

Tests of EROS-Anastasis Photometry

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Aims of tests

- Test LC and Image recovery from IRODS
- Compare EROS photometry with Ogle photometry
ErosII Peida, ErosI plates, ErosI ccd
- Compare EROS amplitudes with Ogle amplitudes
Cepheids and rrLyrae
- Test Triton photometry
Ogle variables and EROS-Macho BH candidates
Tests on uncatalogued candidates (TBD)

Ascii light-curve recovery from IRODS

EROSII:

```
iget /eros/data/eros2/lightcurves/lm/lm009/lm0093/lm0093k-lc.tar.gz  
tar -xvf lm0093k-lc.tar.gz lm0093k/lm0093k26685.time !
```

Plates:

```
iget /eros/data/eros1-plaques/lightcurves/pave439/439.08050.lc
```

EROS1-ccd:

```
iget /eros/data/eros1-ccd/lightcurves/LMC9192/00/5609.time  
mv 5609.time LMC9192_00_5609.time !  
iget /eros/data/eros1-ccd/lightcurves/LMC9394/00/4990.time  
mv 4990.time LMC9394_00_4990.time !
```

For now I use homemade (ra,dec)→(field,starnumber)

Different tzeros for 3 programs

EROSII image recovery from IRODS

EROSII:

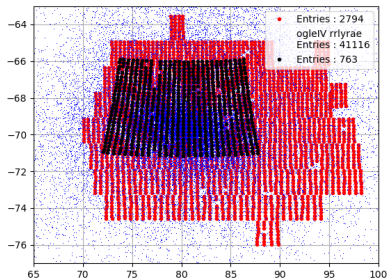
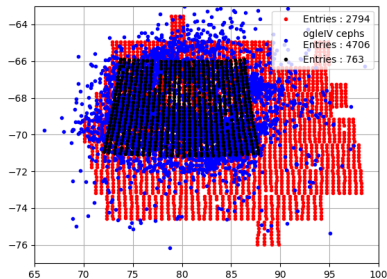
```
GetImages -verb lm 012 0 6 traitement=r
```

```
GetImages -verb lm 012 1 6 traitement=r
```

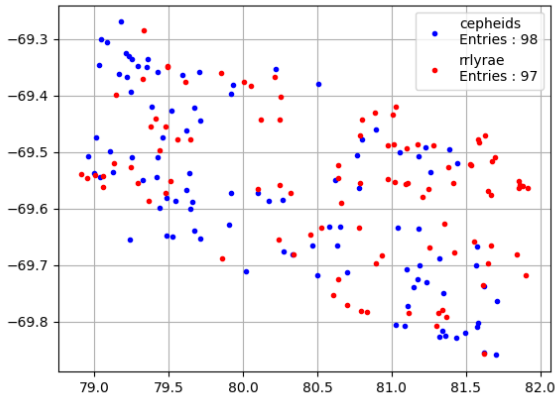
≈5min for 1000 images (1 field-ccd)

OgleIV Cepheids and rrLyrae

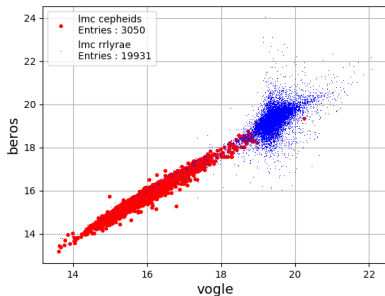
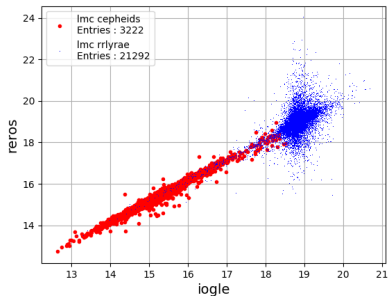
<http://ogle.astrouw.edu.pl/ogle/ogle4/OCVS/>



OgleIV Cepheids and rrLyrae in EROSI-ccd



EROSII-Ogle: Photometry



Looks pretty much ok

EROS/plates-Ogle: Photometry

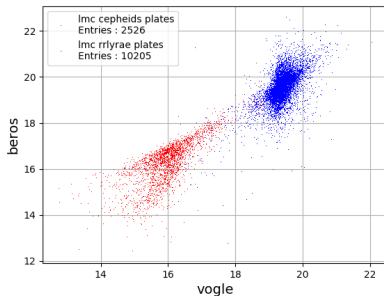
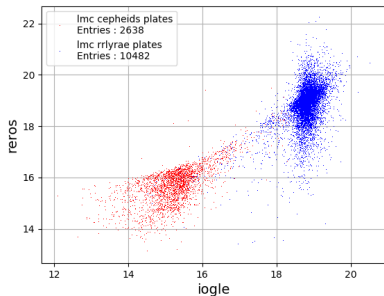
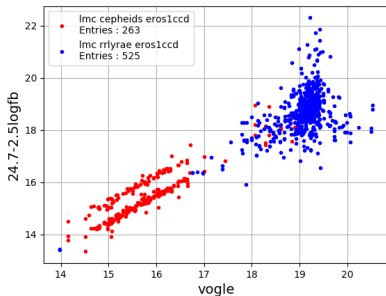
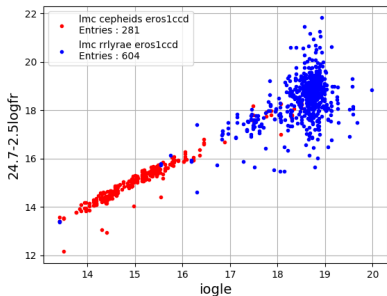


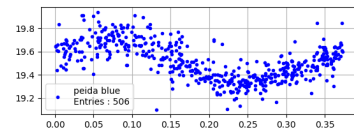
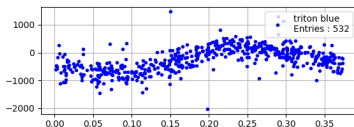
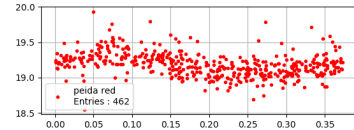
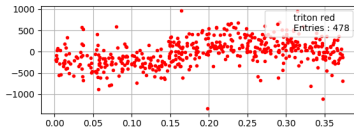
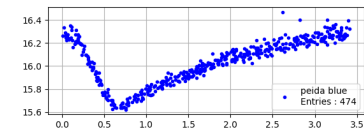
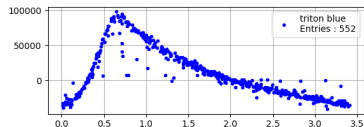
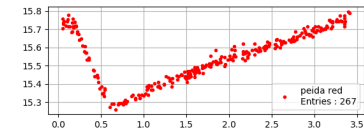
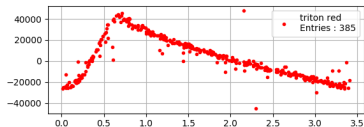
Plate saturation in bar, bright magnitudes.

EROS1ccd-Ogle: Photometry

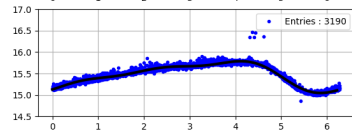
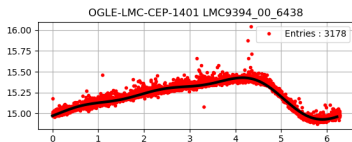
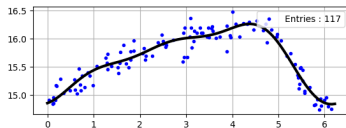
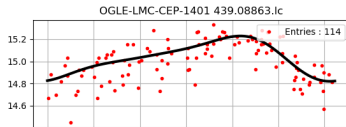
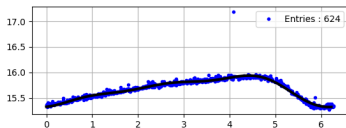
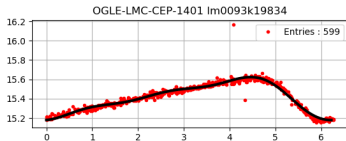


Differences between ccds and seasons

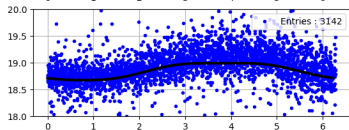
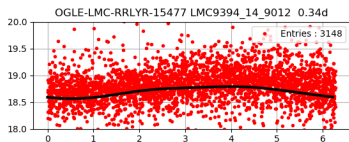
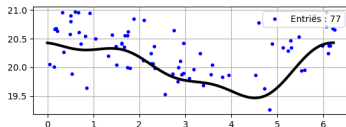
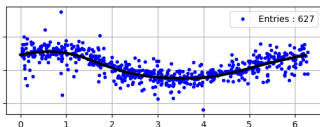
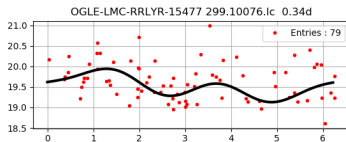
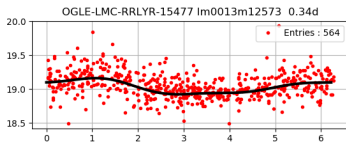
EROSII: Cepheids and rrLyrae, Peida and Triton



EROSI and II: OgleIV Cepheids

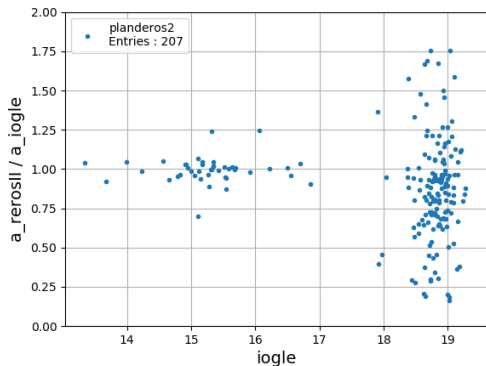


EROSI and II: OgleIV rrLyrae



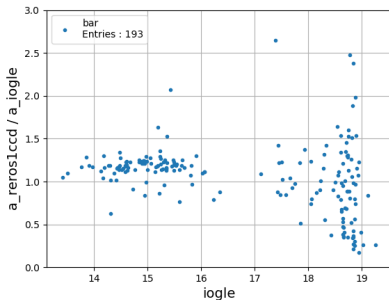
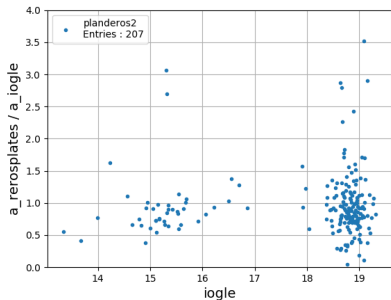
Still a t_0 problem

Amplitude(EROSII)/Amplitude(OgleIV)



Work in progress
(many bad rrLyrae fits)

Amplitude(EROSI)/Amplitude(OgleIV)



Work in progress

Triton procedure (\approx automatic)

```
python tritonsetup.py 72.3057 -70.1499
```

choose ref. images, locate target, construct triton input files ,
generate ascii LC recovery commands

```
GetImages -verb lm 012 0 6 traitement=r
```

```
GetImages -verb lm 012 1 6 traitement=r
```

```
standard.sh # standardize the image files
```

```
align.sh # align all images to reference images
```

```
split.sh # split into ccd/16 "tuiles"
```

```
makeref.sh # make reference stack for tuile
```

```
subtract.sh # Subtract reference stack
```

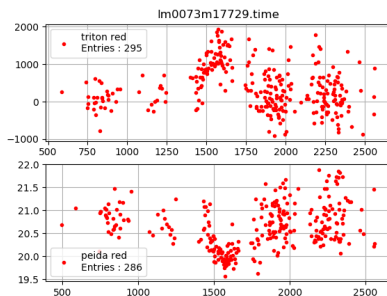
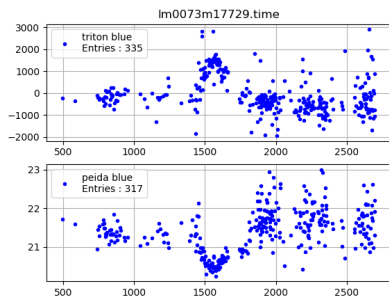
```
phot.sh # Photometry on target
```

```
python correcttime.py lm0126m_72.3057_-70.1499.lc
```

correct triton bug for images with date change during exposure.

The entire procedure takes \approx 2 hours on interactive at Lyon with
Time dominated by align.sh and subtract.sh

Triton/Peida photometry: EROS-Macho BH candidate



Proposal for quickly making data public

Write a paper on EROS data (showing plots in this talk).

Add: “People are invited to request data from (e.g.)

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