

HW 5
#2

Polly measures the transit of a star. See "sample_transit.dat".

- depth is $\sim (1.0 - 0.9770) = 0.0230 \pm 0.000$
- duration is $(33.997 - 33.878) = 0.119 \pm 0.005$
 $= 10,280 \pm 430 \text{ s}$

See Fig 3.

- midpoint is 2456733.936 ± 0.001

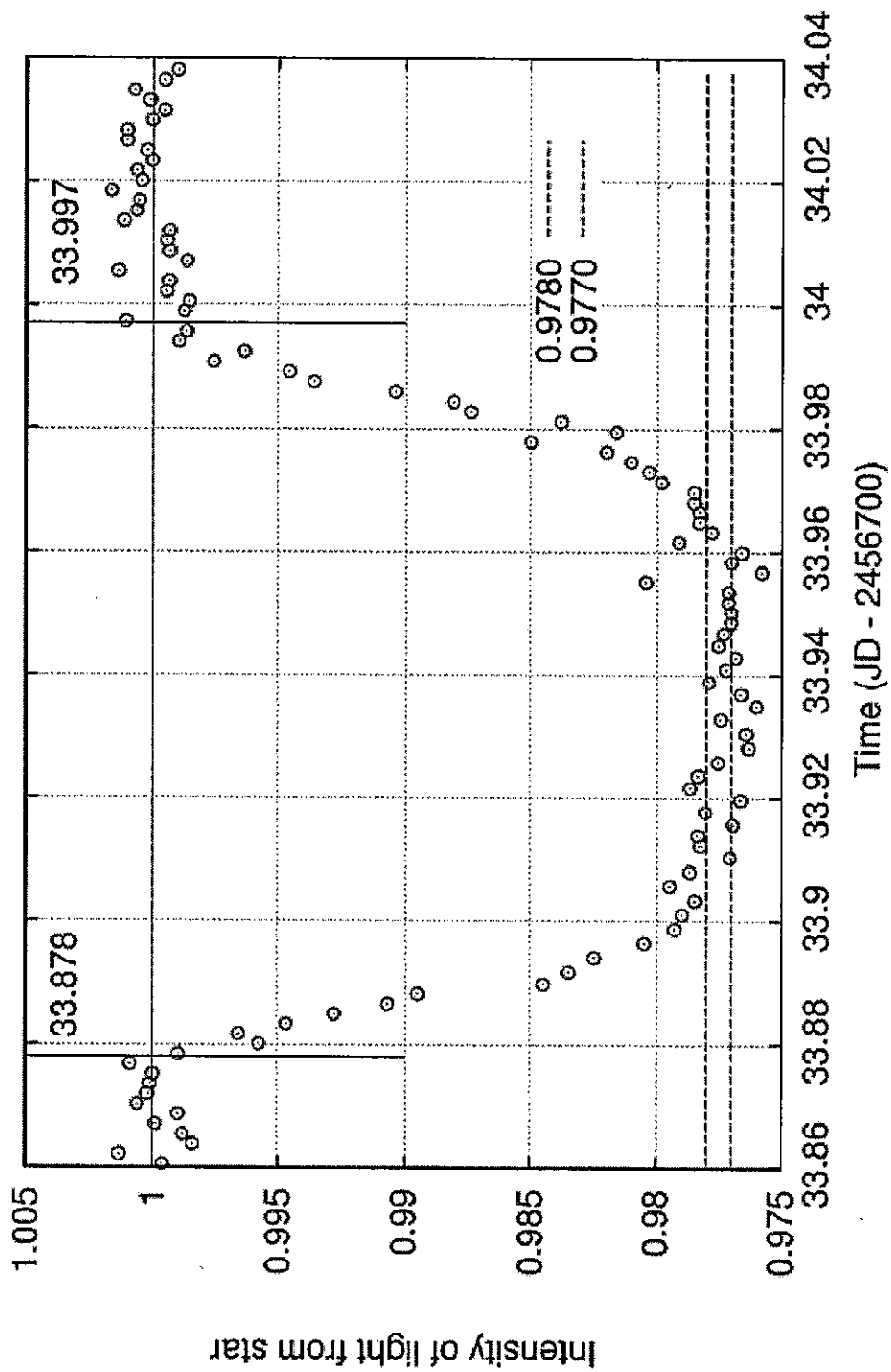
See Fig 4.

- limb darkening is responsible for the curved bottom of the light curve. It appears a reasonable value is $\mu = 0.2 \text{ to } 0.3$

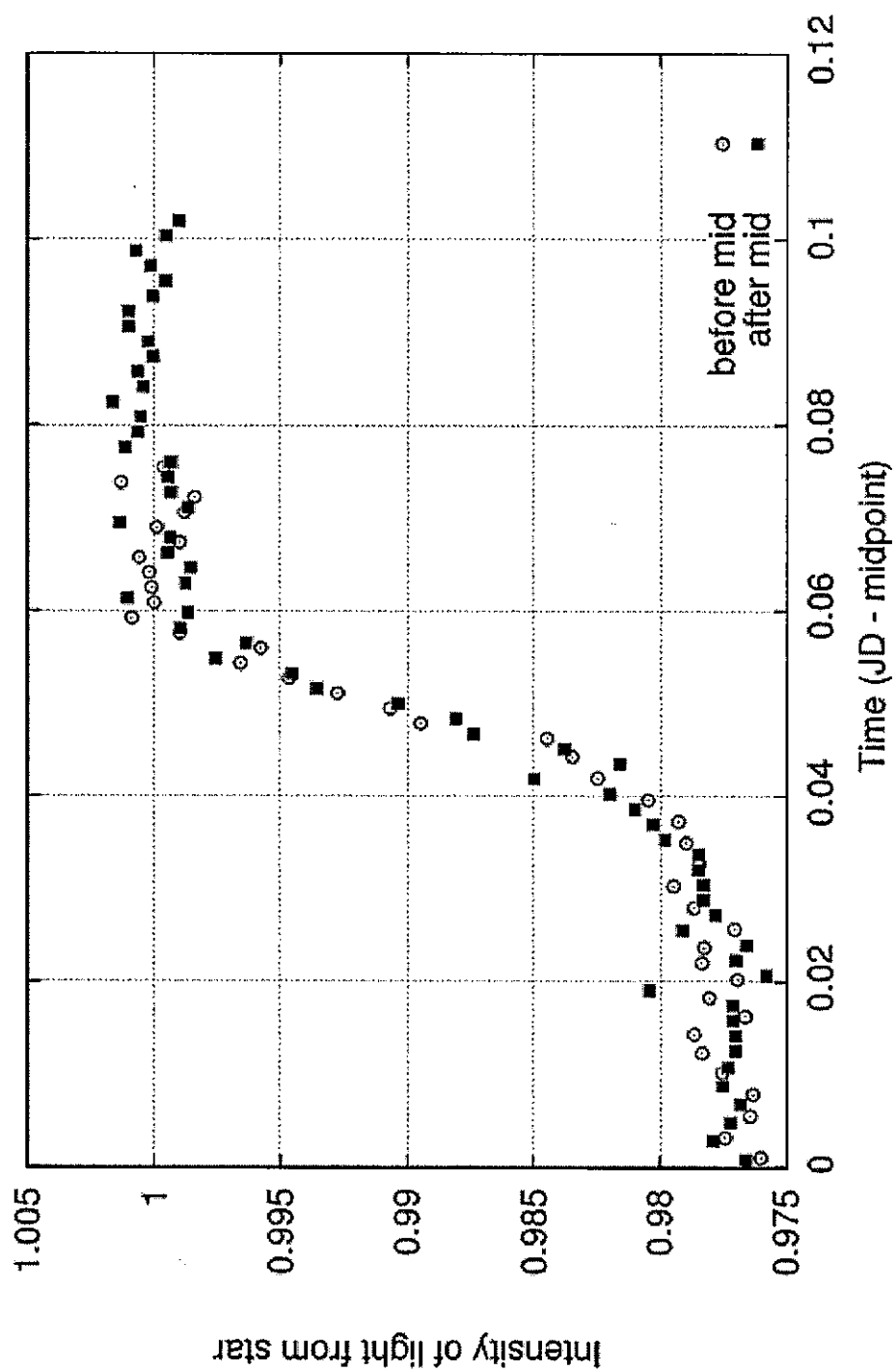
See Fig 5.

Which real exoplanet is this? WASP-39b.

Polly observes a transit



Polly picks midpoint JD 2456733.936



The effect of limb darkening

