STUDY OF γ-RAY BLAZAR LOW STATES IN THE OPTICAL SPECTRUM

# ACTIVE GALACTIC NUCLEI

Credits: ESO/WFI

AGN: Galaxy that produces intense non stellar light   close to its center

- Most powerful stable sources of light in the Universe
- Possibility of a jet exiting the central region - 10%
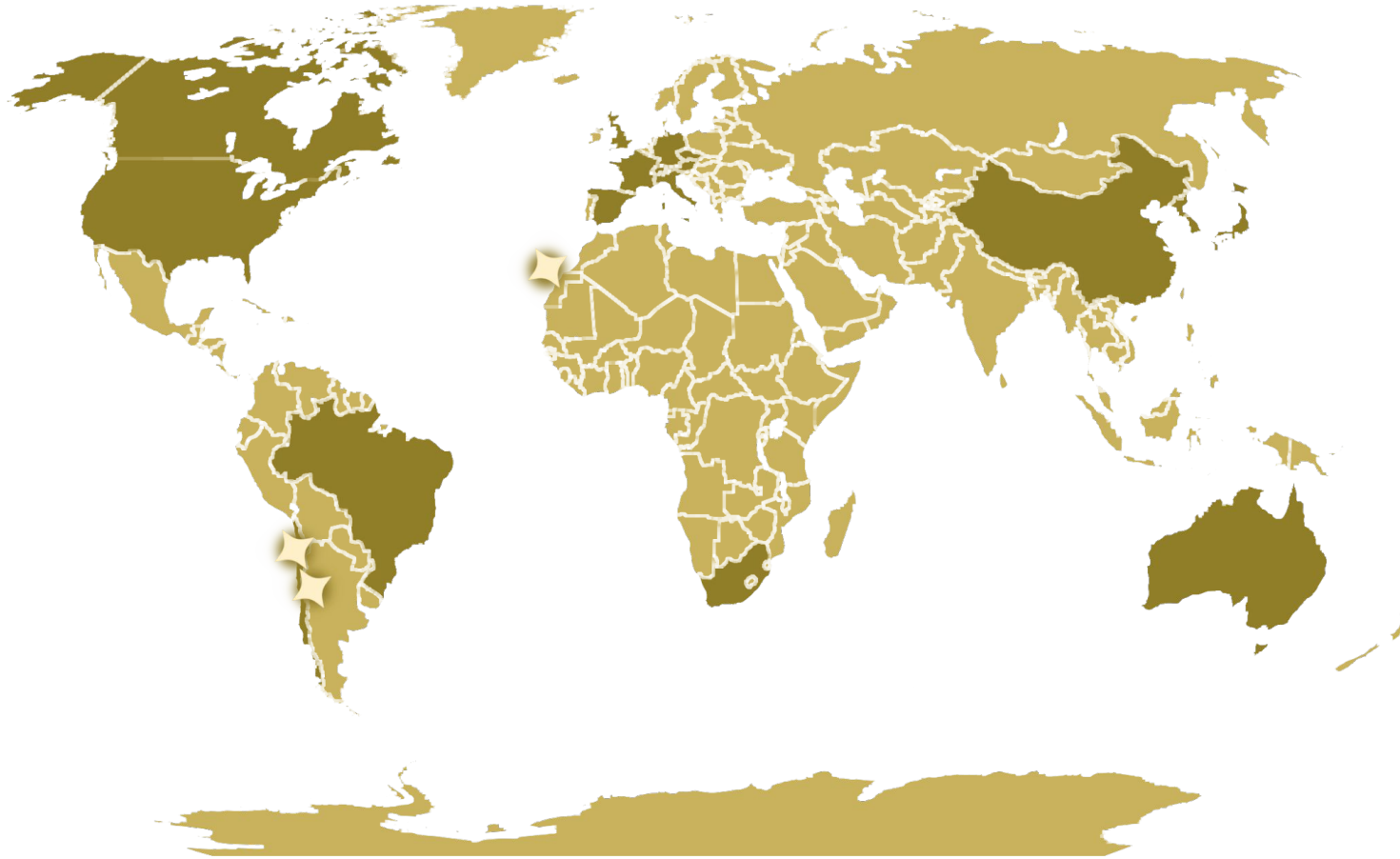
BLAZAR TYPE AGN

Blazar: Jetted AGN with a jet closely aligned to our line of sight

- Intense variability of jet flux

- Faint signal of host galaxy with respect to jet emission

- Variable timescale: minutes to years
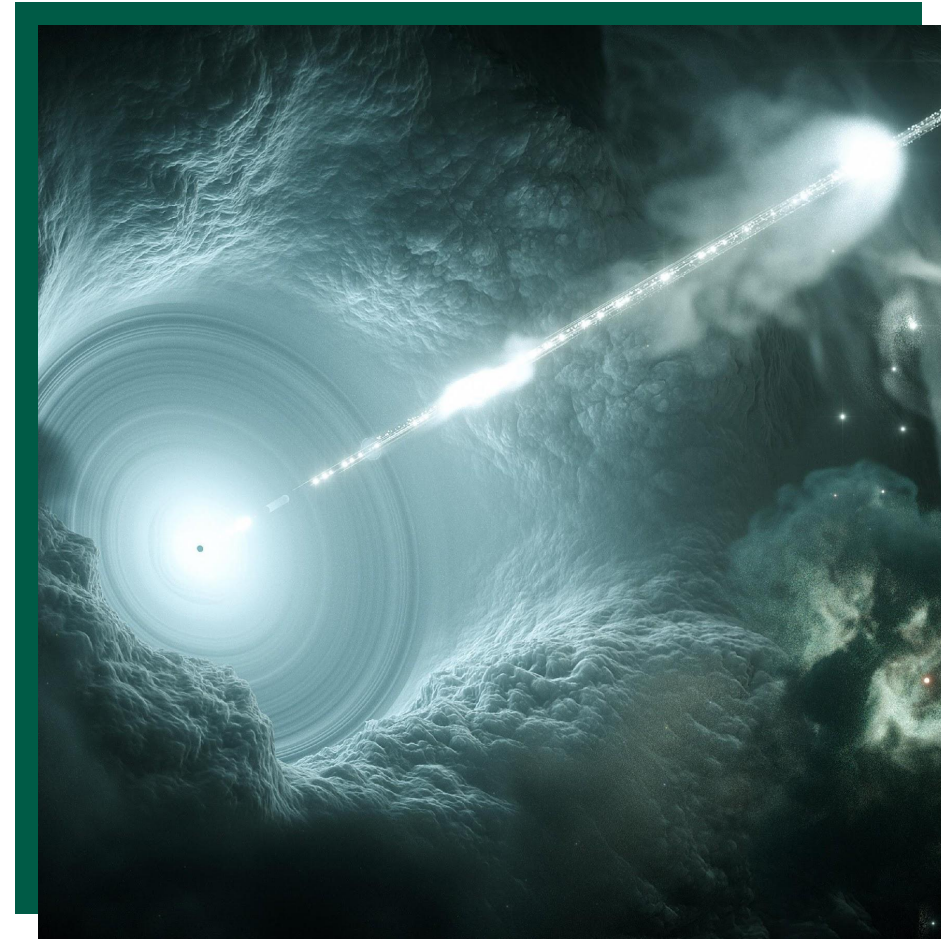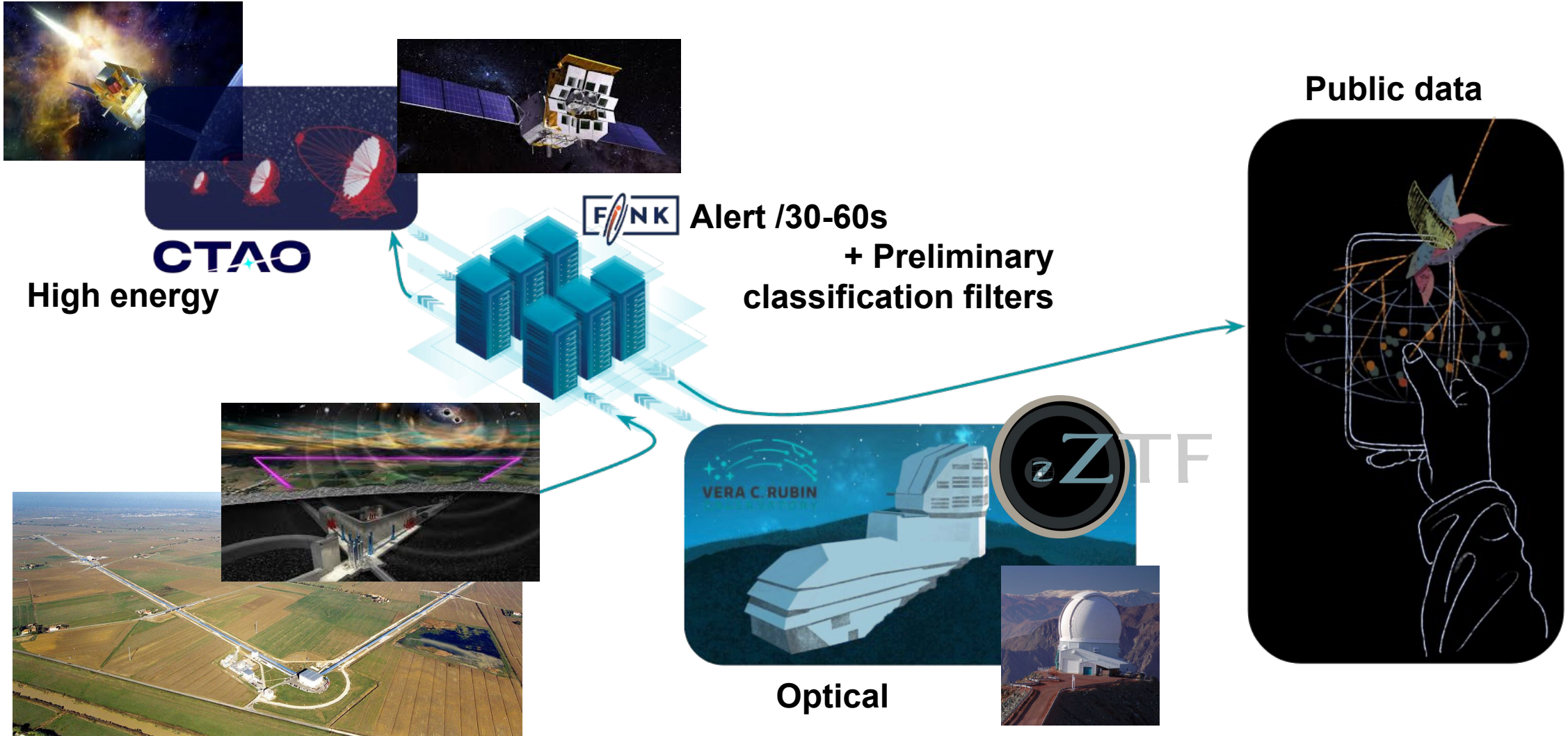
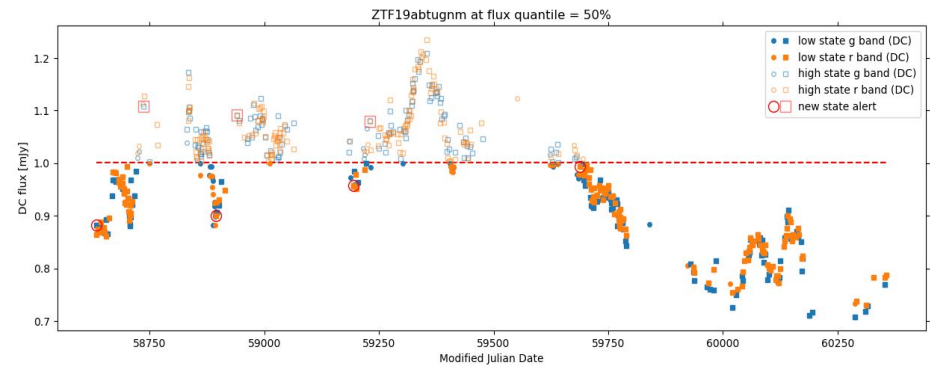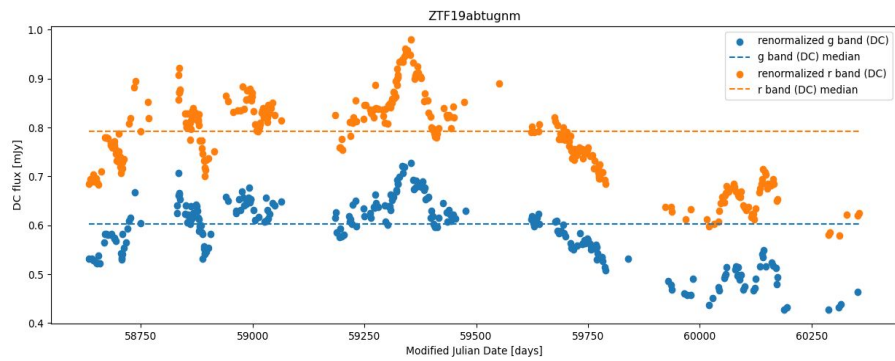Credits: DESY, Science Communication Lab

NEXT GENERATION OBSERVATORIES

Credits: Gabriel Pérez Diaz

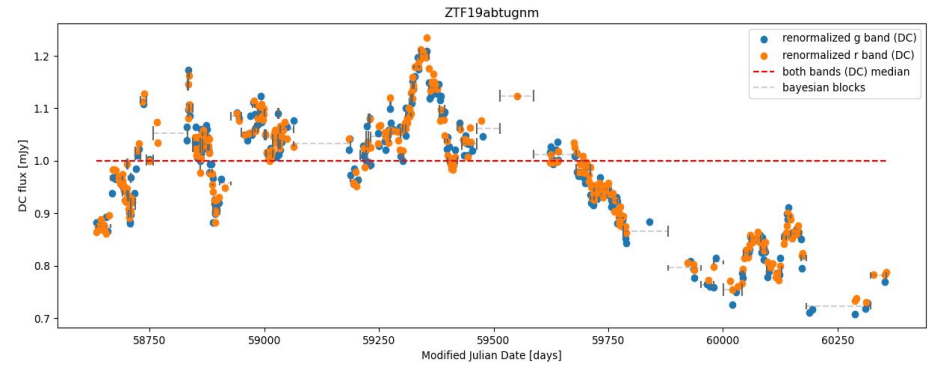
Credits: NOIRLab/NSF/AURA

FINK: THE ALERT BROKER

High energy

GW

Optical

Alert /30-60s
+ Preliminary classification filters

Public data

LOW STATE DETERMINATION
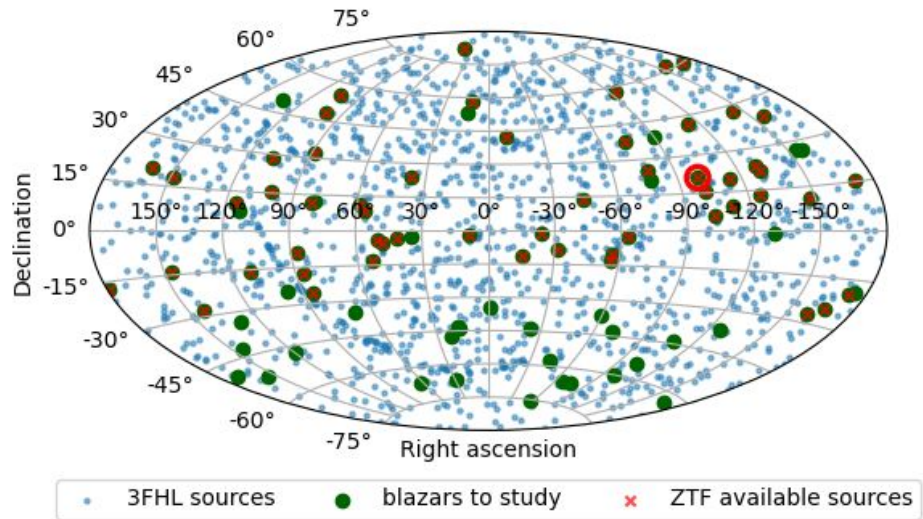
STATISTICAL AFTERMATH
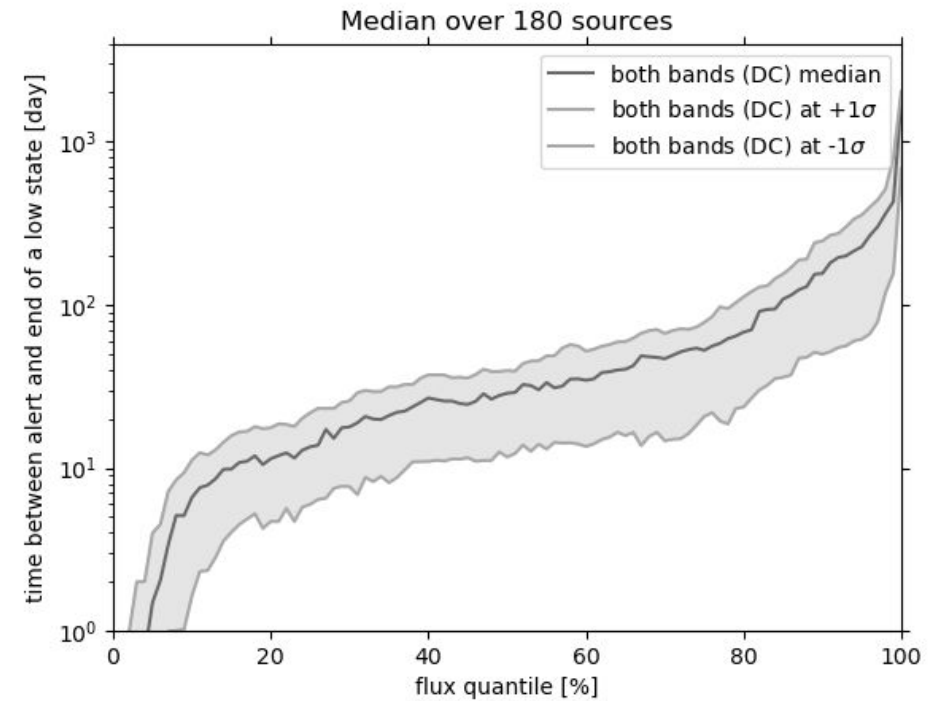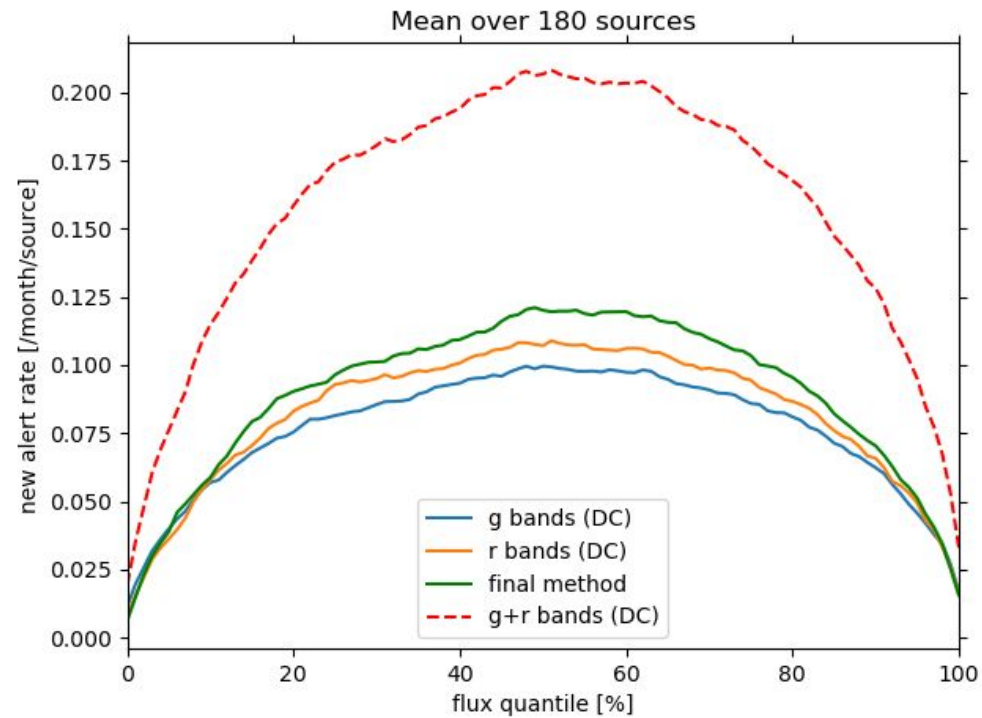
BACKUP SLIDES

AGN MONITORING

Threshold determination from data release

Optical survey data

Alert broker

Direct alerts

Low/High state determination

CTAO triggering
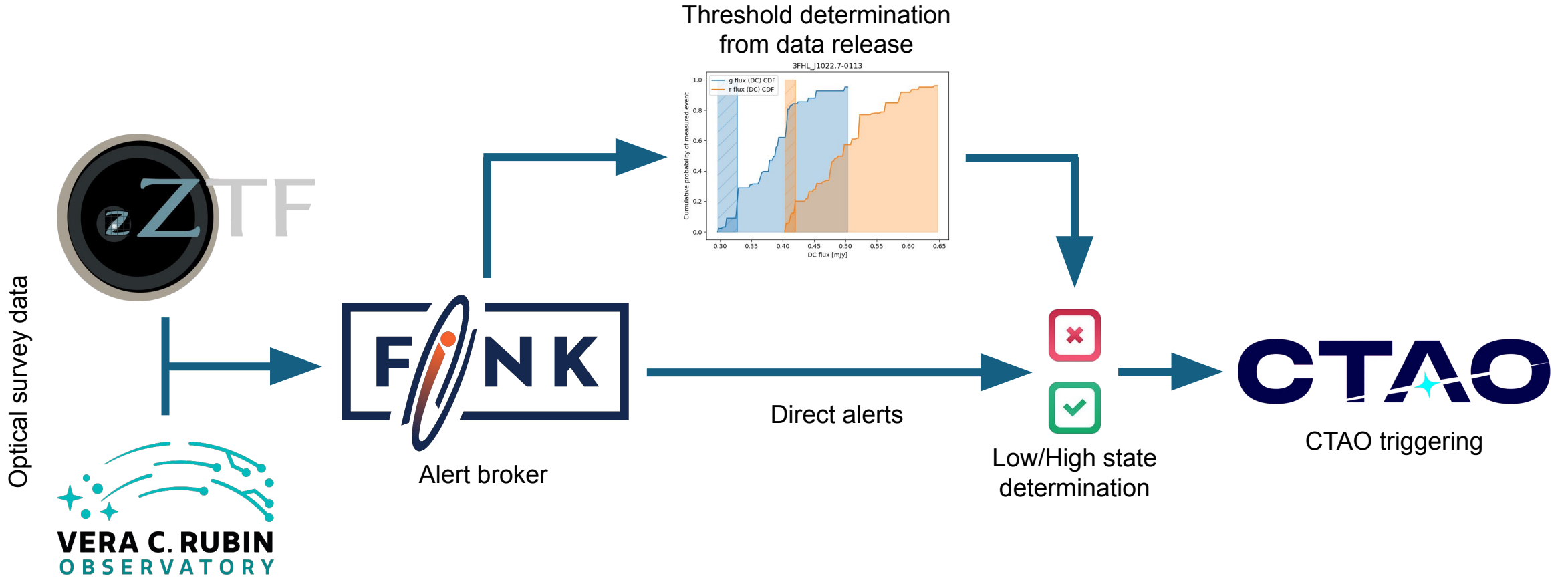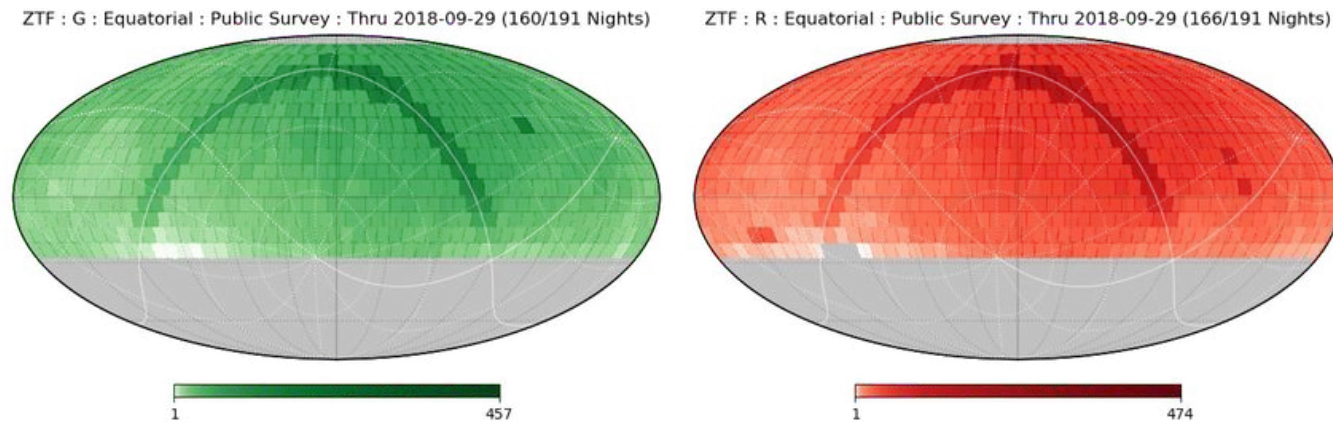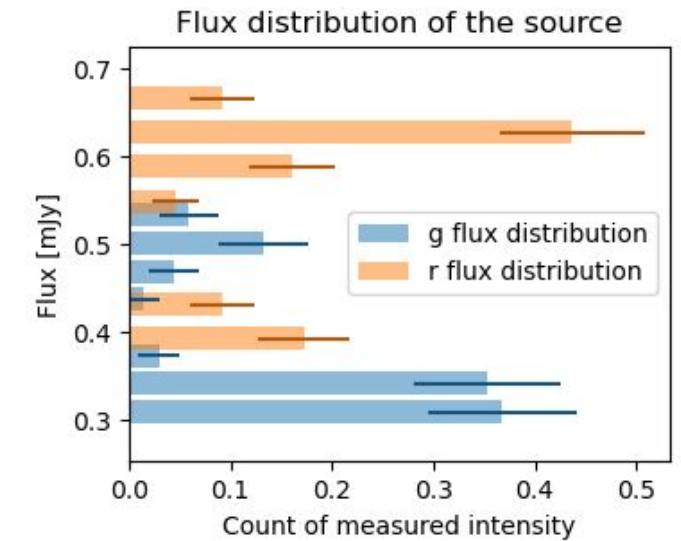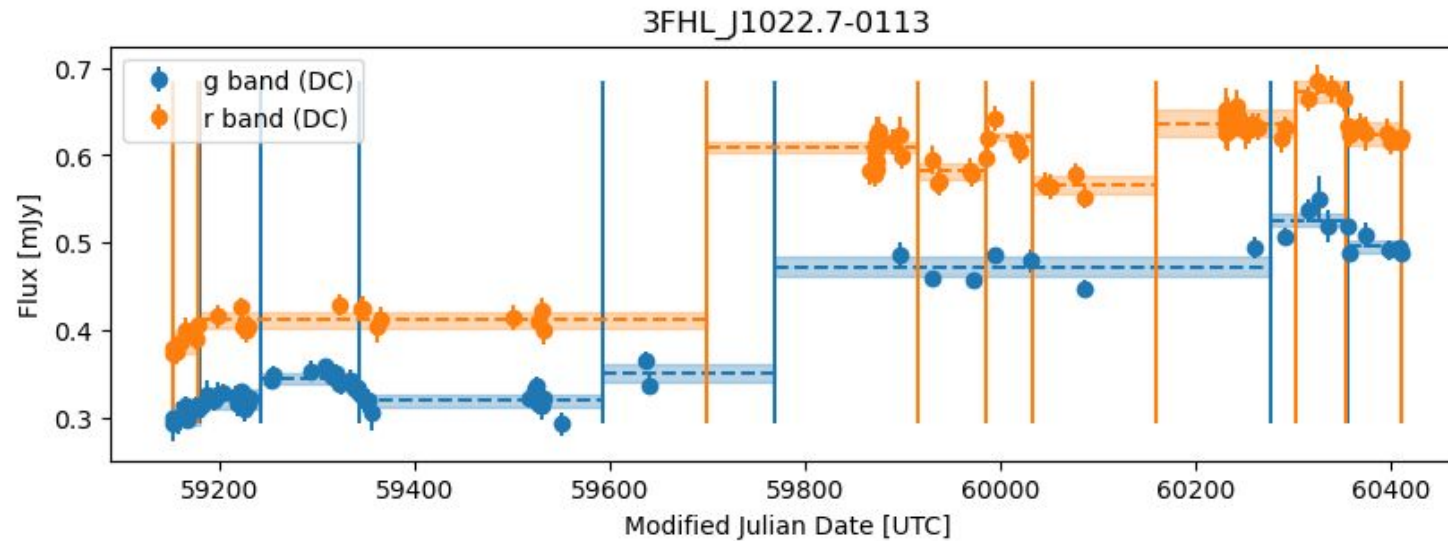
SOURCE SELECTION

- Chosen CTA source : Gamma-ray blazar candidate of unknown redshift - no high S/N ratio, no deep imaging (350 sources)

- ZTF available sources: optical transients (185 sources) - 53%

Credits: C-C Ngeow et al. 2019

- Relevant data: more than 10 points - no change

BAYESIAN BLOCKS

Gathering of data points with respect to statistical properties
→ Interpolation of the flux at all time

DISTANCE DISTRIBUTION

Count of number of blazars as a function of their redshift, considering that their lowest measure corresponds either to a quiet blazar or a blazar emitting as much as its host

Case of a blazar emitting as much as its host