

KIC 004248433

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}) |
|--------------|----------|------|---------------|--------------|-------------|------------------|------|------|-----------------------------|-----------------|------------------------|------------------------|
| 004248433-01 | OBS | No | 2.099460 | 133.370369 | 809.5 | 1.500 | 11.1 | -1.0 | 0.14 | 3000 | 0.41 | 6.09 |

Robovetter Results

| TCE | Run Type | Disp | Score | N | S | C | E | Comments |
|--------------|----------|------|-------|---|---|---|---|--|
| 004248433-01 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—CENT_NOFITS |

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

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

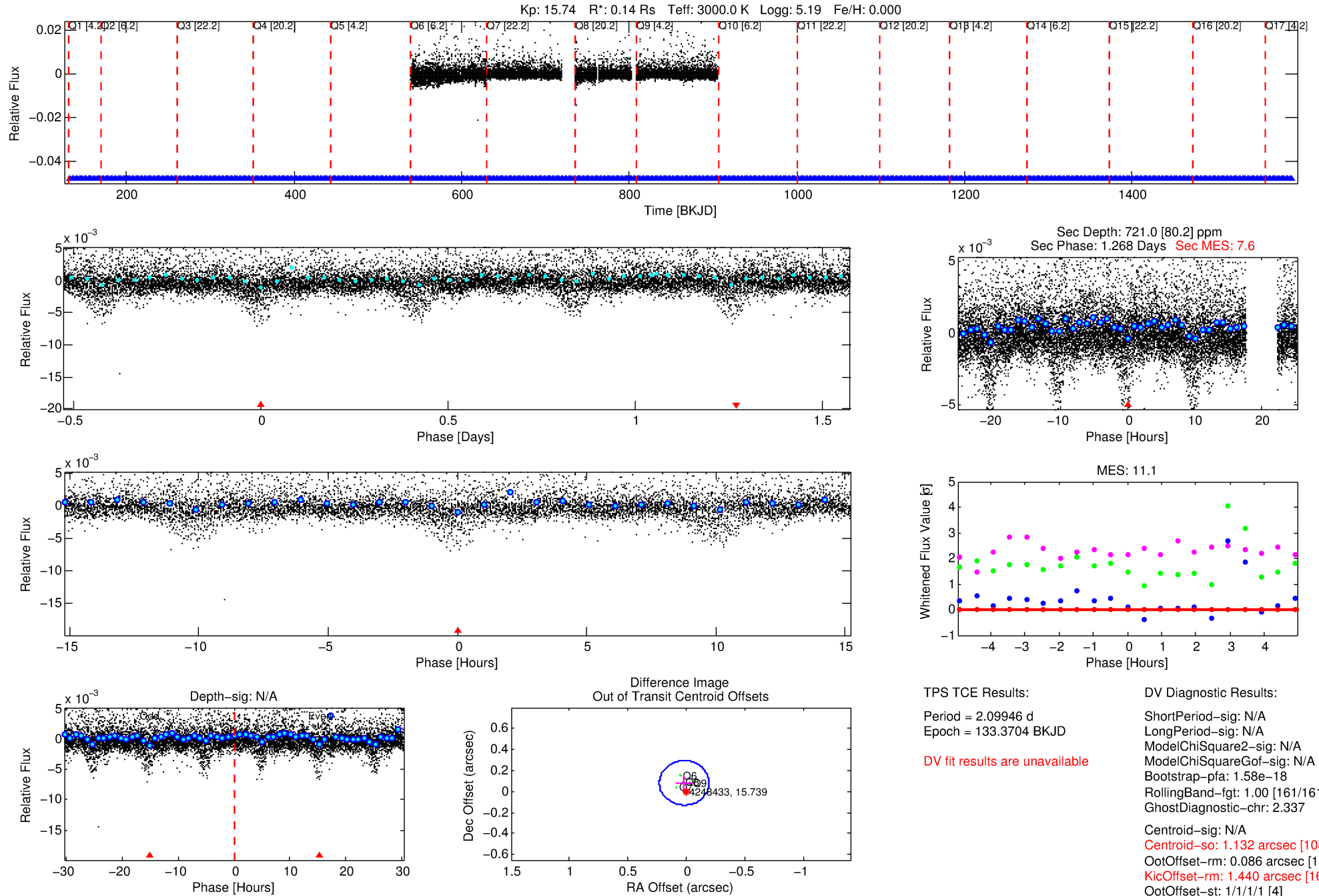
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 004248433-01

No Significant Match Found

DV One-Page Summary

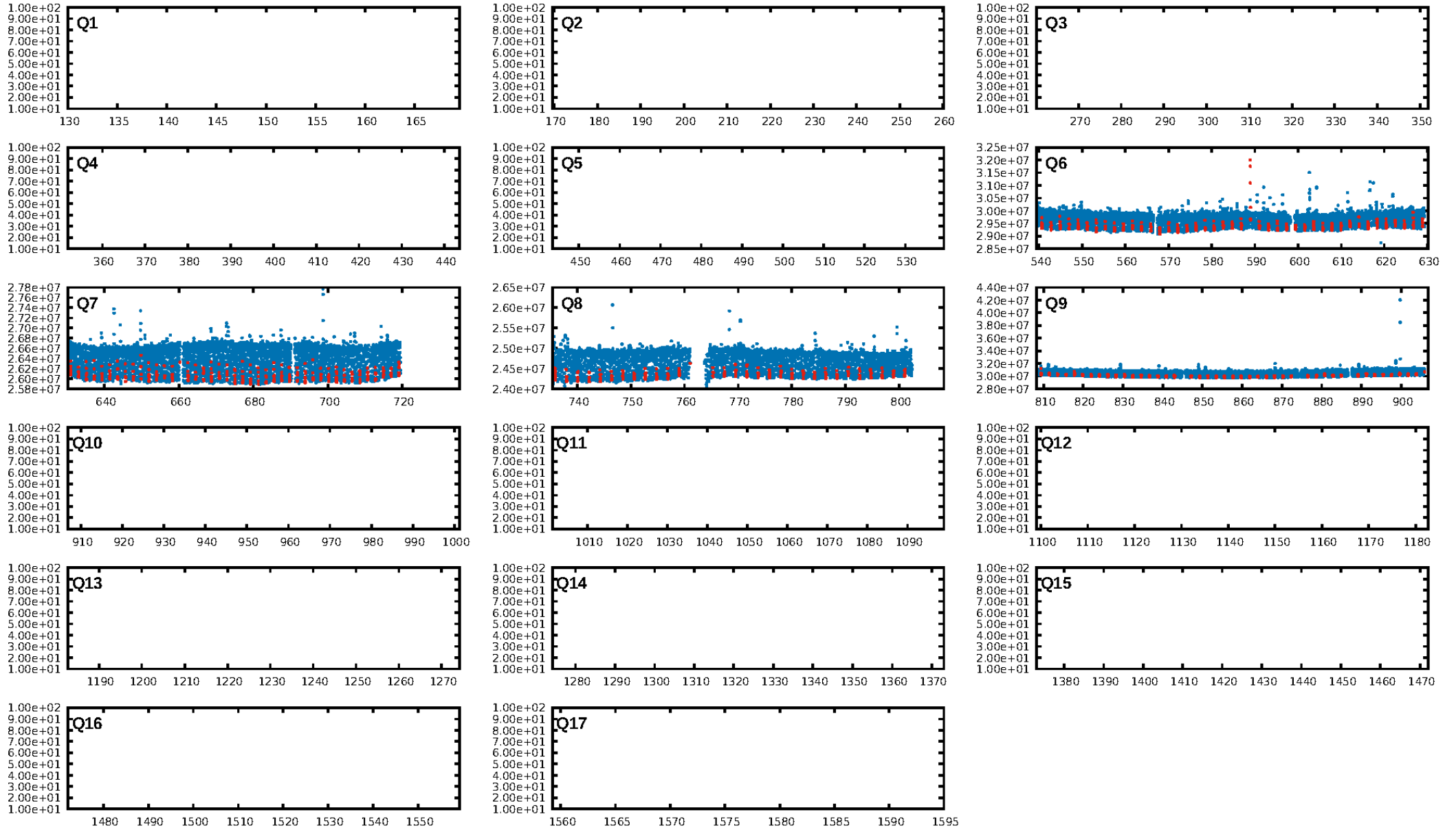
KIC: 4248433 Candidate: 1 of 1 Period: 2.099 d



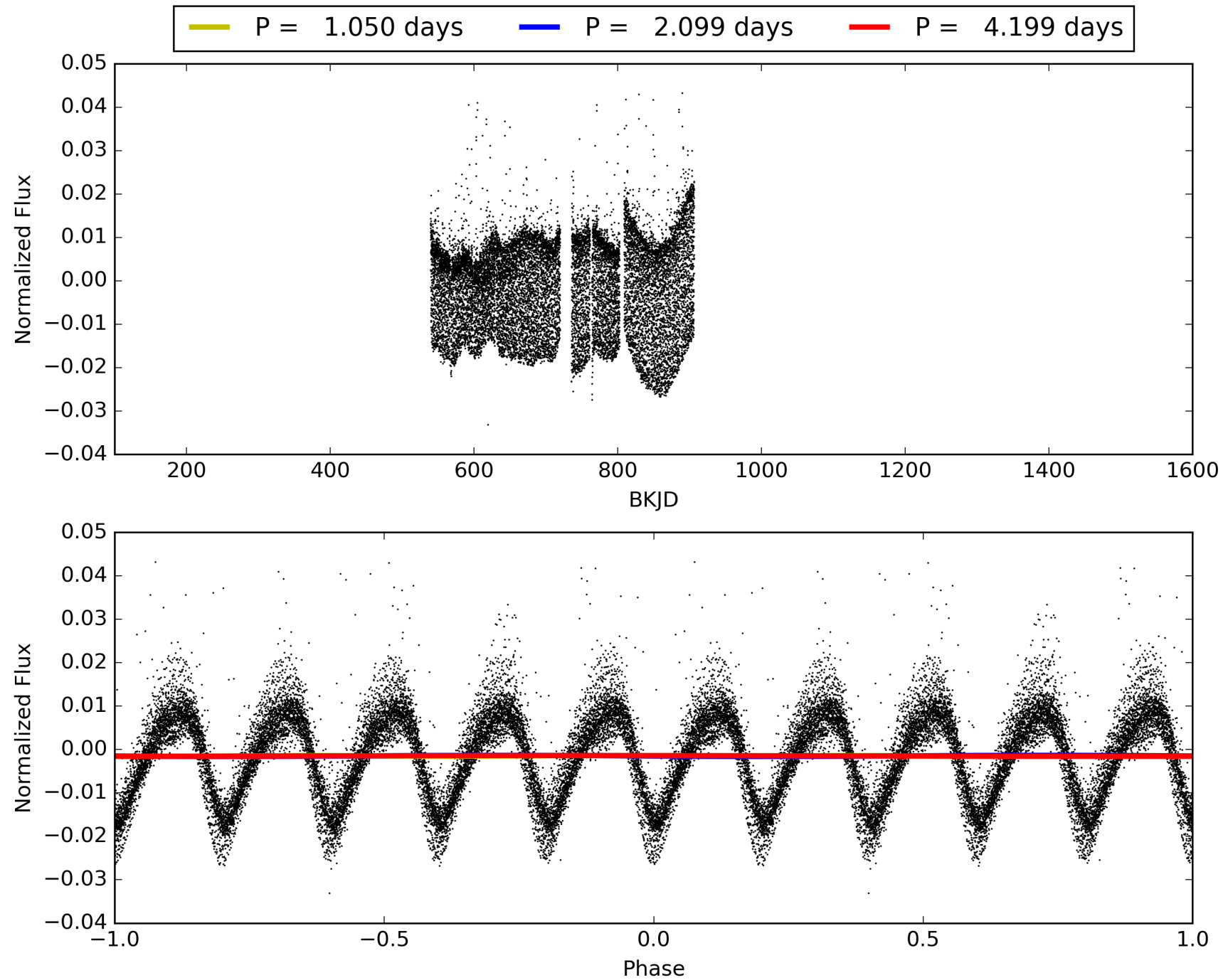
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 16:26:39 Z

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

TCE 004248433-01, PDC Light Curves

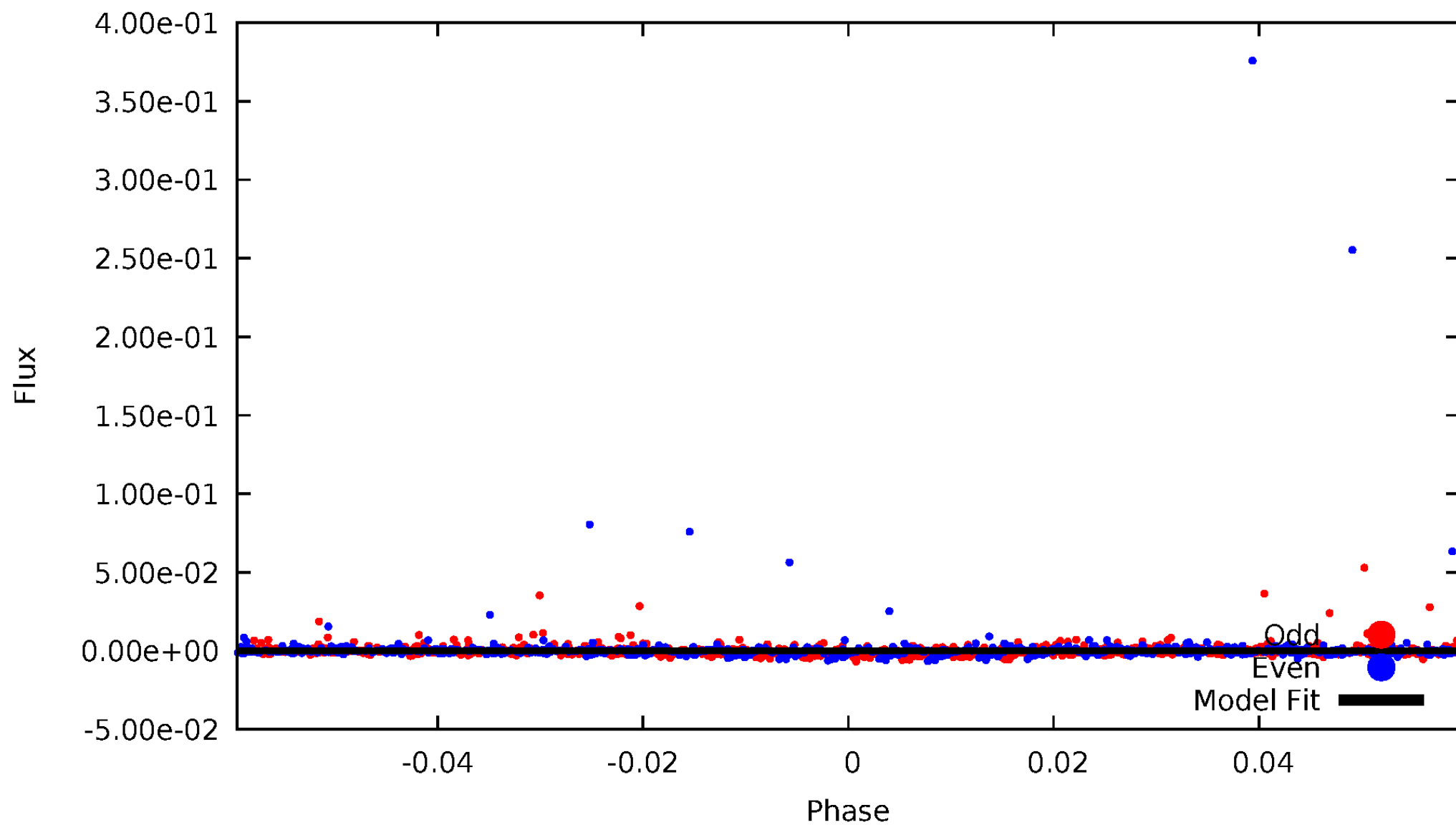


TCE 004248433-01



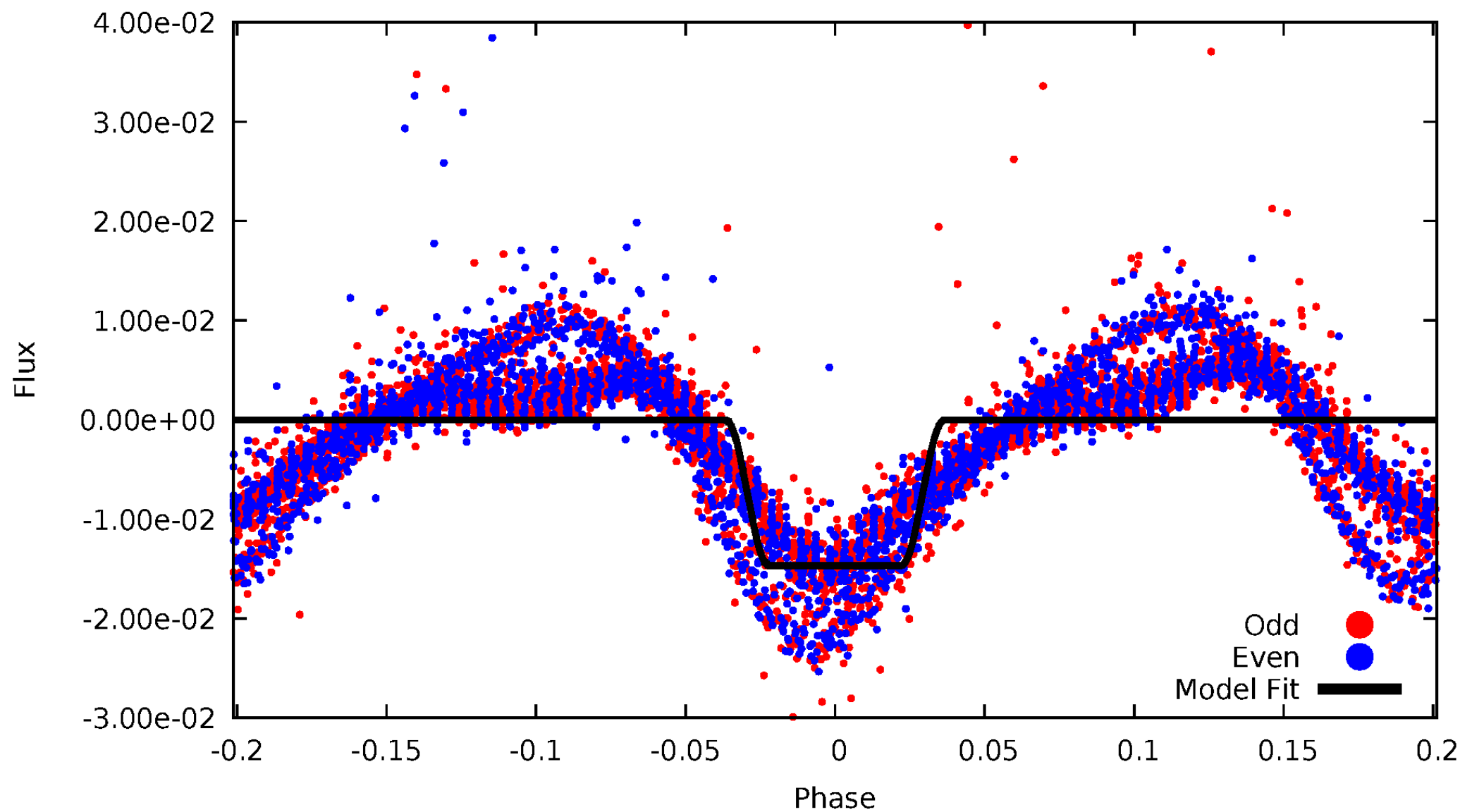
DV Odd/Even

TCE 004248433-01



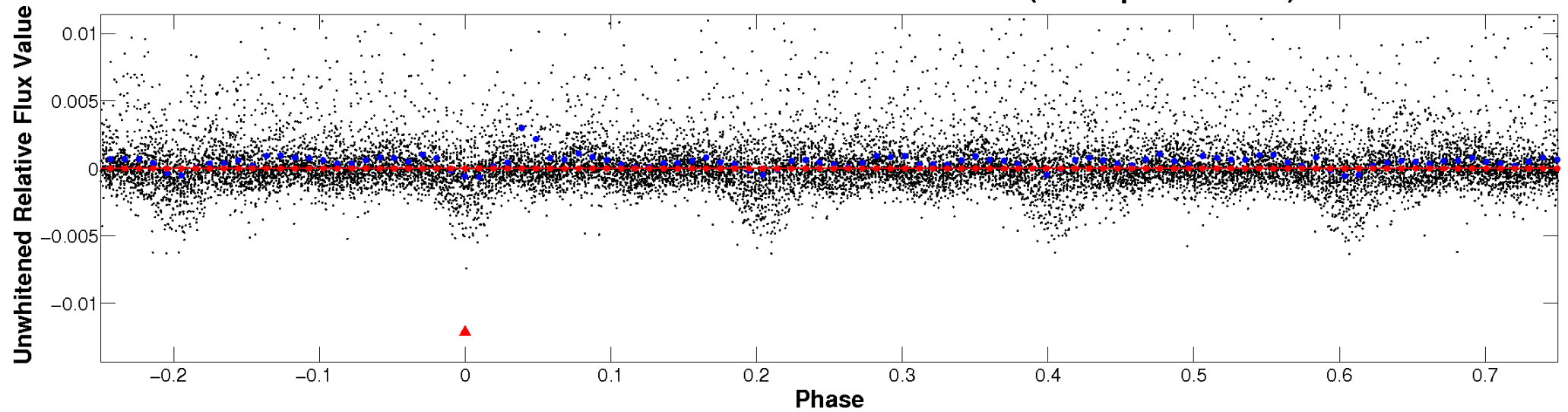
ALT Odd/Even

TCE 004248433-01



Non-Whitened Vs. Whitened Light Curve

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

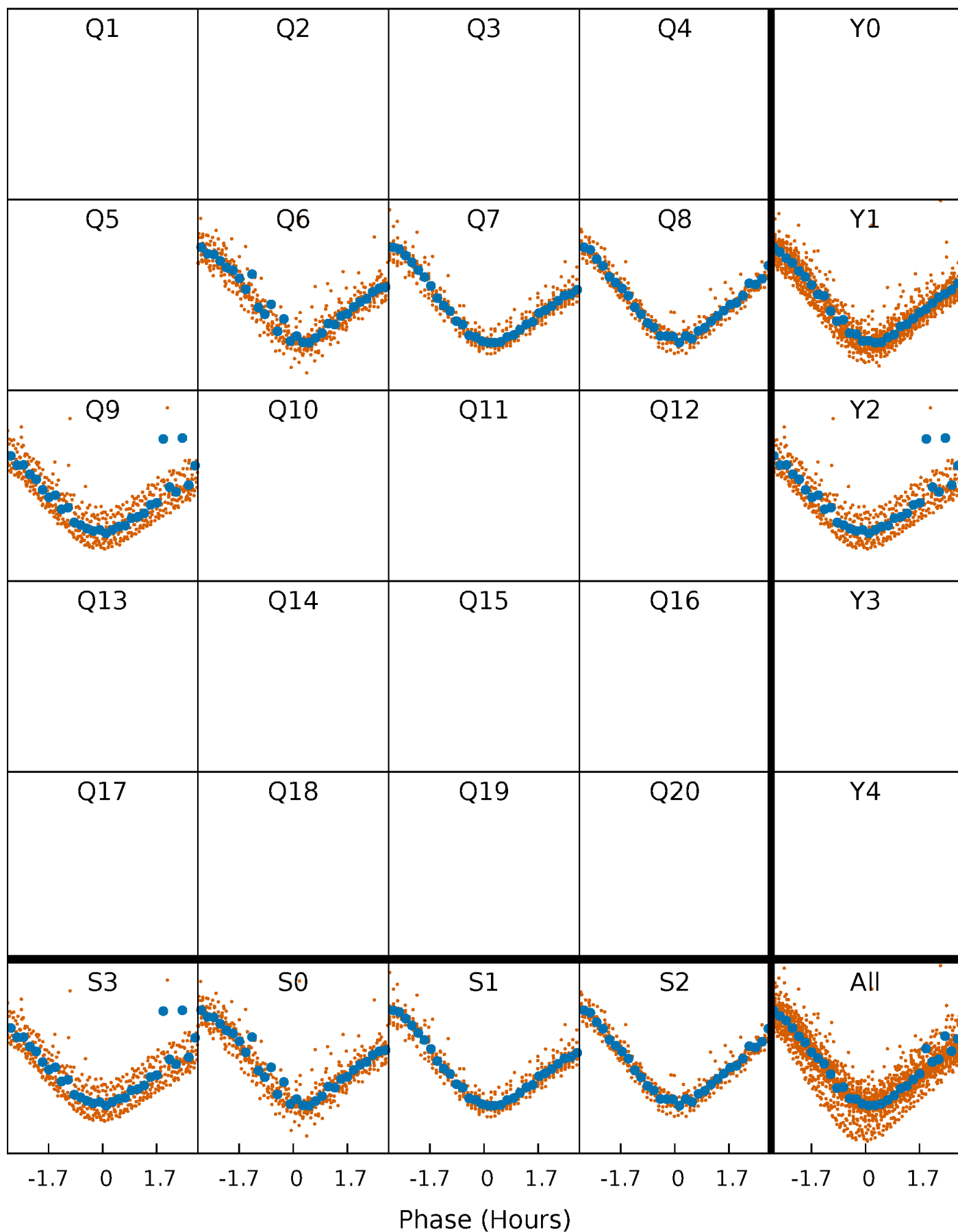


Planet 1 : Phased Whitened Flux Time Series (TPS Epoch/Period)



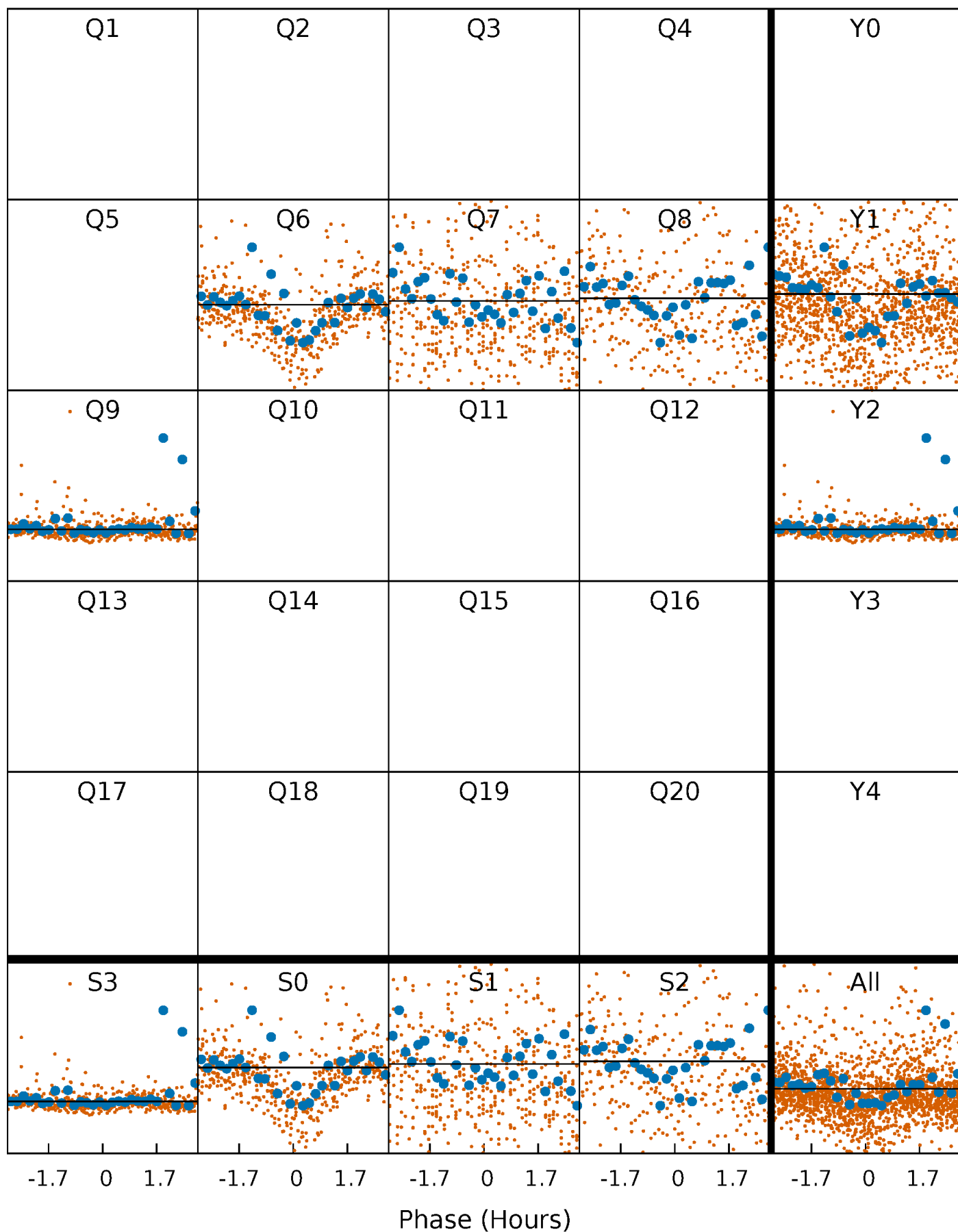
PDC Quarter-Phased Transit Curves

TCE 004248433-01 P= 2.099460 Days $T_0=133.370369$ (BKJD)



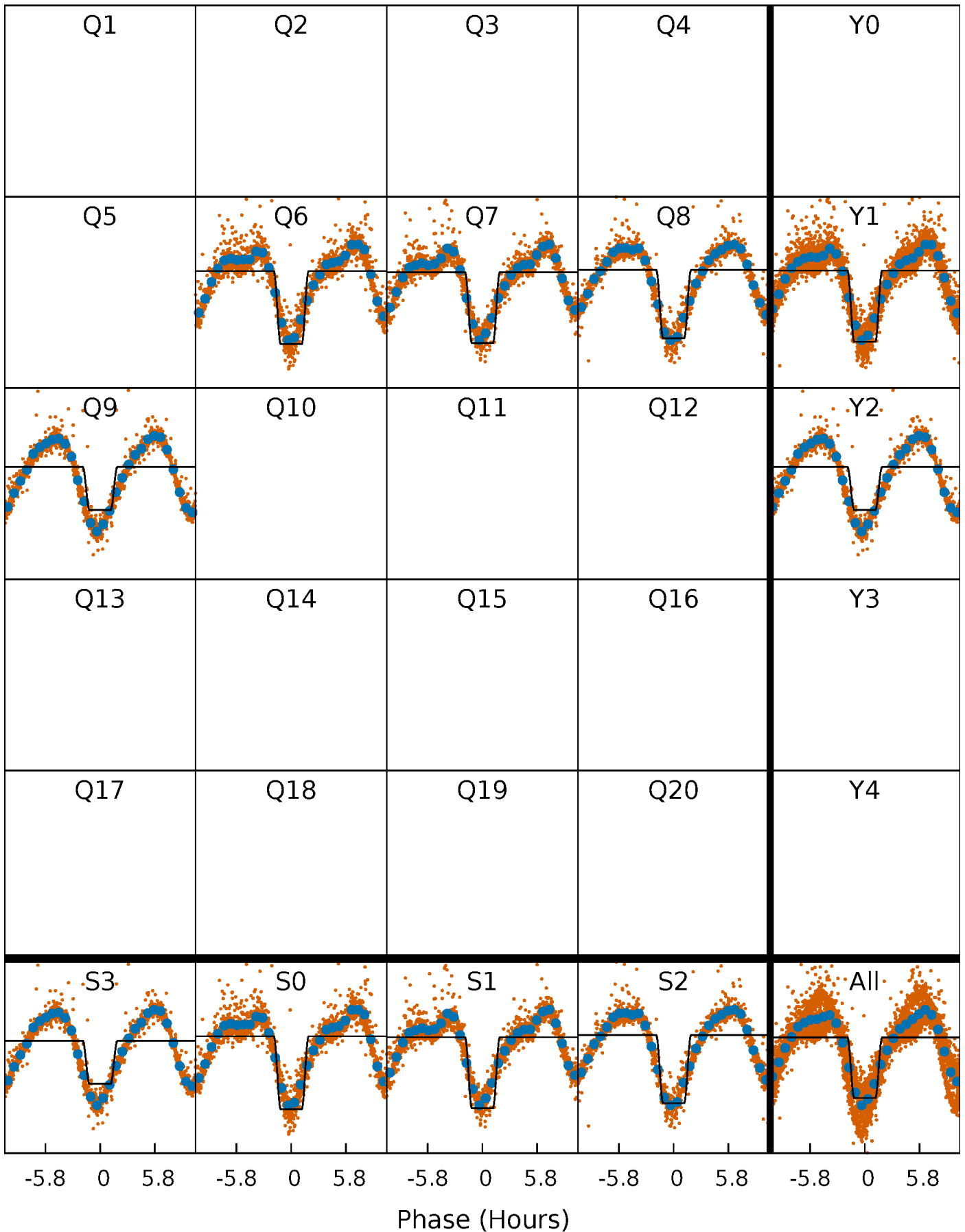
DV Quarter-Phased Transit Curves

TCE 004248433-01 P= 2.099460 Days $T_0=133.370369$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

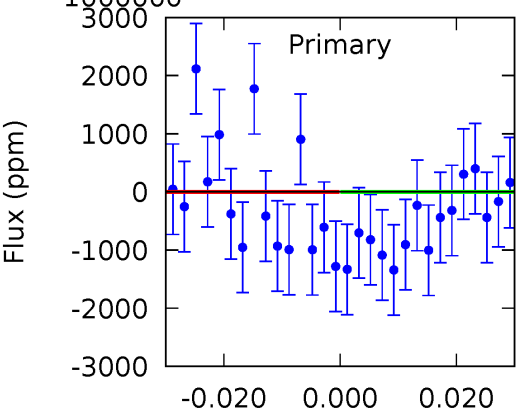
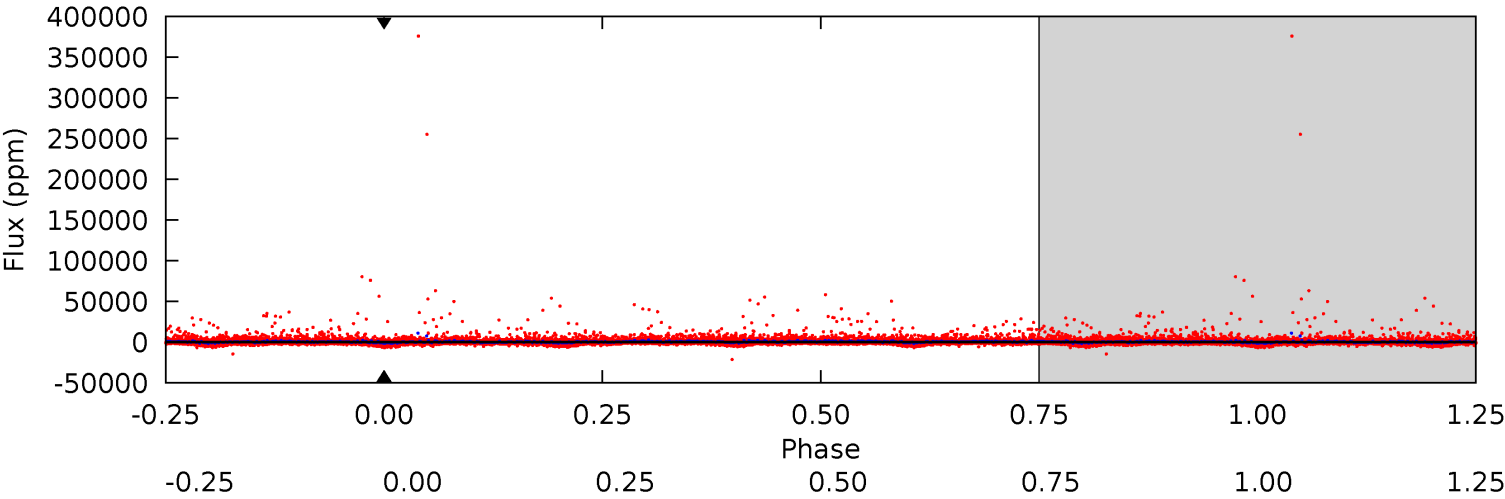
TCE 004248433-01 P= 2.099460 Days $T_0=133.382838$ (BKJD)



DV Model-Shift Uniqueness Test

004248433-01, P = 2.099460 Days, E = 133.370369 Days

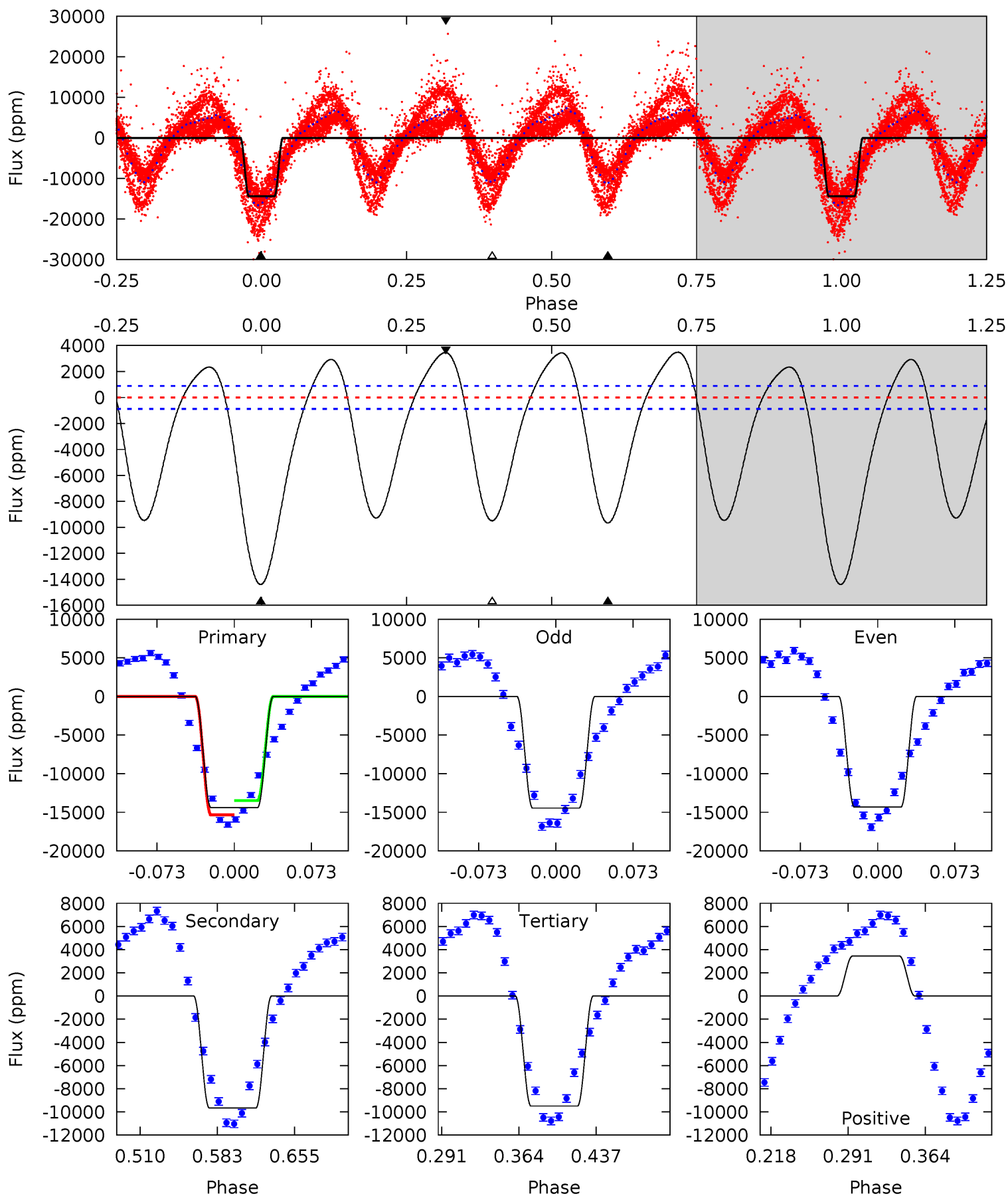
| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|-----|-----|-----|-----|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|-----|-------|-----|
| 0 | 0 | 0 | 0 | 1.00 | 1.00 | 1.00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |



Alt Model-Shift Uniqueness Test

004248433-01, P = 2.099460 Days, E = 133.382838 Days

| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 75.2 | 50.5 | 49.6 | 18.1 | 4.63 | 1.79 | 22.7 | 25.6 | 57.1 | 0.92 | 32.4 | 0.34 | 1.07 | 0.19 | 4.60 |



Stellar Parameters For KIC 004248433

| | $T_{\text{eff}}(K)$ | $\log(g)$ | [Fe/H] | $R (R_{\odot})$ | $M(M_{\odot})$ | $p_{\star} (\text{g}\cdot\text{cm}^{-3})$ |
|--------|---------------------|----------------------------|----------------------------|----------------------------|----------------------------|---|
| | 3000^{+1}_{-1} | $5.191^{+-1.000}_{-1.000}$ | $0.000^{+-1.000}_{-1.000}$ | $0.144^{+-1.000}_{-1.000}$ | $0.117^{+-1.000}_{-1.000}$ | $55.560^{+-1.000}_{-1.000}$ |
| | +0%/-0% | +19%/-19% | +inf%/-inf% | +694%/-694% | +855%/-855% | +2%/-2% |
| Source | SPE17 | SPE17 | SPE17 | BTSL | | |

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

Secondary Eclipse Parameters for KIC 004248433-01 / KOI

| Detrend | Depth (ppm) | $R_p (R_{\oplus})$ | $T_{\text{max}} (K)$ | $T_{\text{obs}} (K)$ | A_{obs} |
|---------|-----------------|------------------------|----------------------|-------------------------|-------------------------------------|
| DV | 0 ± 1000000 | $1.33^{+1.48}_{-0.91}$ | 573^{+52}_{-54} | -2029^{+7732}_{-3484} | $-18.567^{+18946.502}_{-14710.471}$ |
| Alt. | -9671 ± 192 | $2.22^{+1.88}_{-1.38}$ | 568^{+50}_{-53} | 2760^{+884}_{-379} | 297^{+1573}_{-203} |

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

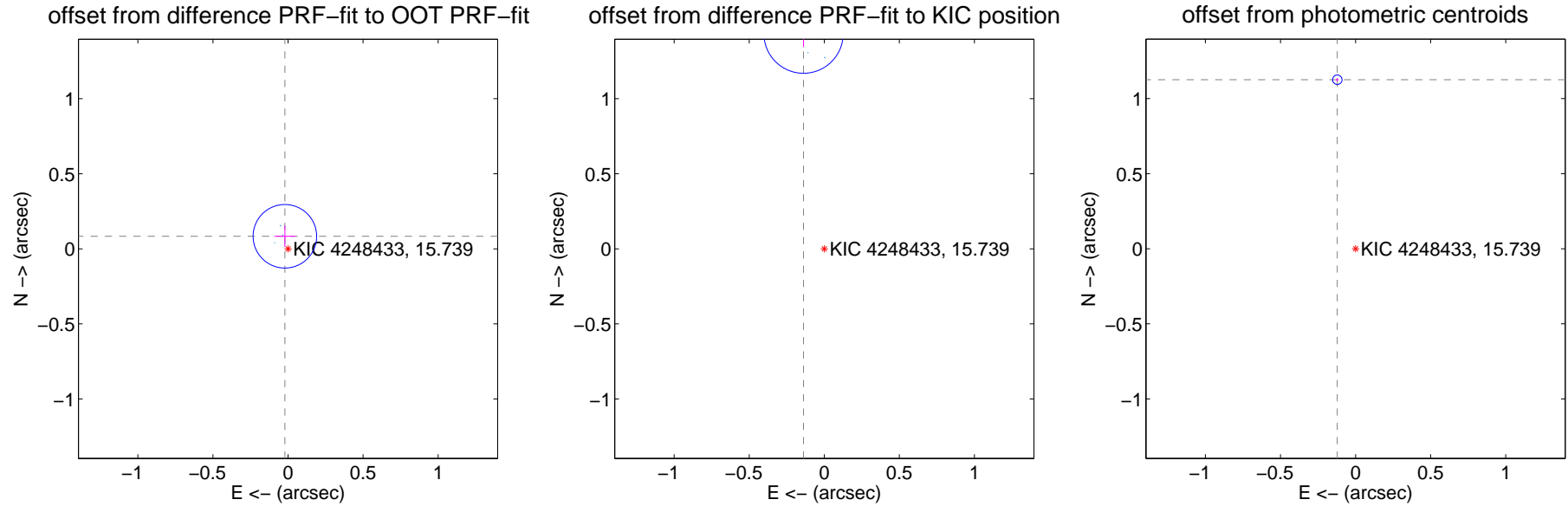
DV Centroid Data

Supplemental centroid analysis for 004248433-01. Kepler magnitude: 15.74. Transit SNR -1.00

There are 4 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 1.44 arcsec

| | Distance in arcsec | Distance / σ | Δ RA | Δ Dec |
|---|--------------------|---------------------|-------------------|-------------------|
| PRF-fit source offset from OOT | 0.086 ± 0.071 | 1.22 | 0.021 ± 0.071 | 0.083 ± 0.071 |
| PRF-fit source offset from KIC position | 1.440 ± 0.088 | 16.36 | 0.138 ± 0.083 | 1.433 ± 0.088 |
| photometric centroid source offset | 1.13 ± 0.01 | 108.27 | 0.12 ± 0.01 | 1.13 ± 0.01 |

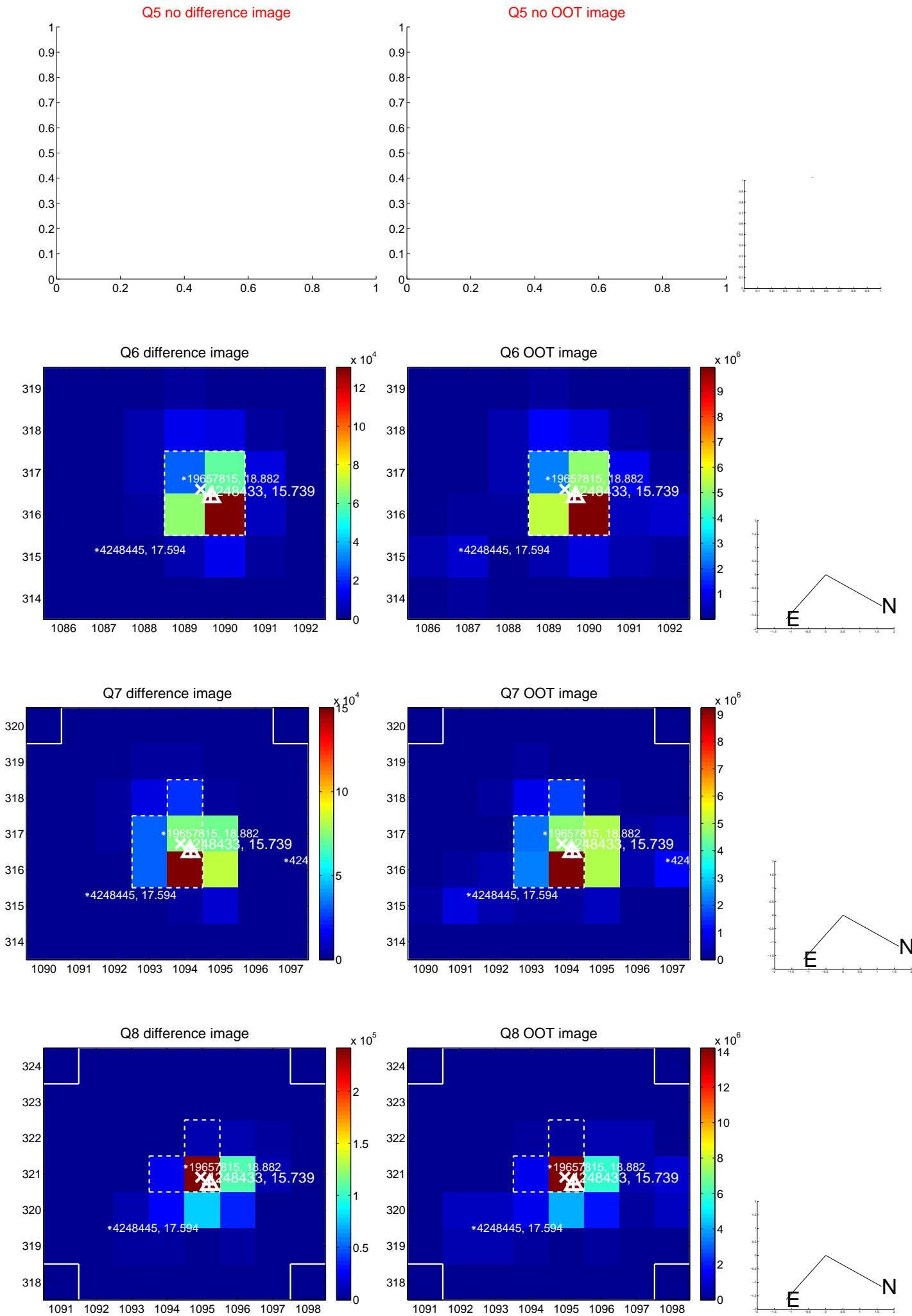


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

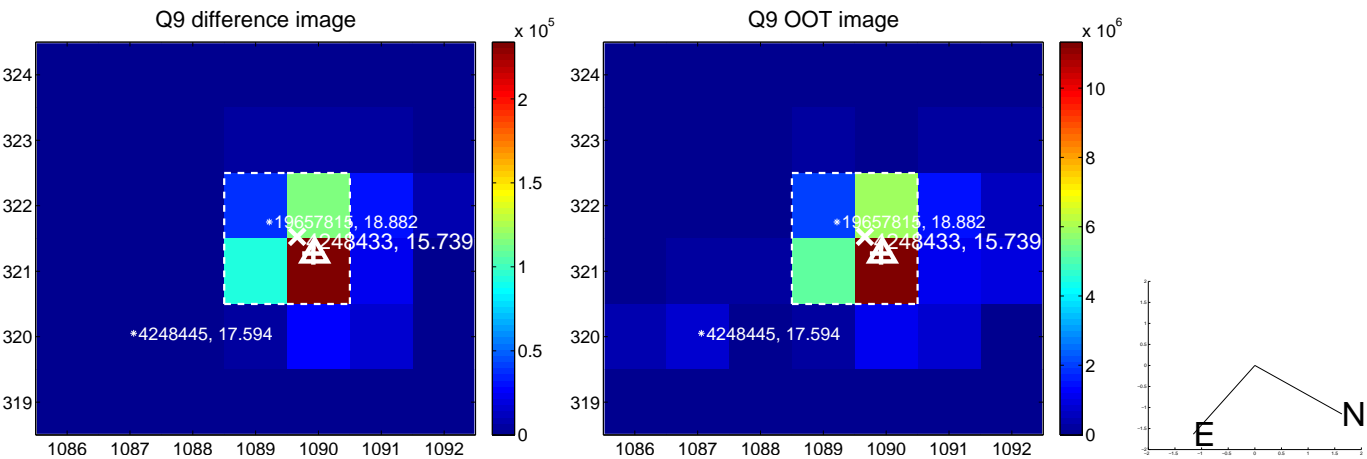
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



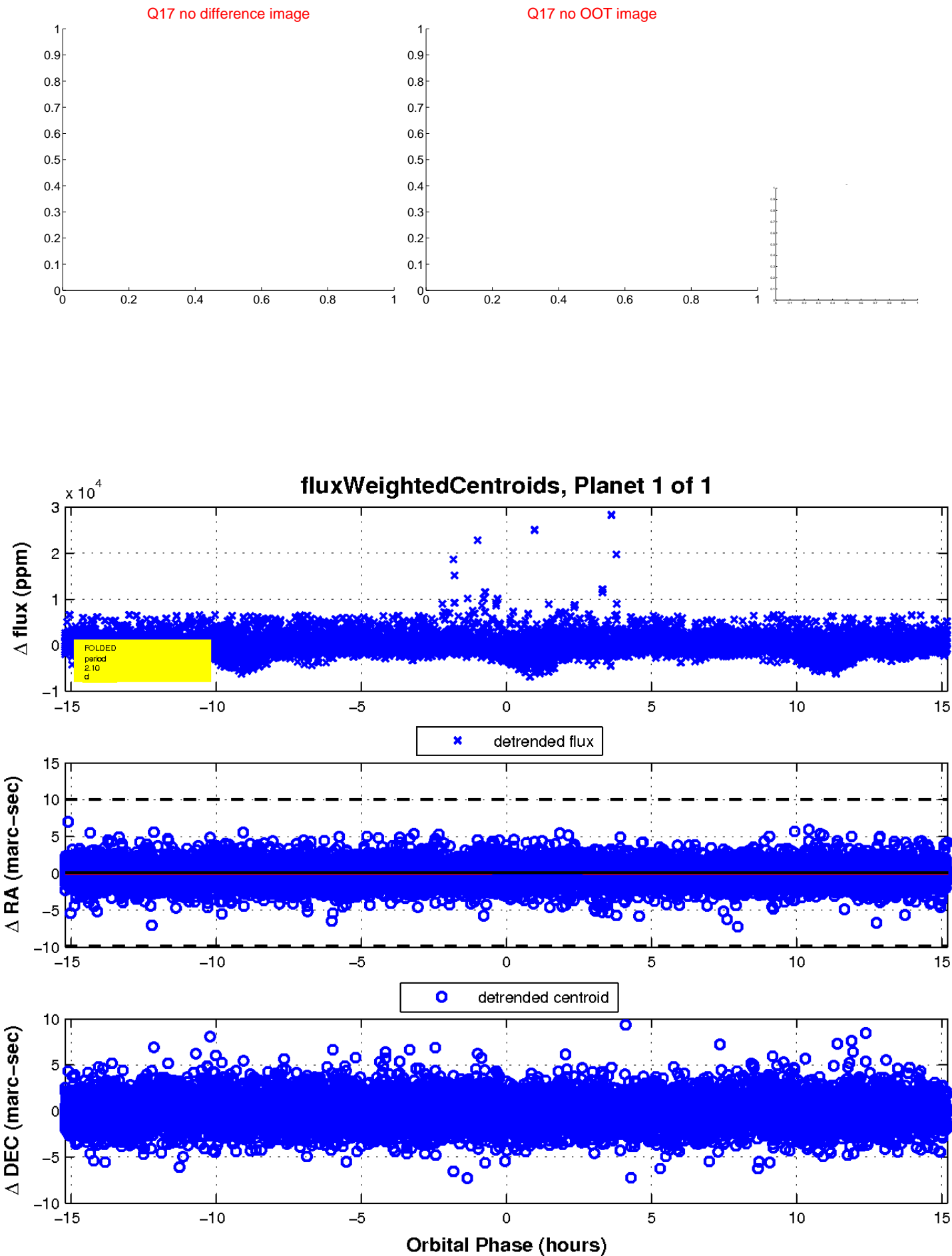
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

