Chinese Ground Follow-up Telescope

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On behalf of SVOM@NAOC

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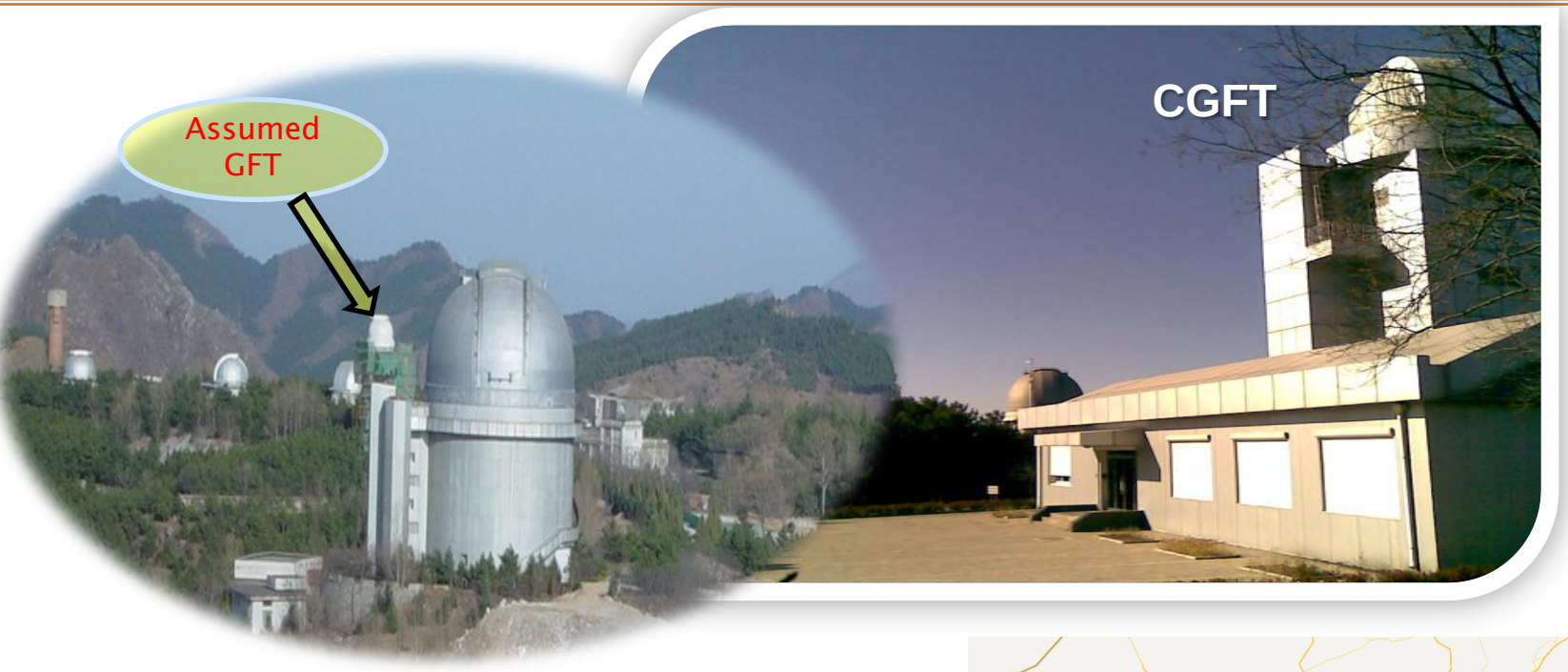
Outlines

- Instrumental concept
- Expected scientific performances
- Scientific products of CGFT

Instrumental concept

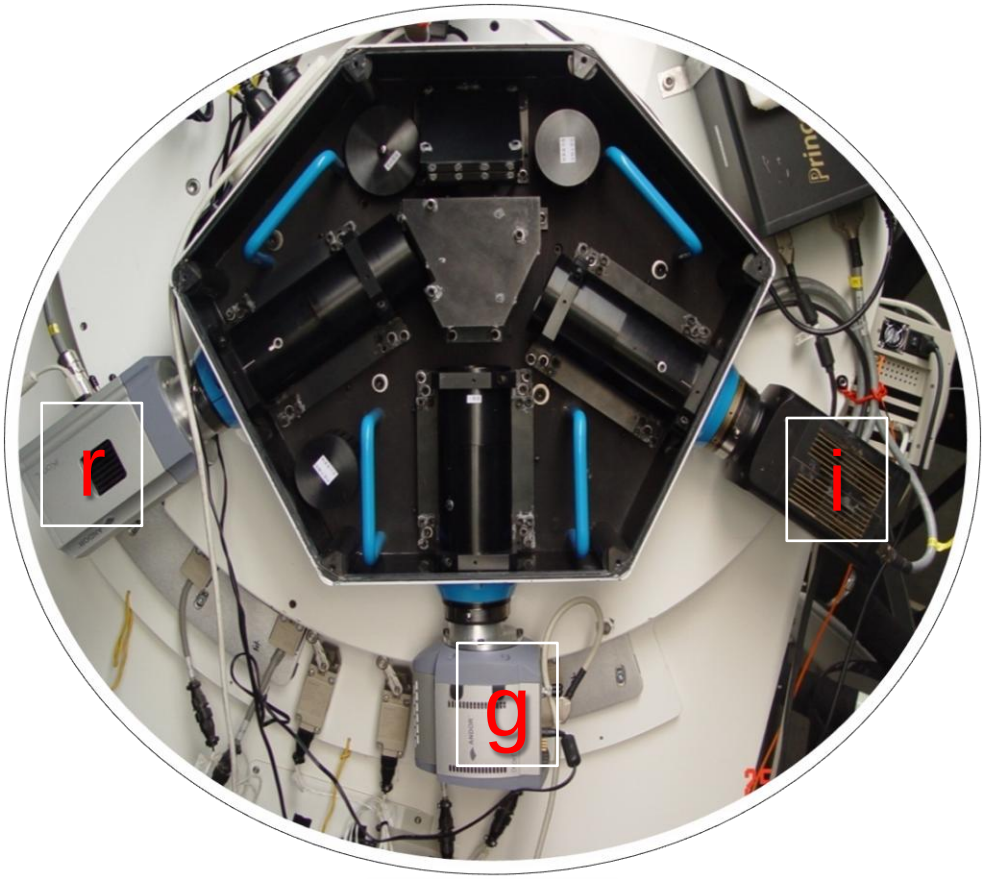


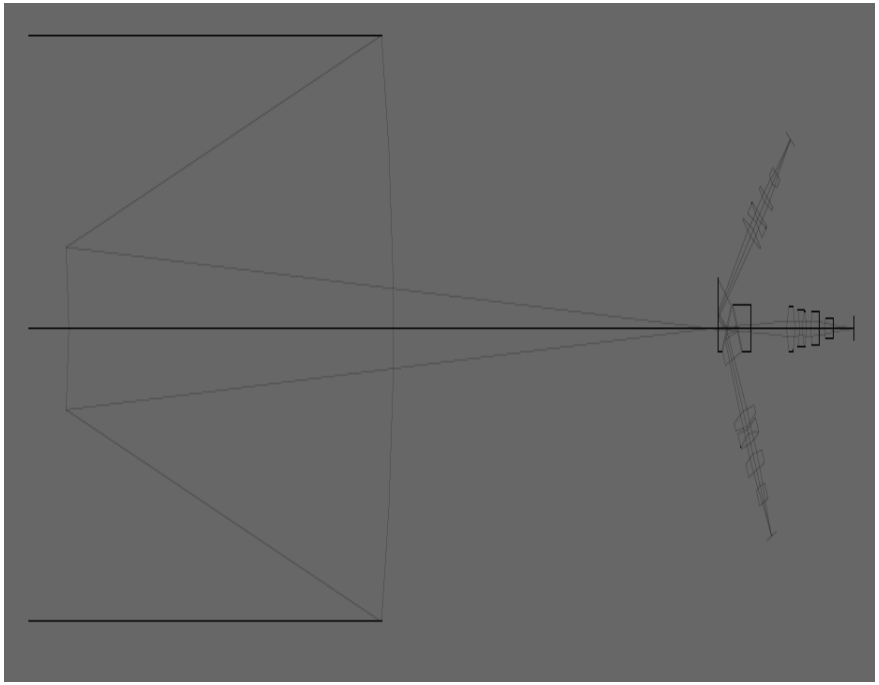
- 1-meter telescope at Xinglong observatory
  - Altazimuth mount

- Main characteristics of CGFT

Parameter	Value
Energy range	400-9500 nm
Field of View	21' x 21'
Aperture(diameter)	1 m
Channels	3 channels of g,r,i
Detector	3 CCD camera mounted
Sensitivity (AB mag, 5 sigma)	Mag(r) = 19 @100s (new Moon)
Localization accuracy	0.5 arcsec
Observation rate	>20% burst triggered by ECLAIRs

Instrumental concept

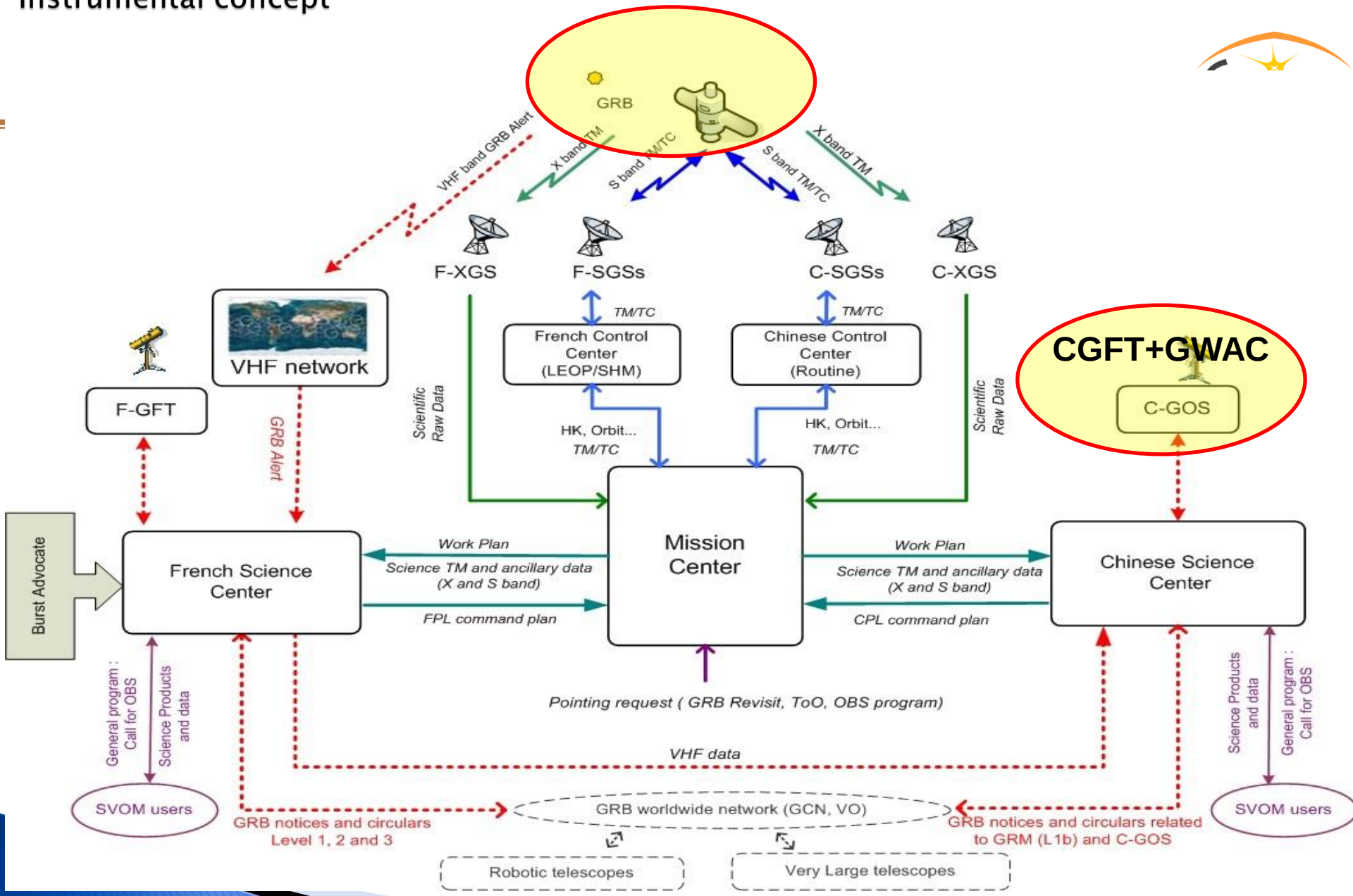




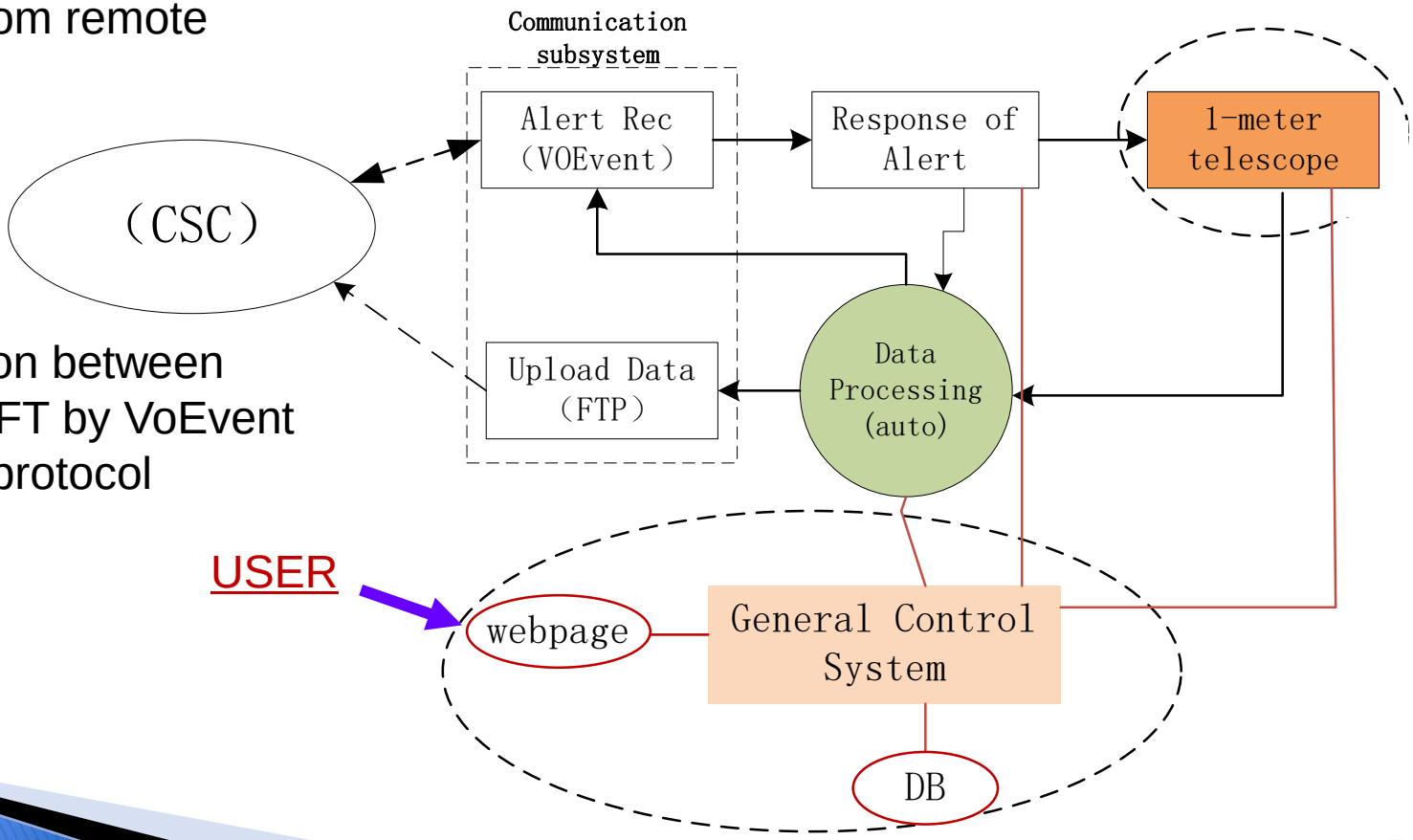
- Upgrade to three channels of g, r, and i (in the near future)

LCOGT 1-m: 11 telescopes ~2500 hr/yr

Instrumental concept

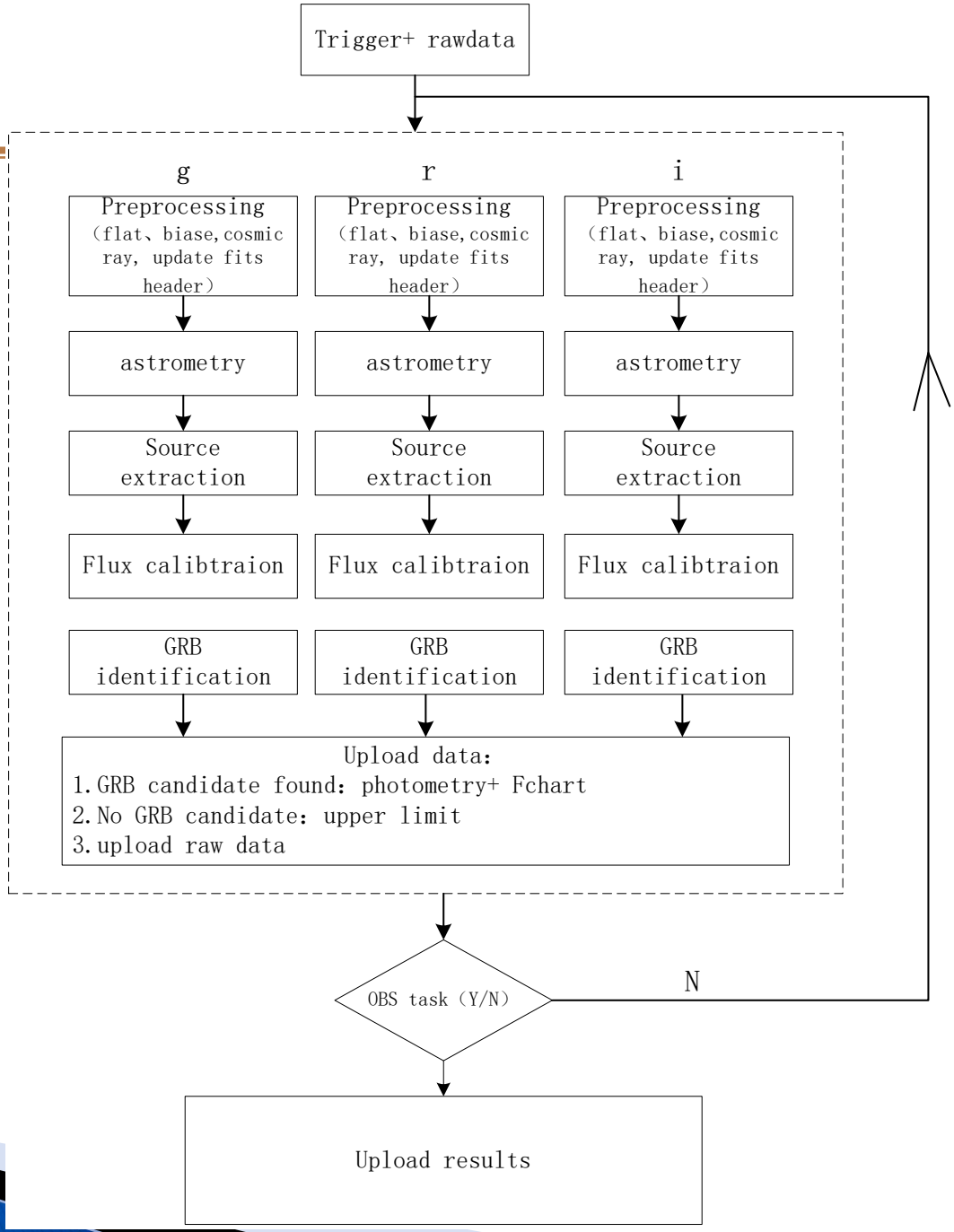


- Robotic observation and data processing system
  - User can change the observation schedule by webpage from remote
- Communication between CSC and CGFT by VoEvent based xmpp protocol

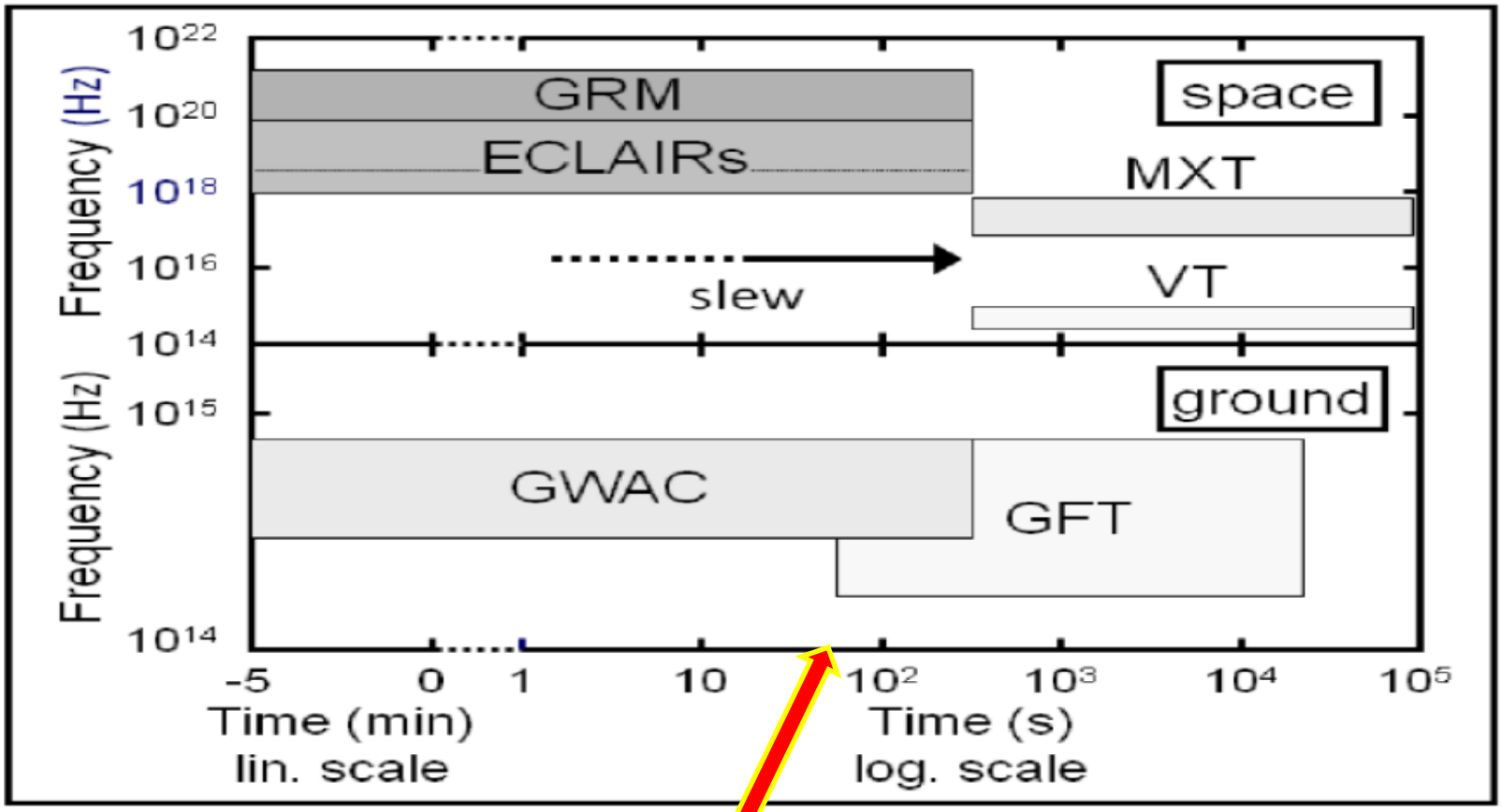


Instrumental concept

- Flowchart of data processing



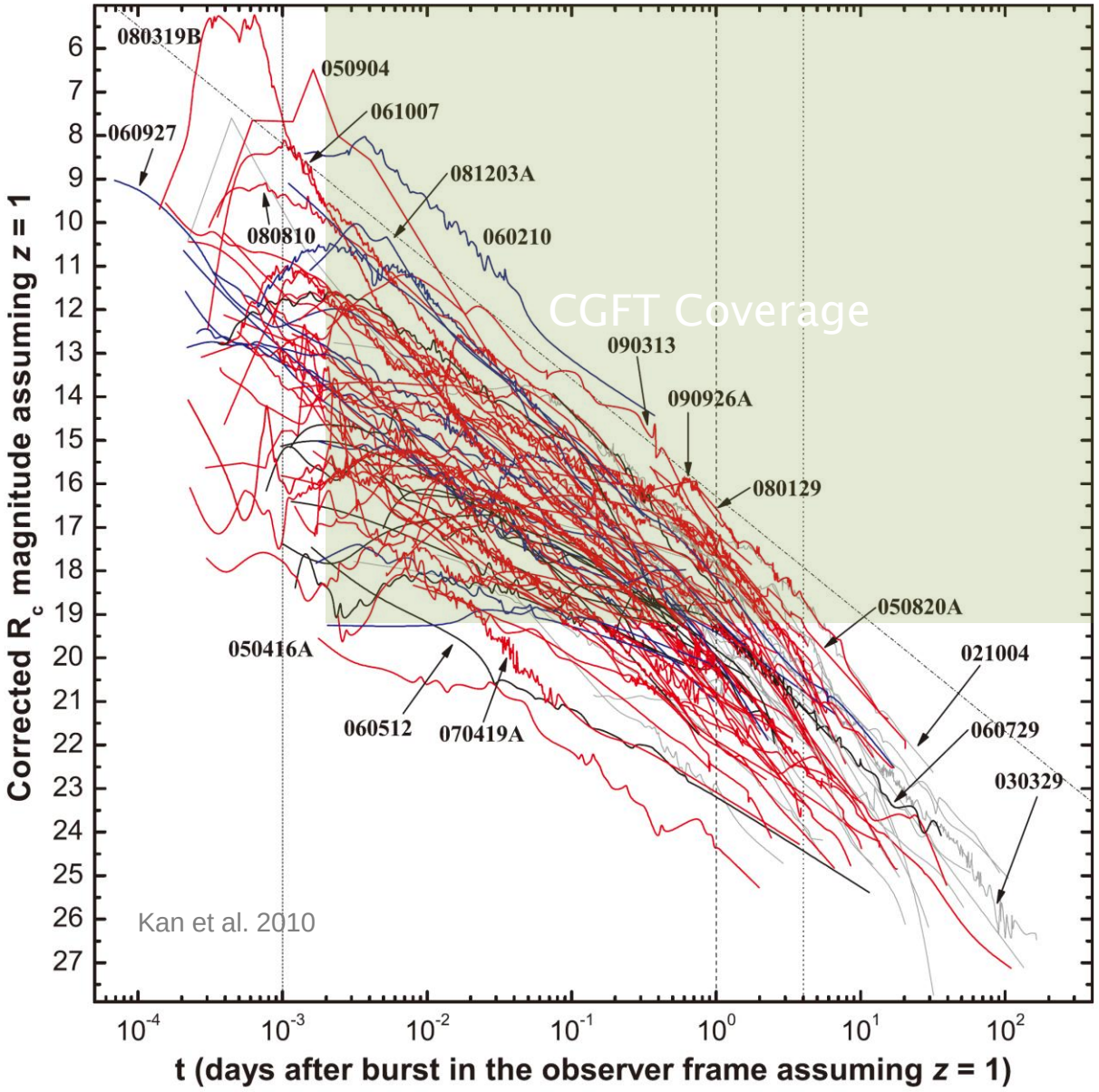
Expected scientific performances



- Report localization within 5 mins after receiving trigger

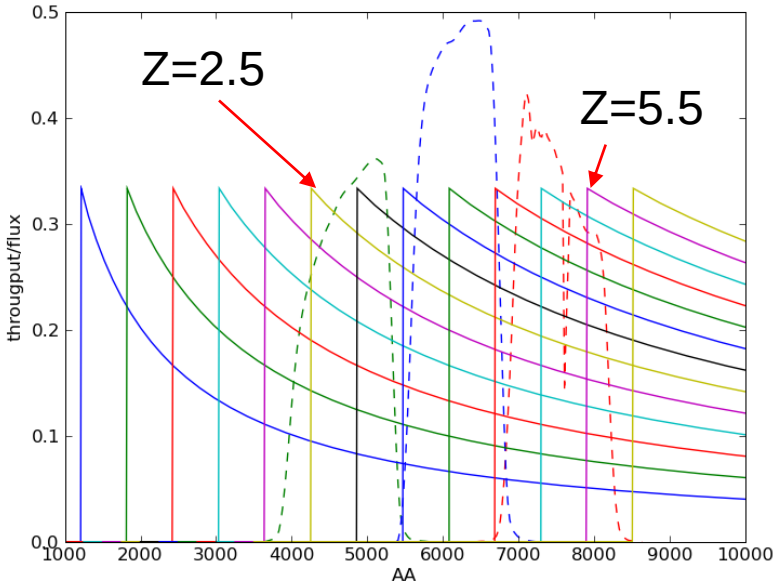
Expected scientific performances

- CGFT coverage on GRB afterglow obs.

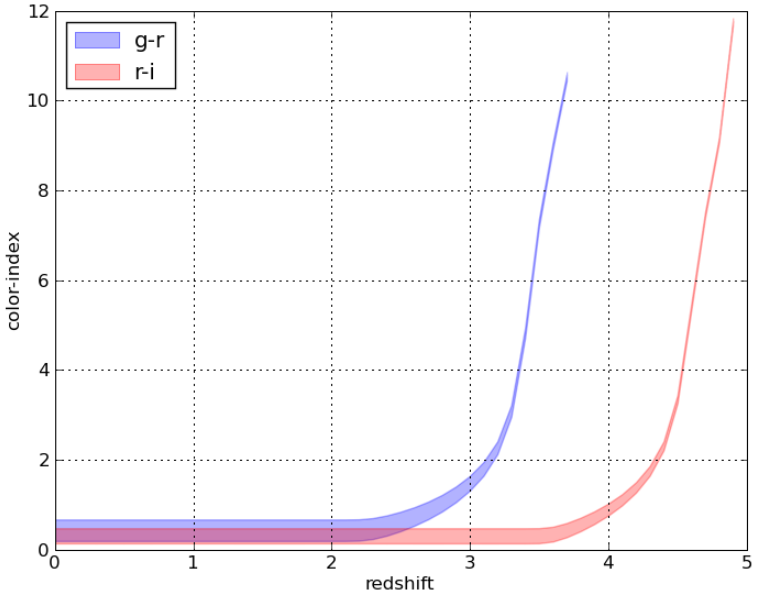


- Redshift indicator measurement on CGFT

(simple estimation: details, refer to Kruhler et al. A&A, 2012)



GRB spectrum with index=-1



photoZ on GRB of index in (-1.4—0.2)

◆ Scientific products of CGFT

1. instant products:

GRB (OT) position, magnitude, color index (redshift indicator), Finding Chart;

.OR. Upperlimit in case of no GRB afterglow detection

Note: There is not only one candidate of GRB/OT provided by CGFT since larger error box of ECLAIRs. Weight and position will be provided together.

2. Offline products:

Refined light curve, temporal slope, SED, photo-Z

Astrometric calibrated images of three channels in time series.

Thank you for your attention