Kohyama Astronomical Observatory
- Current Status -

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outline

- Kohyama Astronomical Observatory
- Two Color Imager
- Condition
- Observation

Collaborators

Faculty members:

H. Kawakita (director), Y. Ikeda,
S. Miyoshi, T. Hara

PDs (Observatory):

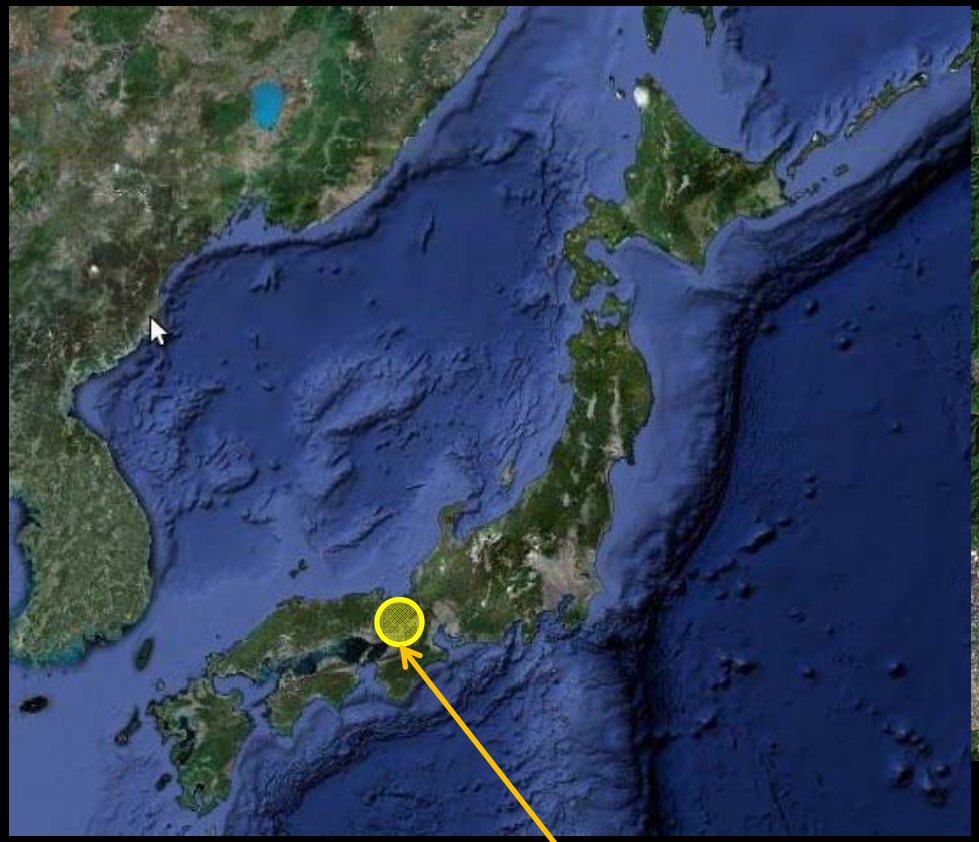
N. Fujishiro, A. Nakamichi,
T. Yoshikawa, S. Kondo

students & 3 secretaries

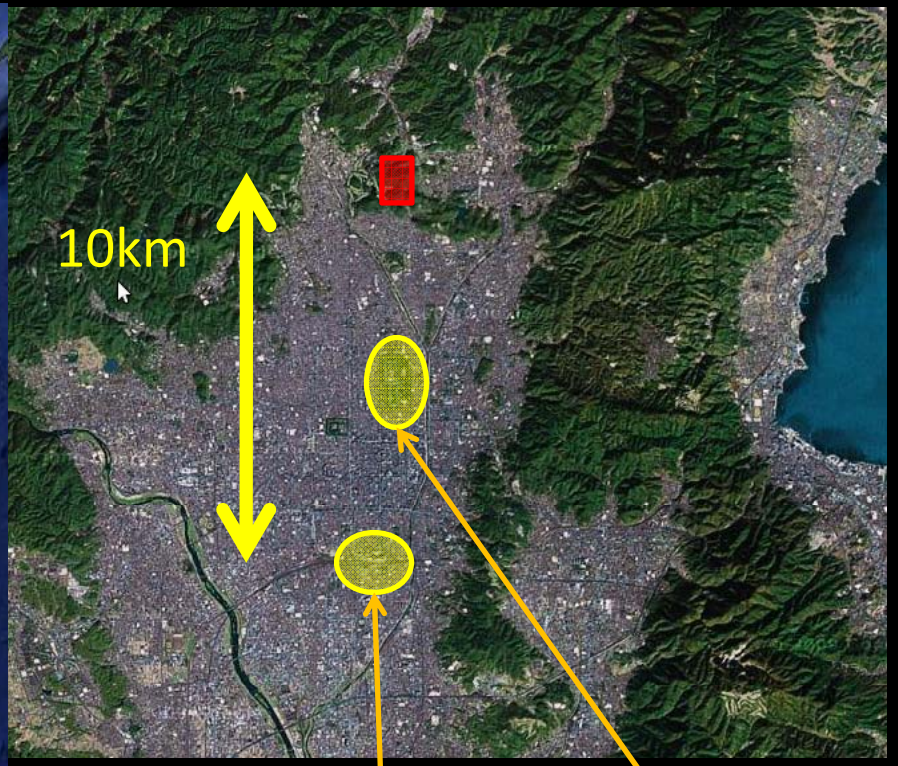
Kohyama Astronomical Observatory

Location

Japan



Kyoto City



Purpose

1. Public Outreach
   Star gazing, Public lectures etc.
2. Business
   Designing optics, Consulting etc.
3. Research
   Astronomy, Development etc.
   (variables, microlensing, comets)

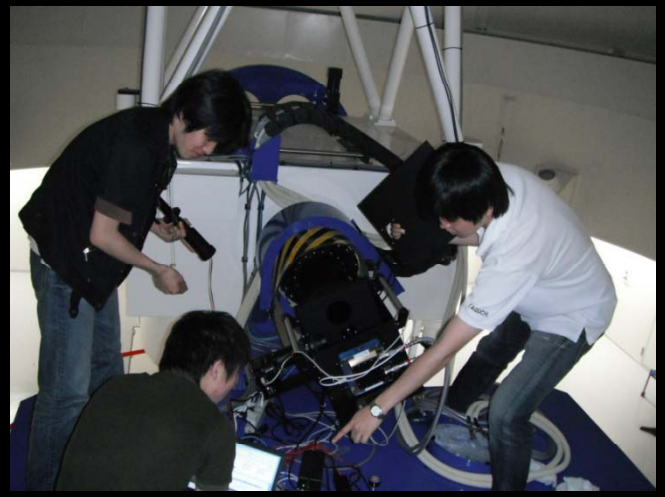
“ARAKI” Telescope

ARAKI telescope (1.3m)
- Cassegrain
- Nasmyth (x2)

Optics: Ritchy-Chtr’ tien
Mount: Alt-Azimuth

Pointing acc. : ～ 3”
Guiding acc. : ～ 0.5” / 5 [min]

Telescope Time



We can use our telescope whenever we want

except…

- Open for public at night (1/week)
- Educational purpose (1/week)

=> even in this case, we can use tel. from 20:00 (21:00 at the latest)

- Objects, alt. lower than 20[deg]

History

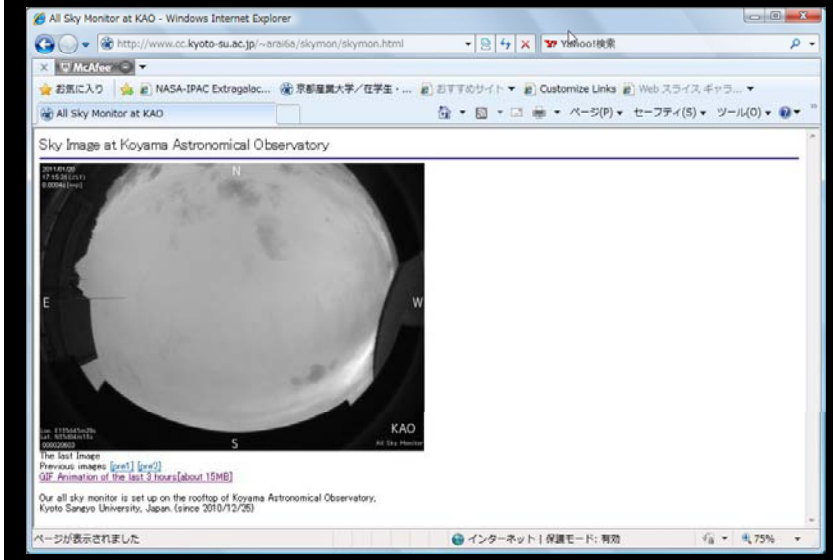
Dec., 2010 : construction completed
　“eye balls observation”　available
Apr., 2010 : open for public
 regular operation starts
 optical-spectrometer (R～500) available
Sep., 2010 : two color imager available

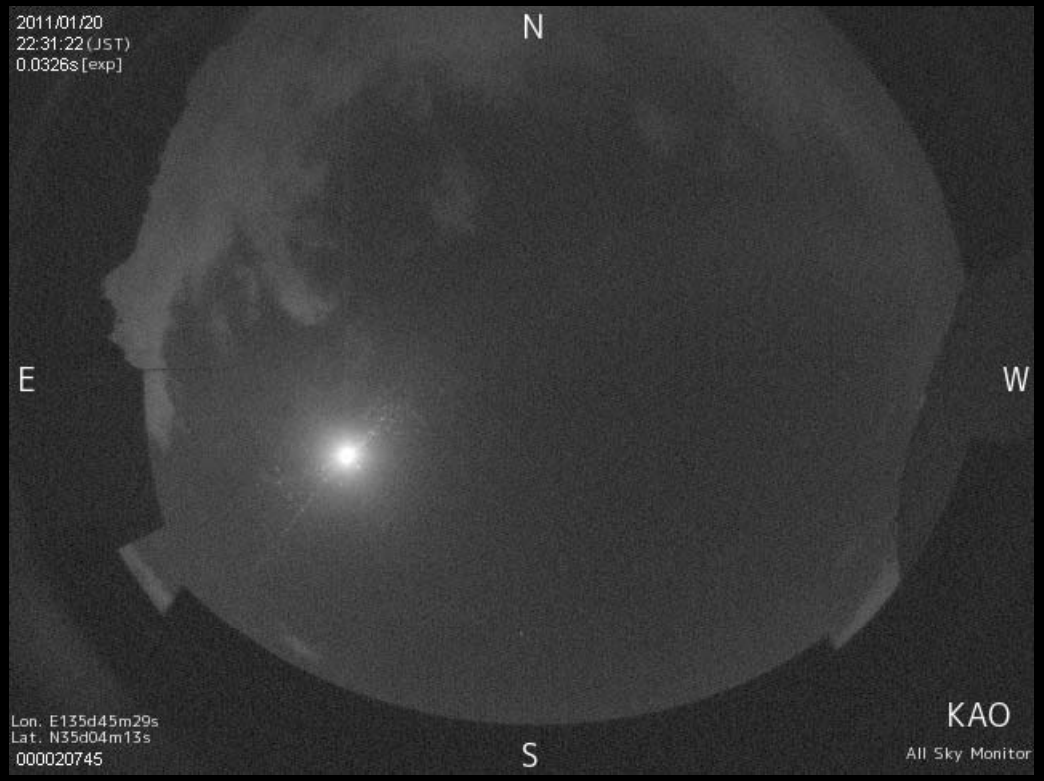
Next ; polarimeter, NIR spectrometer

Sky Monitor Camera

Real-time weather condition on Web.

http://www.cc.kyoto-su.ac.jp/~arai6a/skymon/skymon.html





ADLER
- two color imager -

What’s ADLER？

Araki telescope DuaL band imagER

（Two Color Imager）

ADLER

||

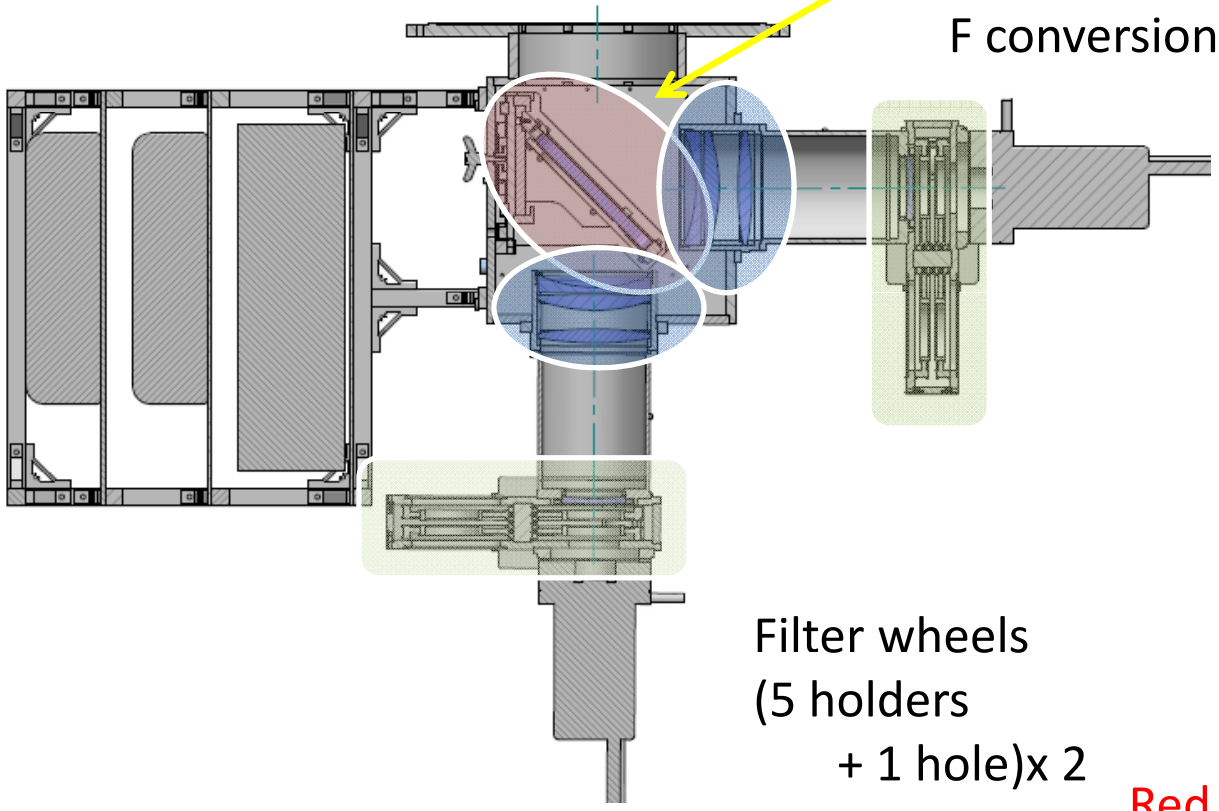
“Eagle”

(in German)

ADLER - design -

Design

at Cassegrain Focus



Dichroic mirrors
(2 holders, change by hand)

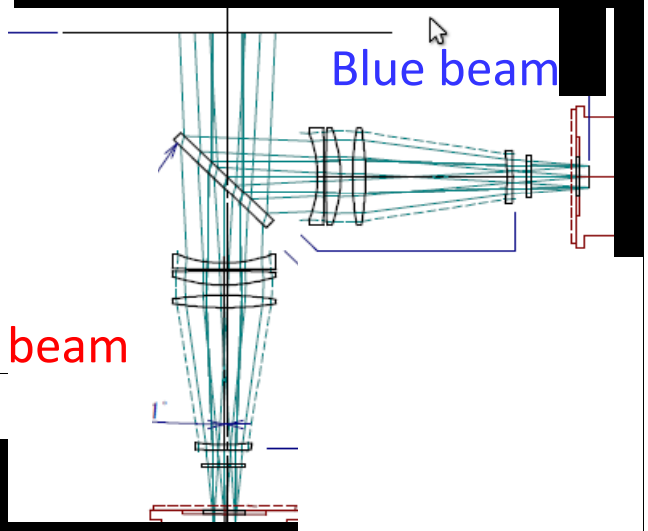
F conversion lenses (F/10 → F/6.0)

Blue Camera

Filter wheels
(5 holders
+ 1 hole)x 2

Red Camera

Optical Layout



Developed by a company, Opt-Craft

ADLER - spec. -

- Wavelength coverage : 380 ～ 900 [nm]
  (T/R change ～ 670 [nm], dichroic mirror)
- 2k x 2k CCD camera (x2)
  (Spectral Instruments 850 series)
- Field of View: 12’ => 0.357” / pixel
- ～ -90 ℃ (water chiled)
- Filters: SDSS-g’, l’, z
  and some narrow band filters

Conditions

Weather Conditions

YEAR 2010:

fine weather fraction (rough estimation)

Month	(%)
Apr.	25
May	40
Jun.	30
Jul.	35
Aug.	30

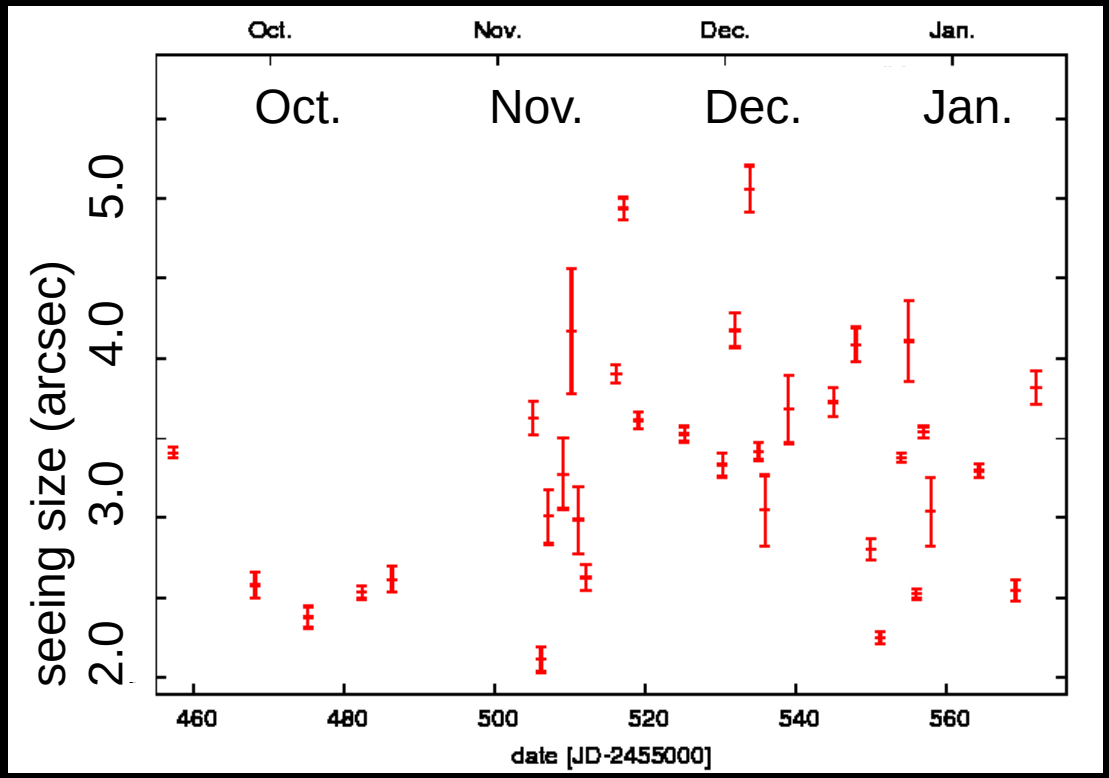
Month	(%)
Sep.	50
Oct.	25
Nov.	50
Dec.	40

30 ~ 40 (%)

Seeing variation

3” ～ 4” seeing is normal, now

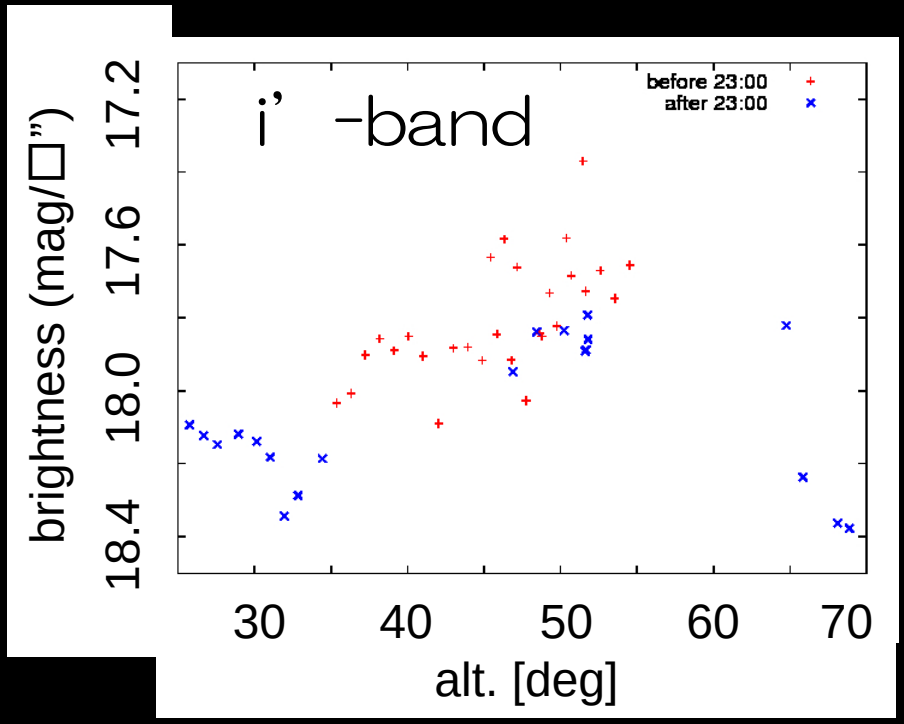
(until Oct., we have < 2” seeing)

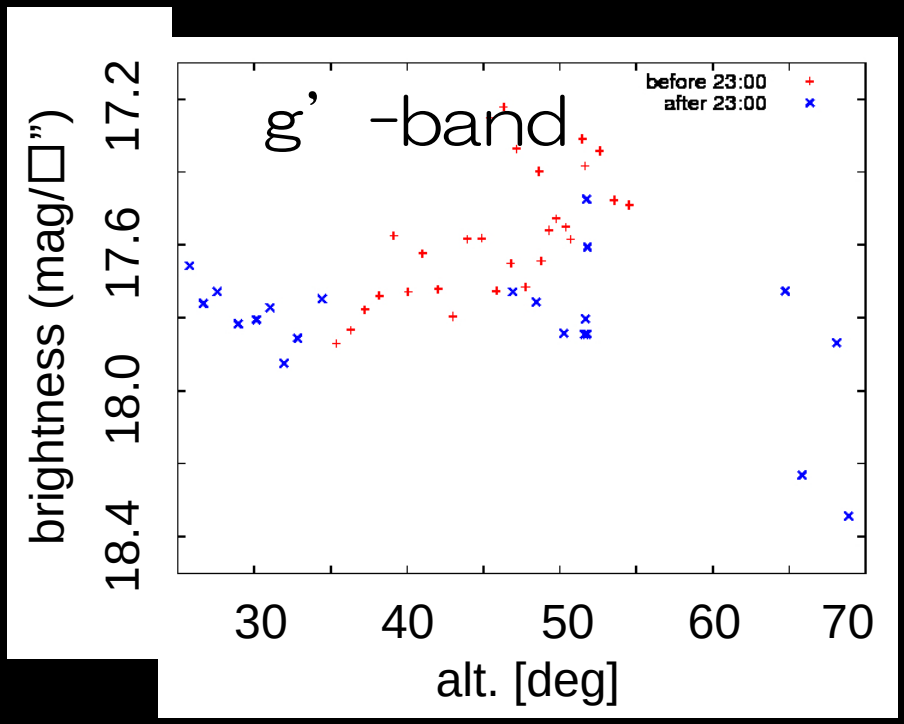


i’ -band

(alt. > 60°)

Sky Brightness





~ 18 [mag/□"],

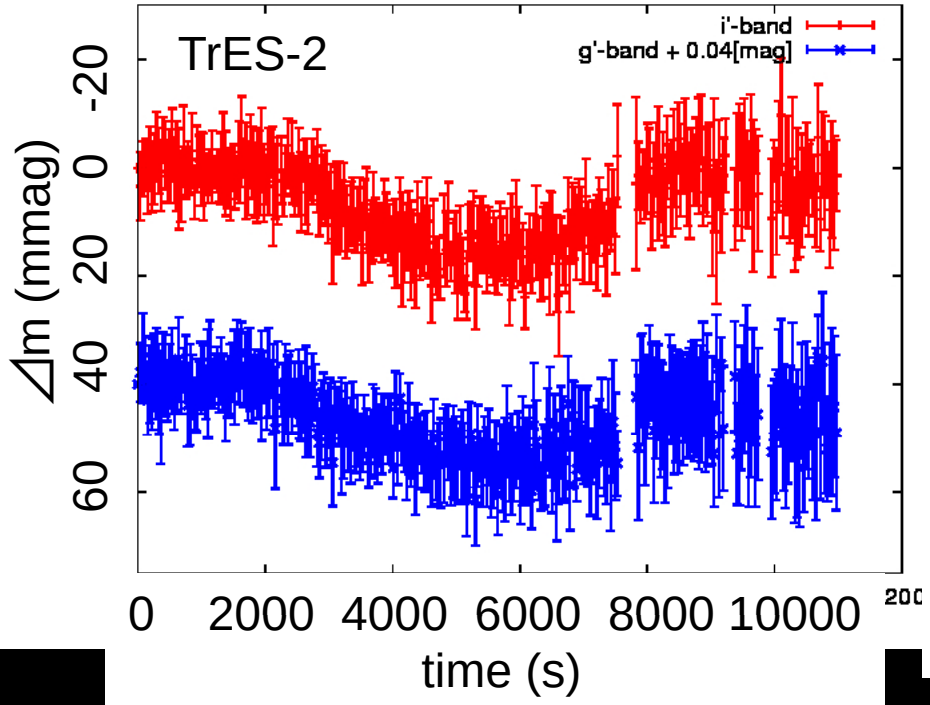
(city lights, street lights inside Univ.)

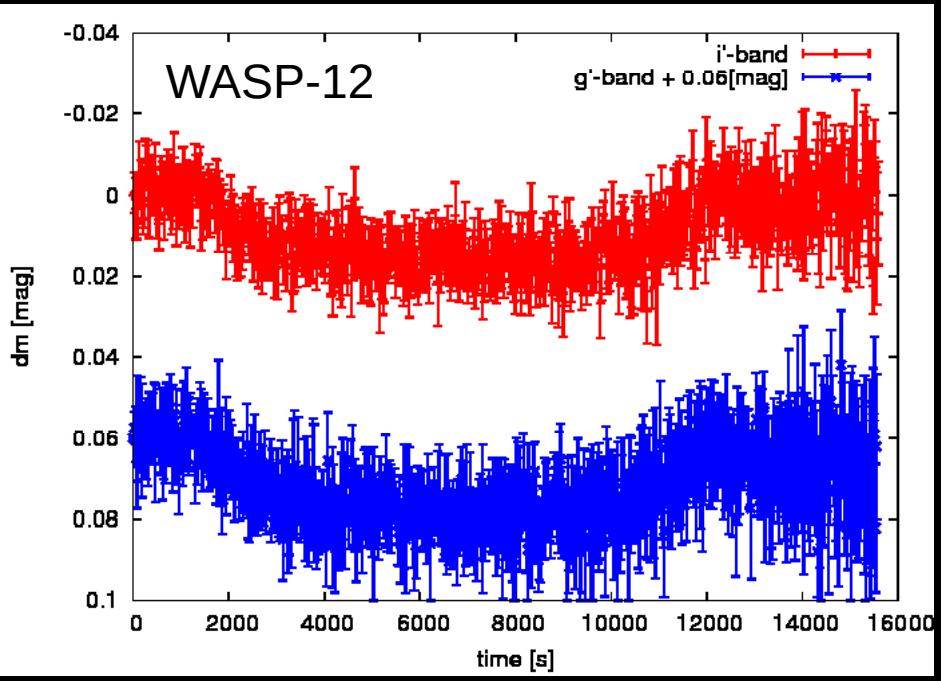
m_{lim} ~ 19 [mag] (3σ, 60[s], 3" seeing)

Observation

Observation (transits)

1%-level flux change is clearly detectable





aperture photometry

(relative photometry)

Observation (lens quasars)

Double Quasar（$\Delta\theta \sim 6''$）

these data are taken by a student

Planned Observations

- Galactic Microlensing : exo-planet
  => follow-up observation
- Quasar Microlensing : accretion disk
  => monitoring observation

- other science (CVs, Comets)

We have just started!

Thank you for your attention