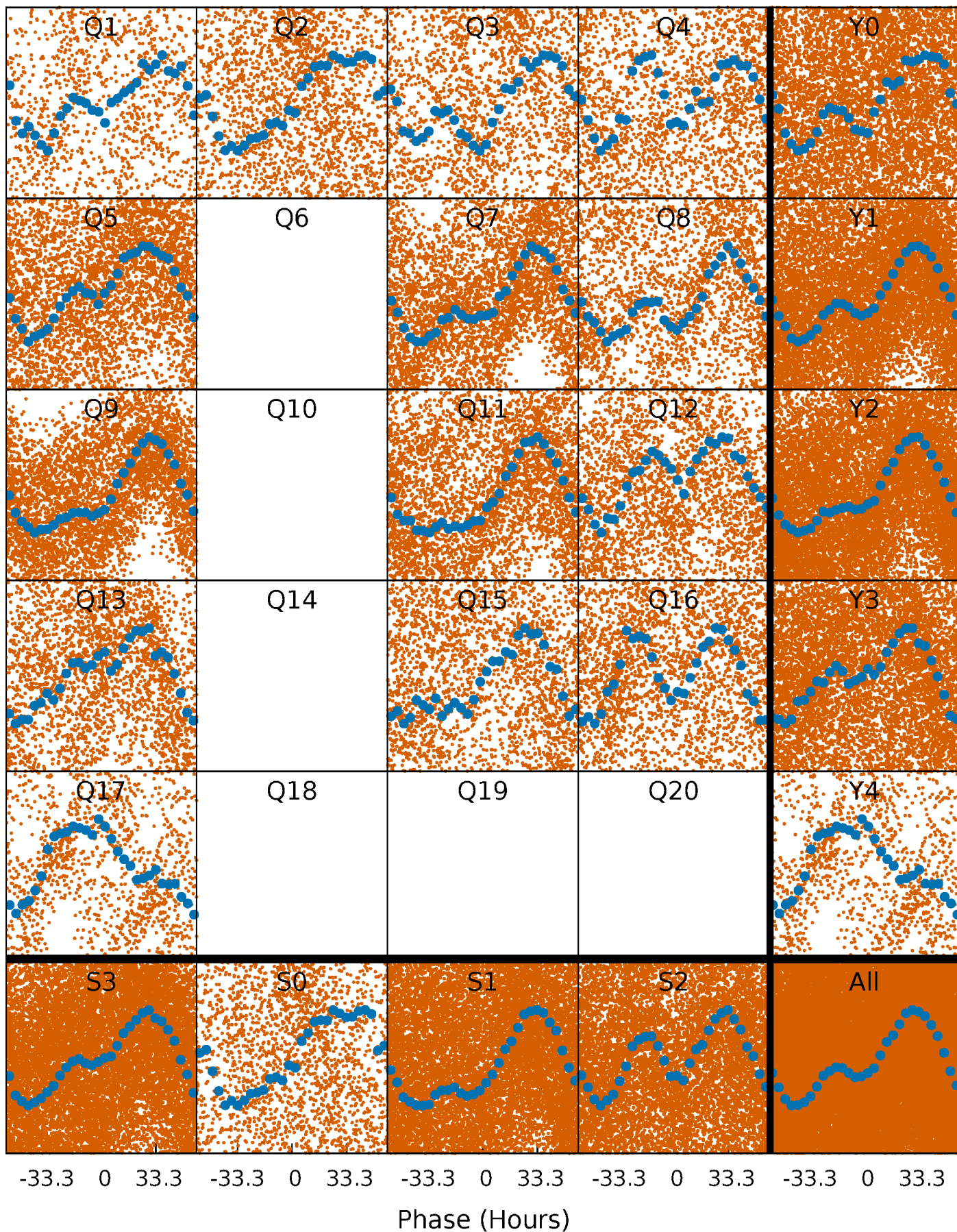


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

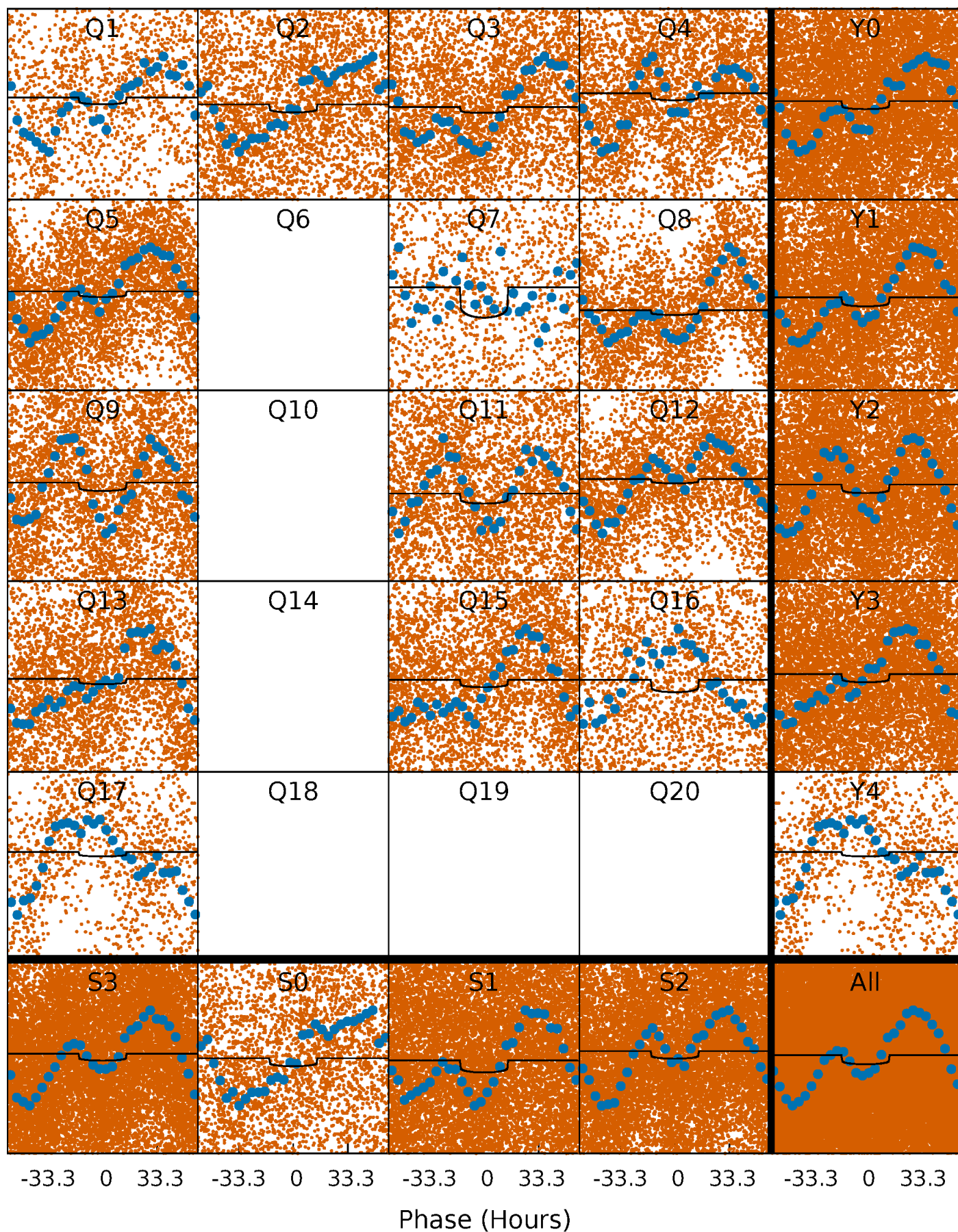
TCE 004077625-01 P= 4.556481 Days  $T_0=133.419413$  (BKJD)





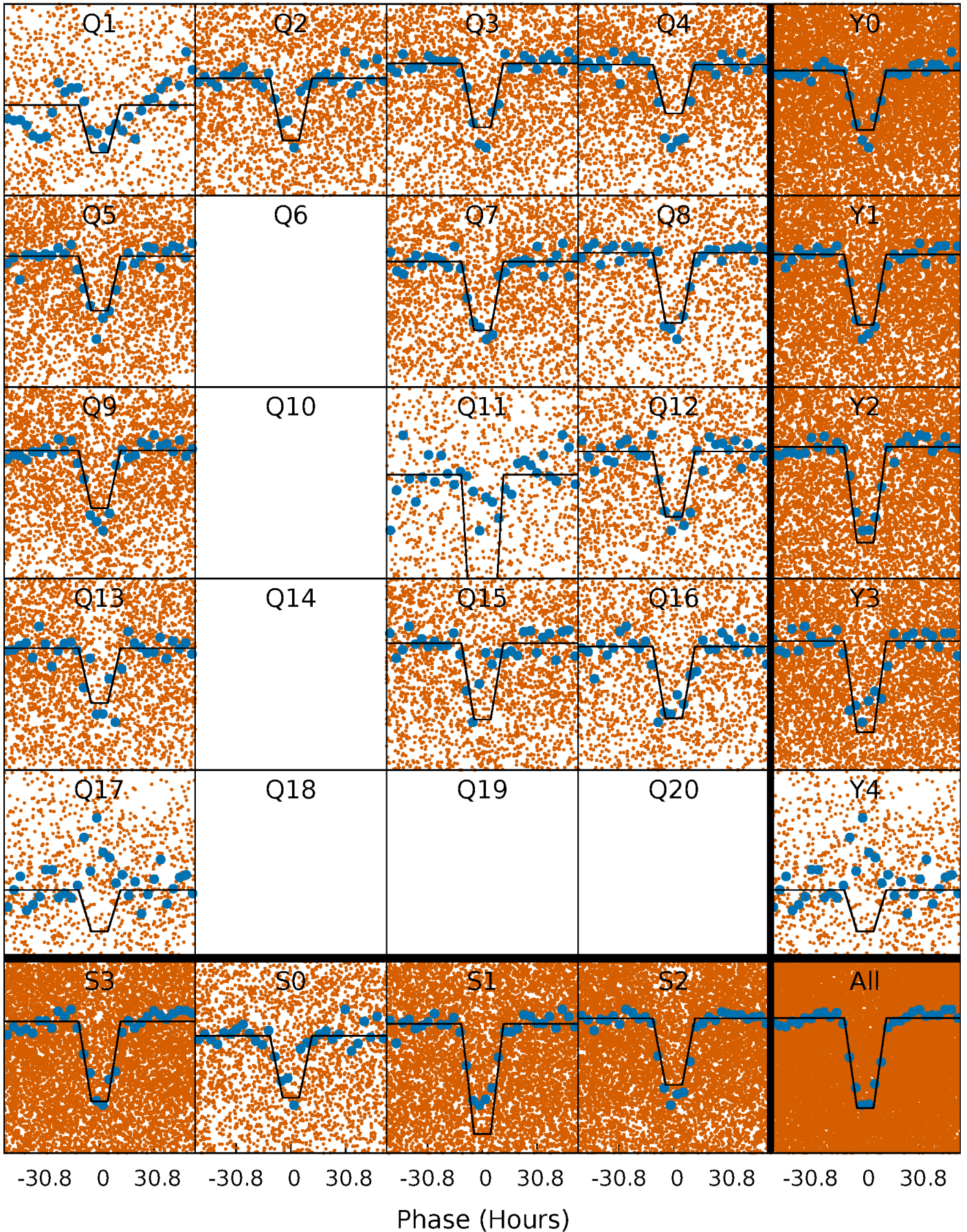
# DV Quarter-Phased Transit Curves

TCE 004077625-01 P= 4.556481 Days  $T_0=133.419413$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

TCE 004077625-01 P= 4.556294 Days  $T_0=133.437027$  (BKJD)

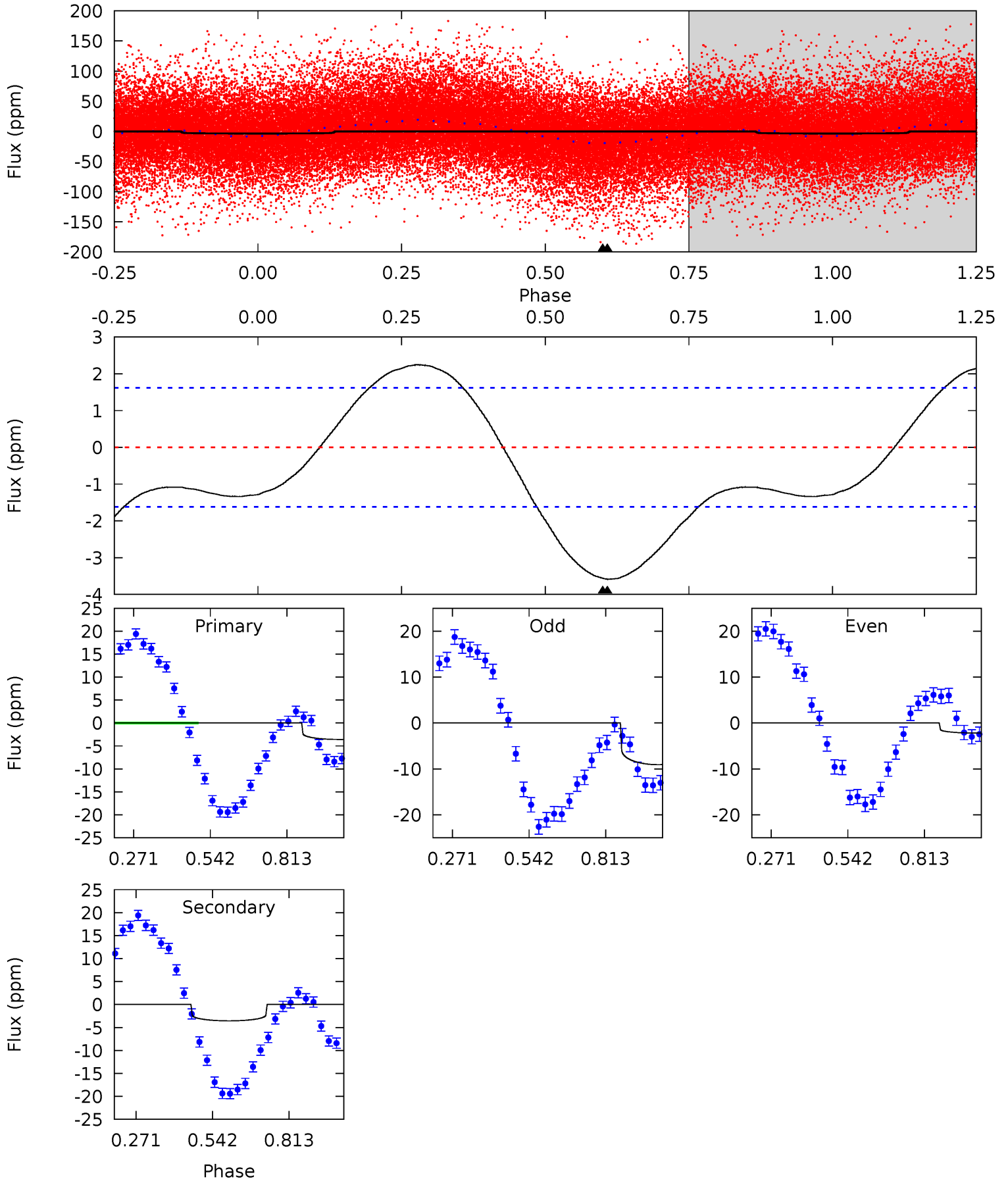




# DV Model-Shift Uniqueness Test

004077625-01, P = 4.556481 Days, E = 128.862932 Days

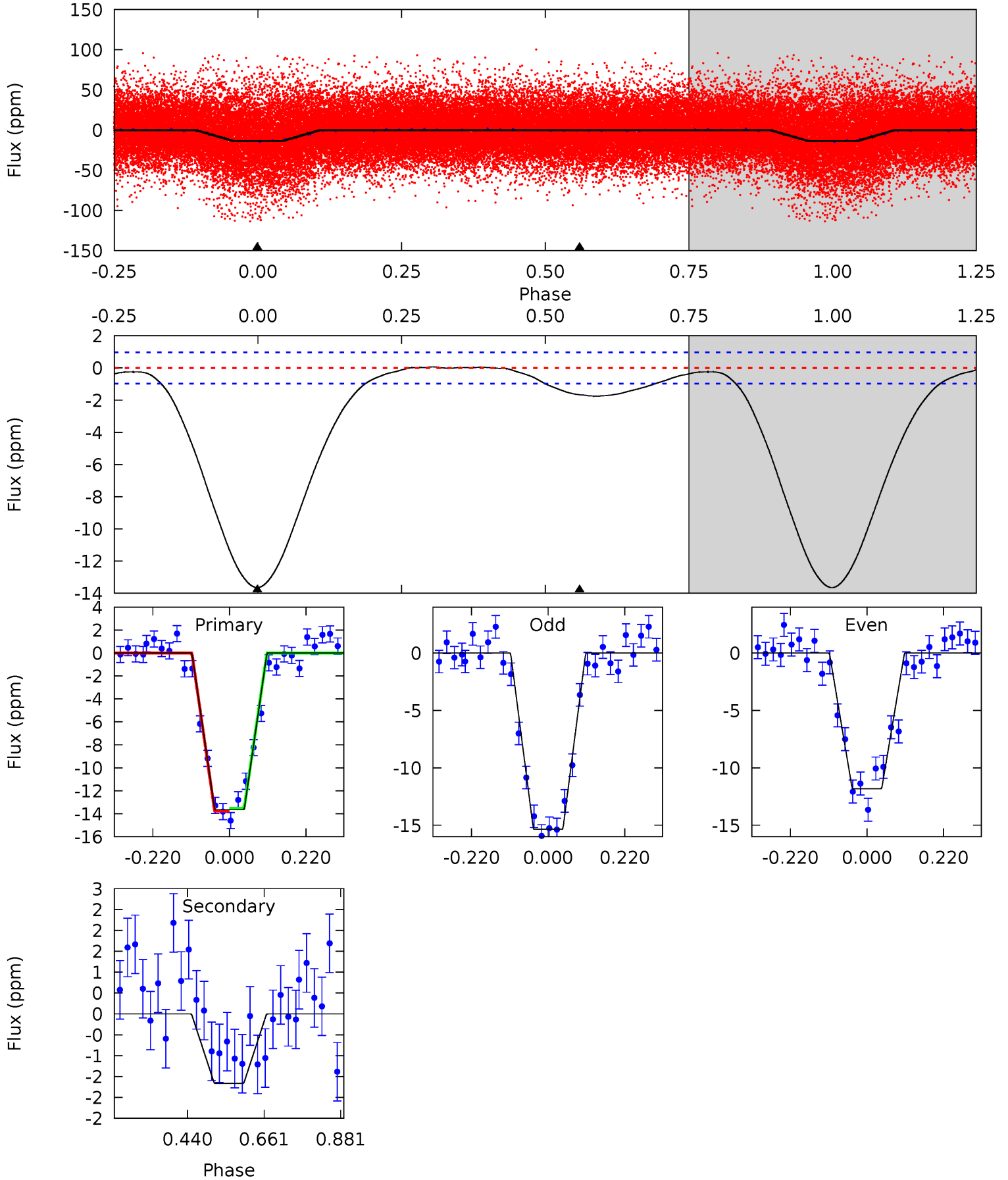
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.65	9.57	0	0	4.35	1.10	3.84	9.65	9.65	9.57	9.57	9.62	1.68	0.39	4.26



# Alt Model-Shift Uniqueness Test

004077625-01, P = 4.556294 Days, E = 128.880733 Days

Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
61.9	7.54	0	0	4.40	1.23	0.60	61.9	61.9	7.54	7.54	8.01	1.00	0.01	0.60





### Stellar Parameters For KIC 004077625

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$9898^{+308}_{-445}$	$4.160^{+0.180}_{-0.220}$	$0.070^{+0.150}_{-0.600}$	$2.118^{+0.863}_{-0.575}$	$2.366^{+0.401}_{-0.601}$	$0.351^{+0.365}_{-0.206}$
	+3%/-4%	+4%/-5%	+214%/-857%	+41%/-27%	+17%/-25%	+104%/-59%
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 004077625-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$-4 \pm 0$	$0.44^{+0.11}_{-0.10}$	$3332^{+315}_{-264}$	$9908^{+1415}_{-1035}$	$52^{+31}_{-19}$
Alt.	$-2 \pm 0$	$0.89^{+0.20}_{-0.16}$	$3339^{+316}_{-267}$	$5279^{+292}_{-276}$	$5.784^{+2.503}_{-1.889}$

$T_{\text{max}}$  = Theoretical Maximum Planetary Temperature  
 $T_{\text{obs}}$  = Observed Planetary Temperature (Assuming  $A=0.3$ )  
 $A_{\text{obs}}$  = 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  $A_{\text{obs}} \gg 1.0$

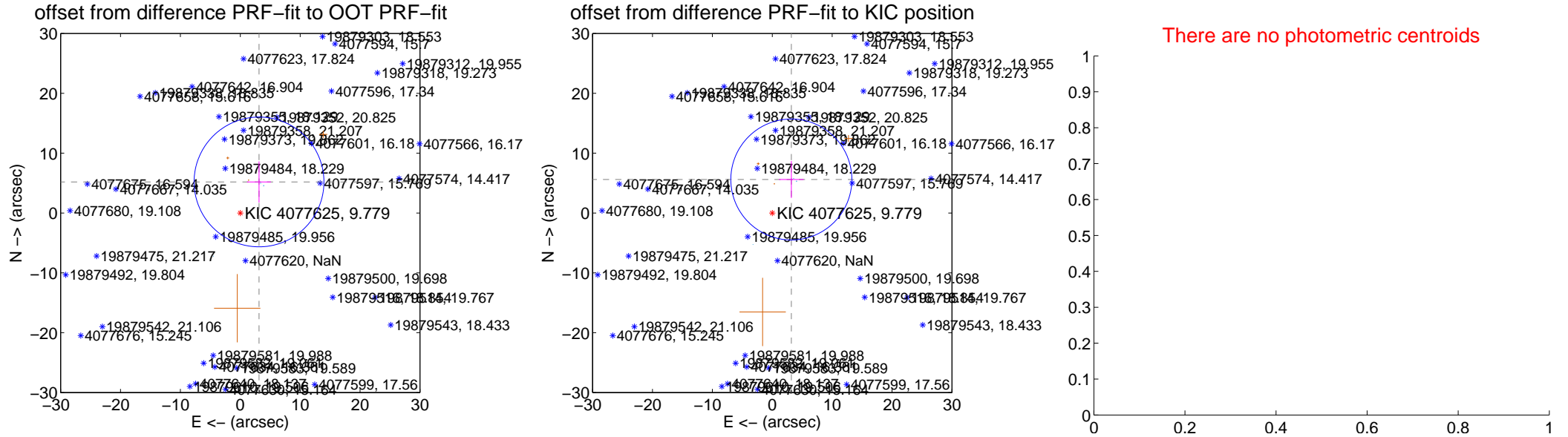
## DV Centroid Data

Supplemental centroid analysis for 004077625-01. **Kepler magnitude: 9.78.** Transit SNR 4.55

**There are 3 quarters with good PRF difference image offsets**

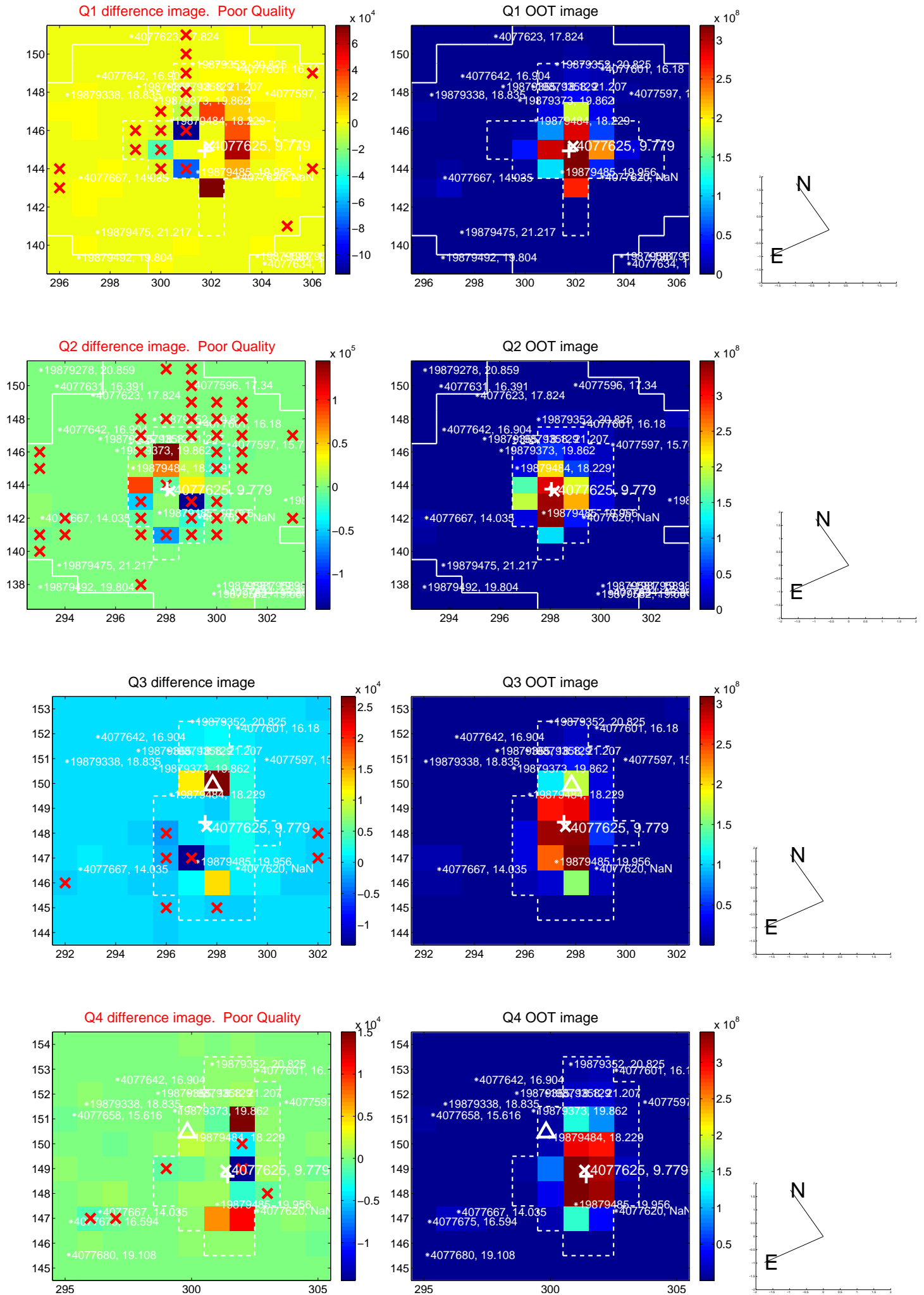
The direct PRF centroid is offset from the target star catalog position by about 1.31 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$6.061 \pm 3.613$	1.68	$-3.127 \pm 1.993$	$5.192 \pm 3.435$
PRF-fit source offset from KIC position	$6.443 \pm 3.368$	1.91	$-3.185 \pm 2.066$	$5.601 \pm 3.085$
photometric centroid source offset	—	—	—	—

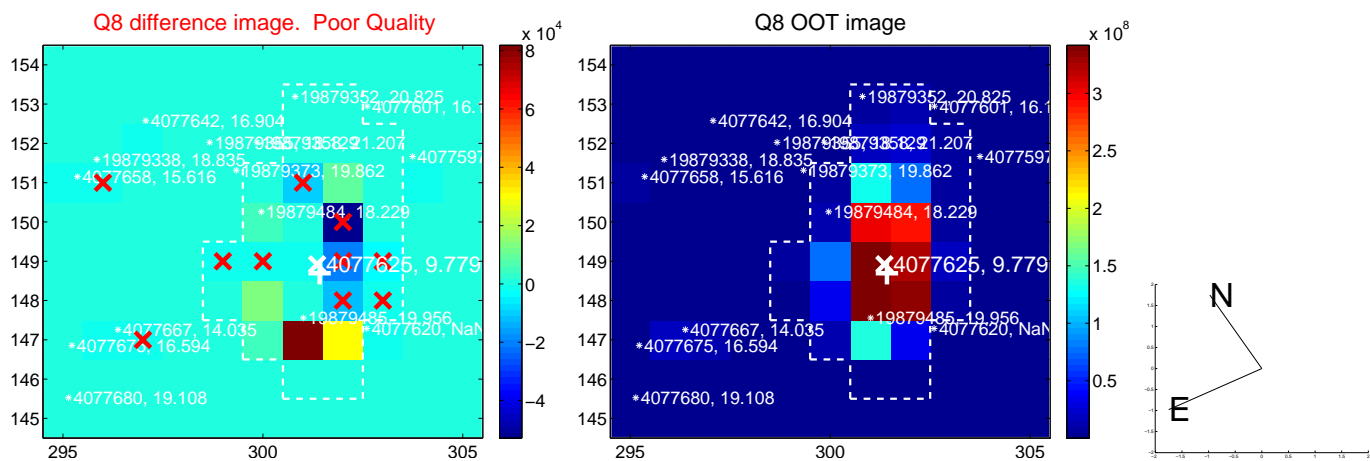
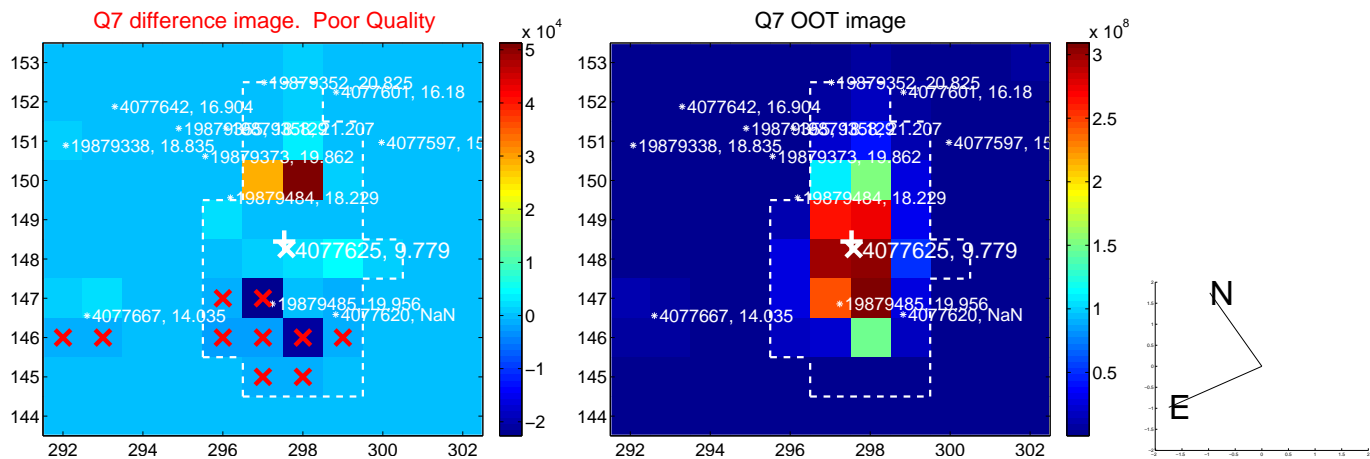
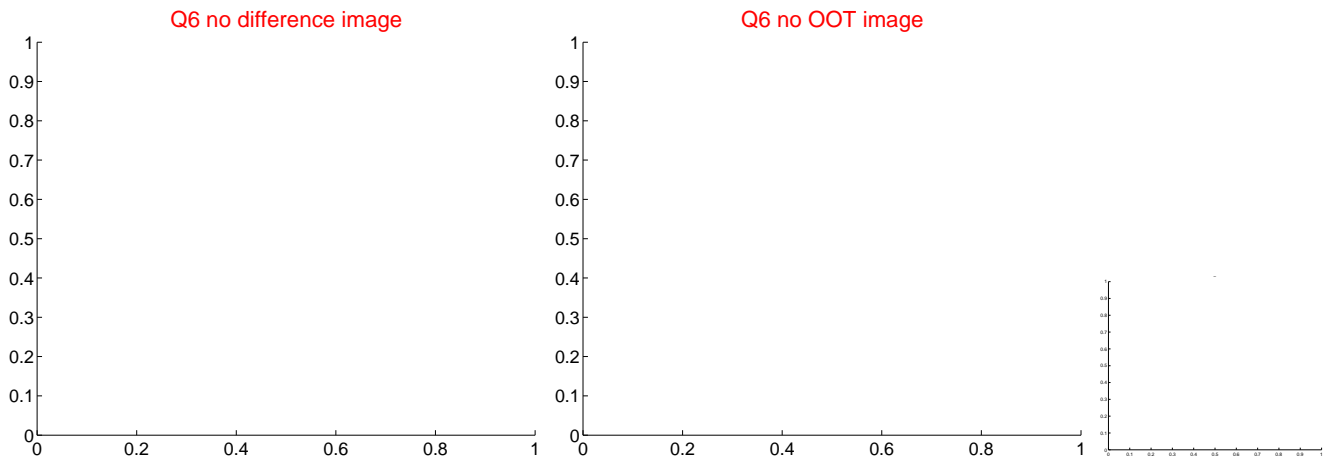
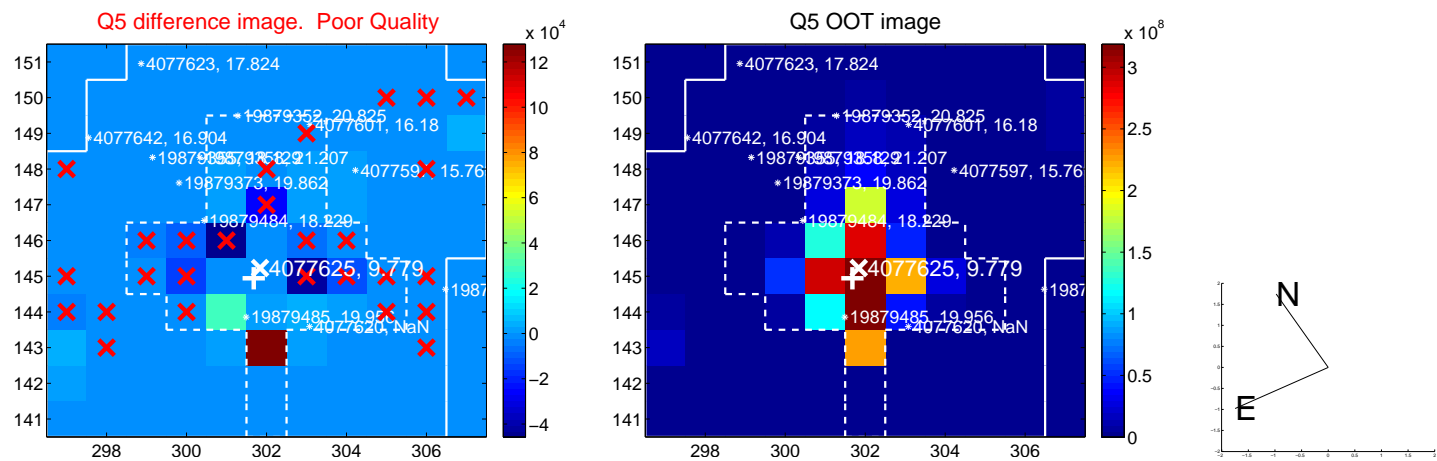


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

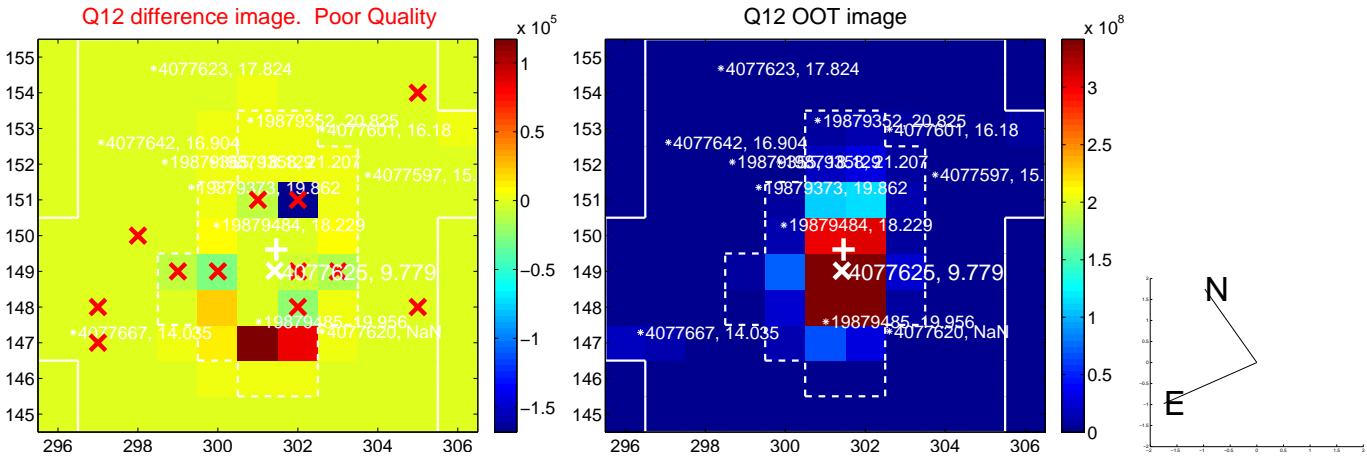
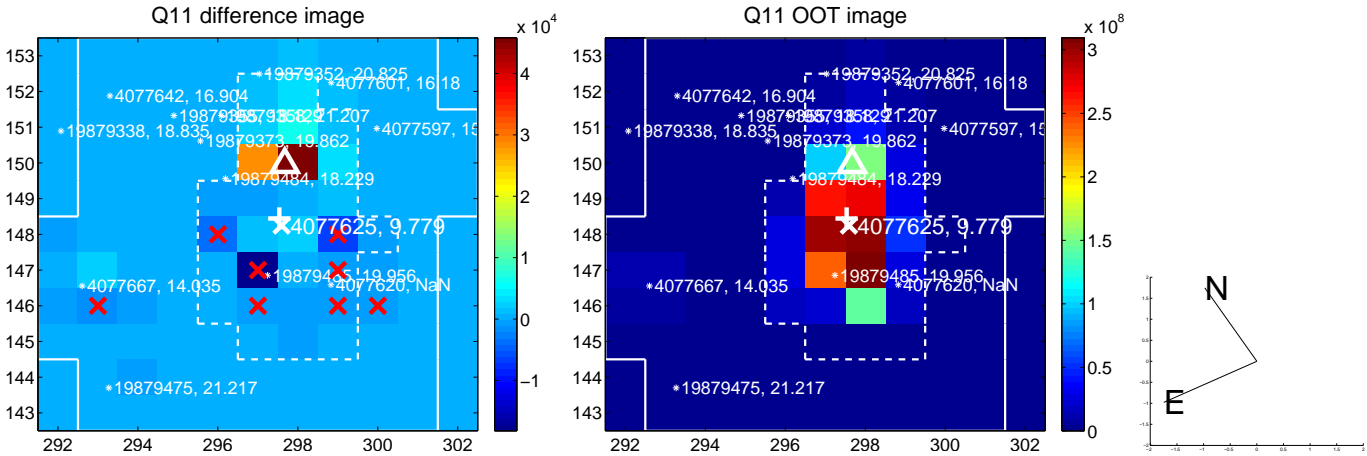
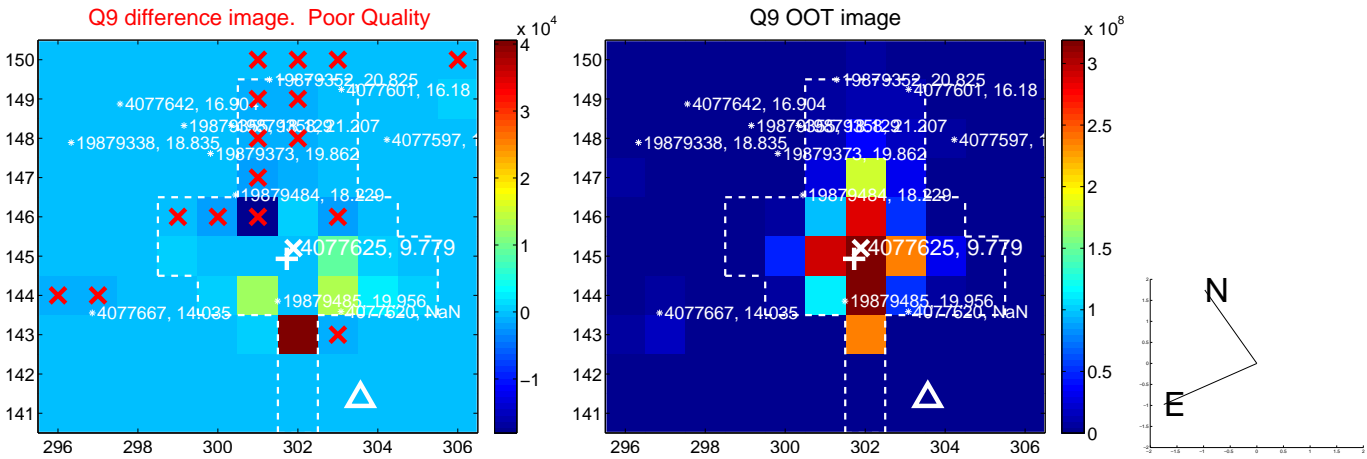


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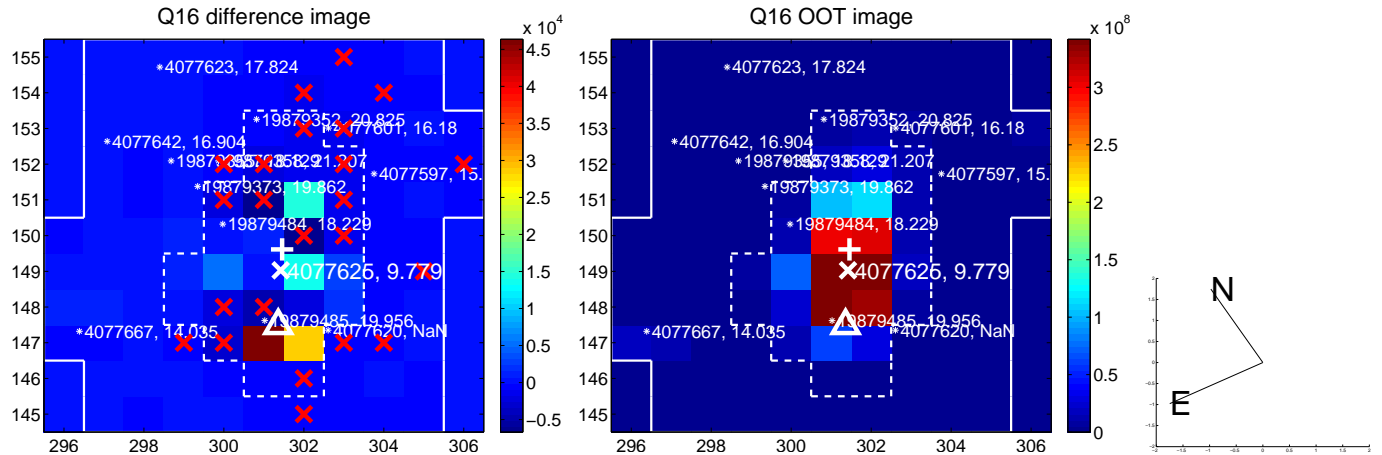
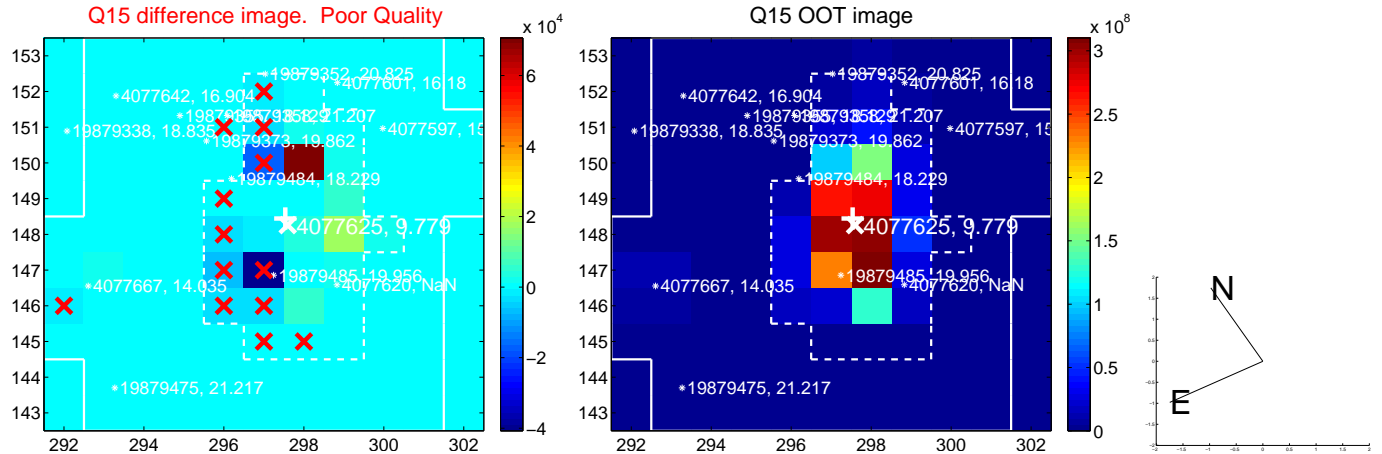
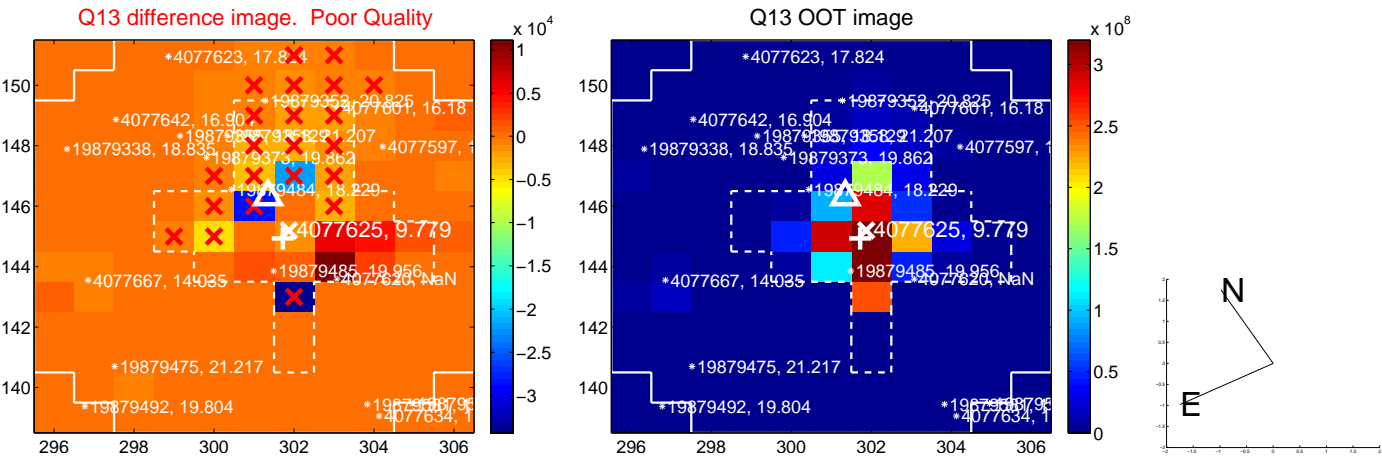




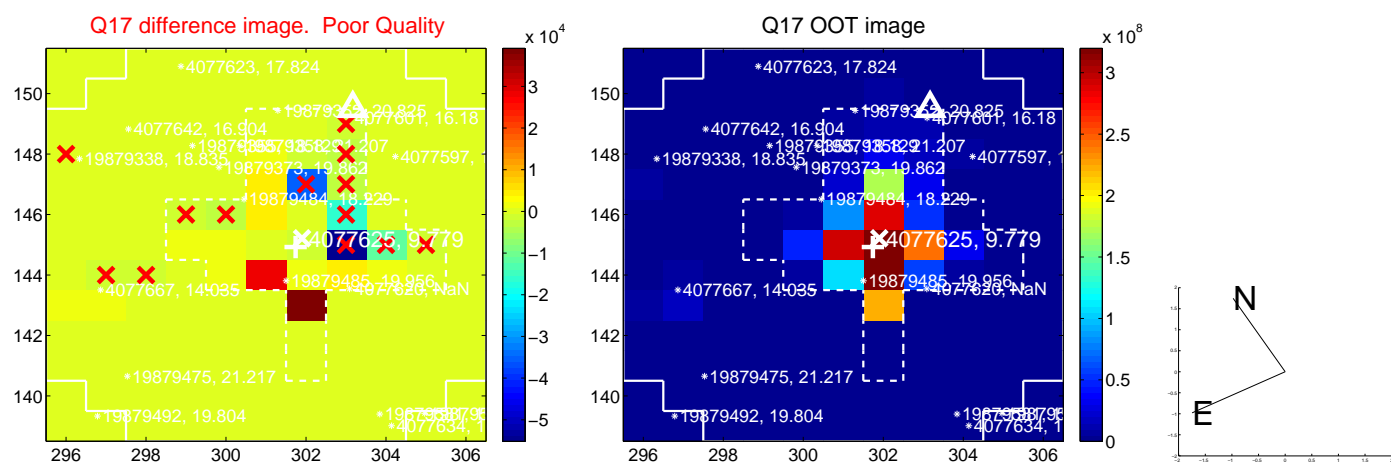
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folded centroid time series figure for this object.



UKIRT Image

