

# Evolution of the number of UUB hexagons

*Corinne Bérat*

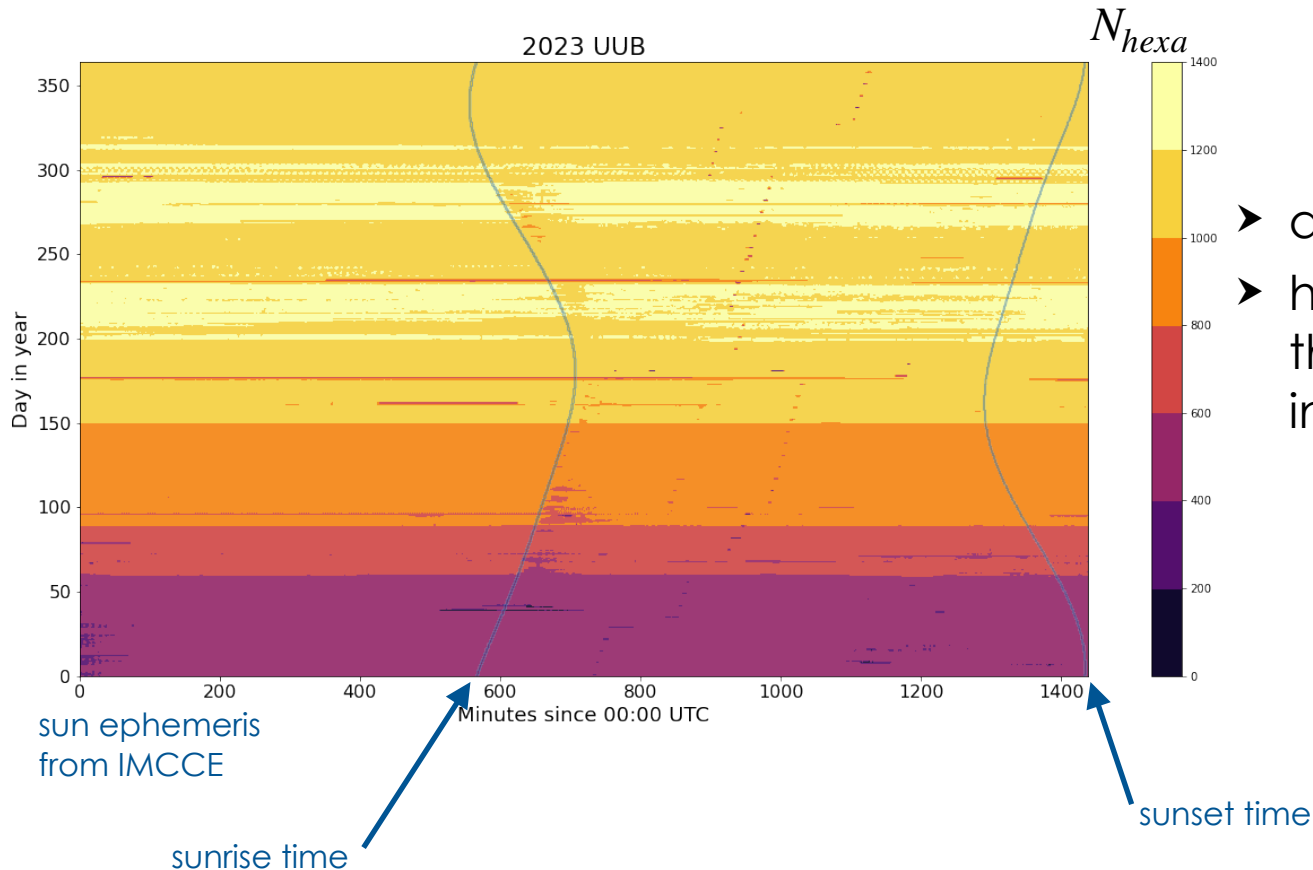
Introduction: reminder

Status for 2024 (from January to April)

Hexagon efficiency

# Recall : Hexagon map in 2023

- maps :  $N_{hexa}$  each minutes in a day, for each day of the year

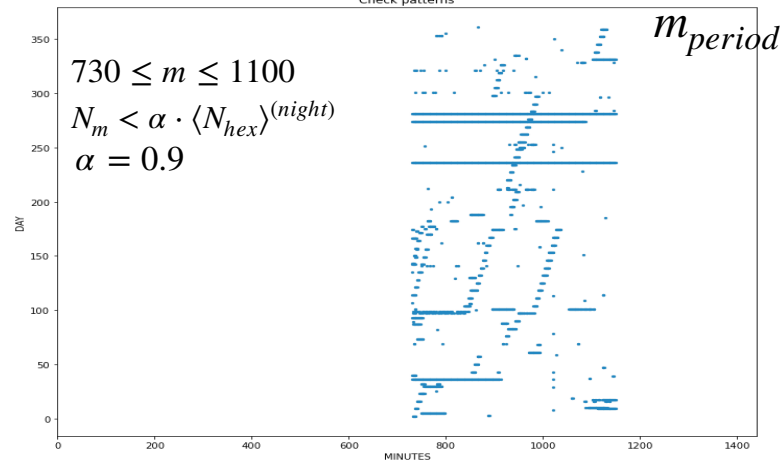
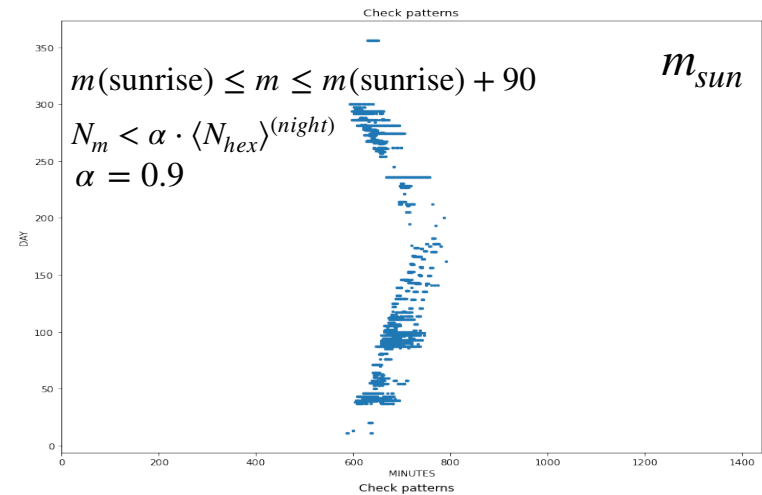
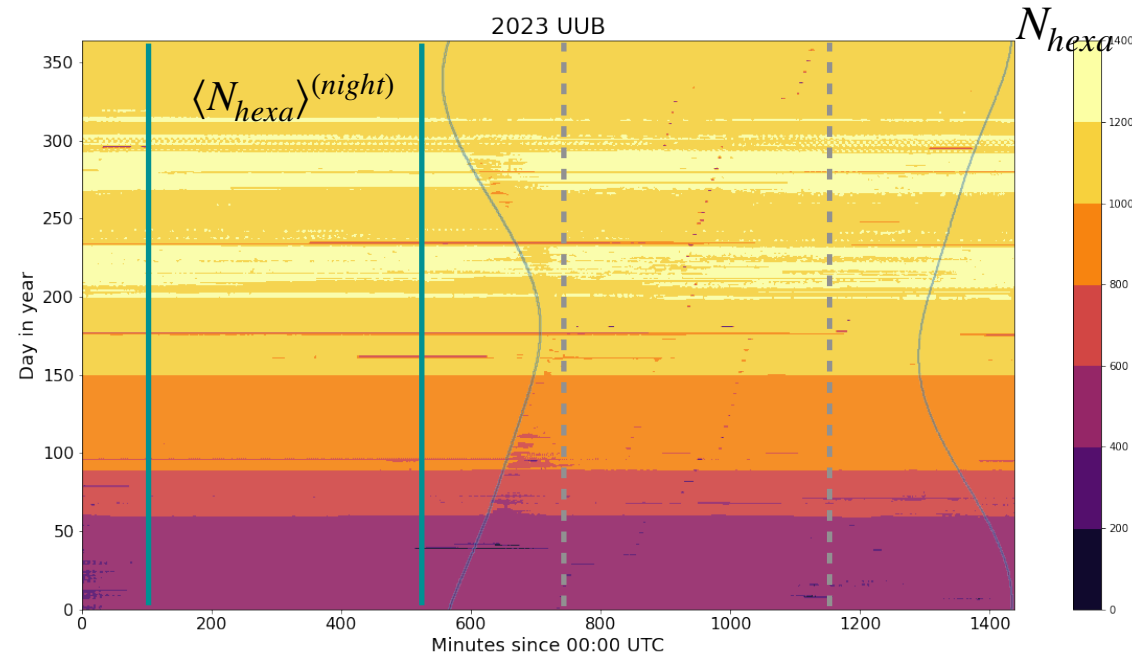


- all stations
- help to identify when there are decreases in  $N_{hexa}$  **not where**

- Losses due to
  - decreases related to sunrise
  - regular patterns observed

Quantify the impact

# Recall : Hexagon map in 2023

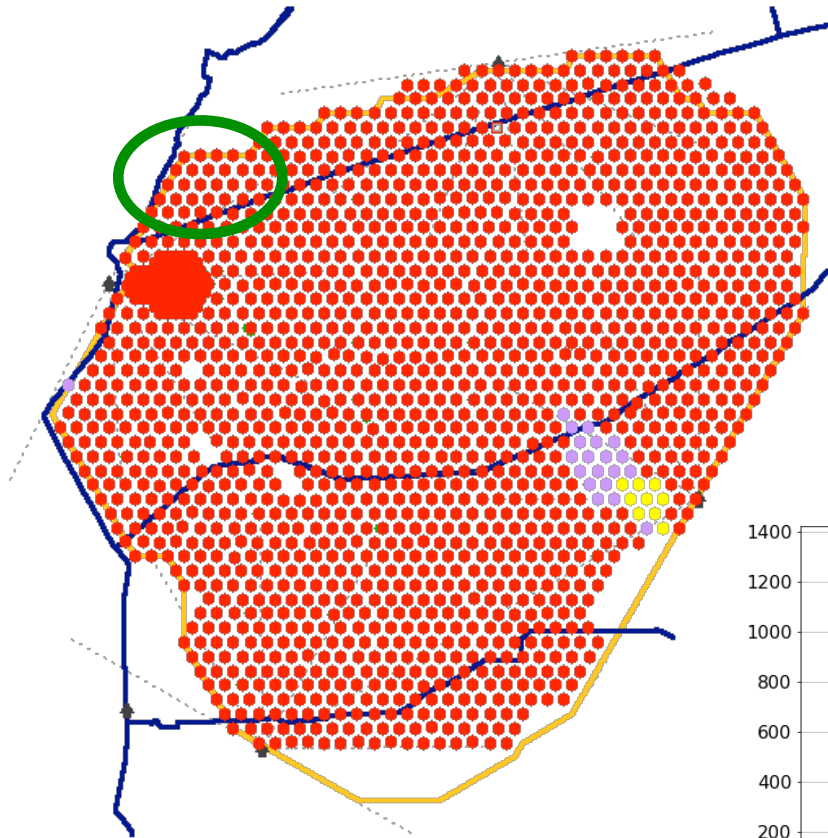


- to estimate the loss of exposure, compare:
  - the total numbers of hexagons (  $\sum_{d,mn} N_{hexa}$  )
  - the expected one, from the daily quiet period
- Identify minutes in day
  - belonging to one of the 2 cases
    - $N_m = \#$  hexagons at minute  $m$
  - in a relatively quiet period
    - $\langle N_{hexa} \rangle^{(night)}$ :  $\langle N_{hexa} \rangle$  during night, for each day in year

alpha	sunrise	patterns	all decreases
0.85	0.07%	0.14%	0.47%
0.90	0.10%	0.15%	0.54%
0.95	0.13%	0.19%	0.65%

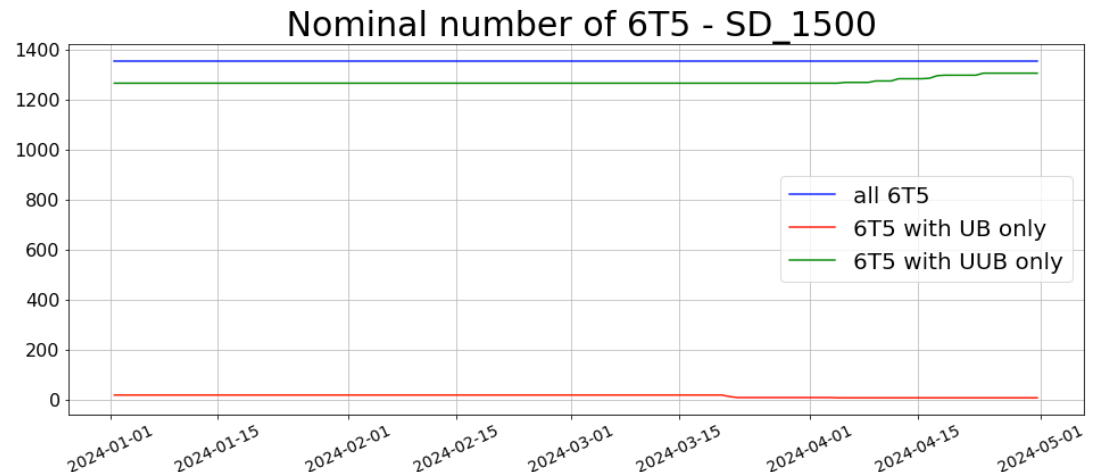
# Nominal number of UUB hexagons

## ➤ Deployment in the North-West corner



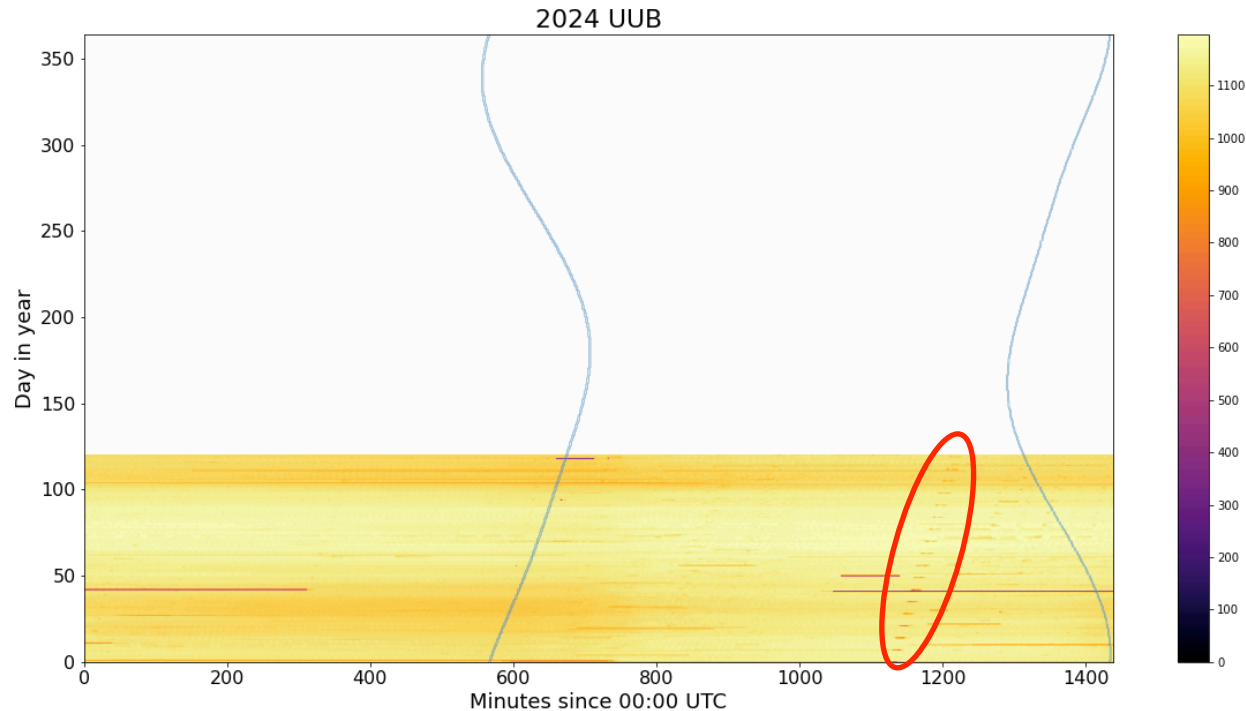
- Number of nominal hexagons
  - not very precise
  - per day, not per minutes

The nominal number of UUB hexagons has increased in April



# Hexagon map 2024

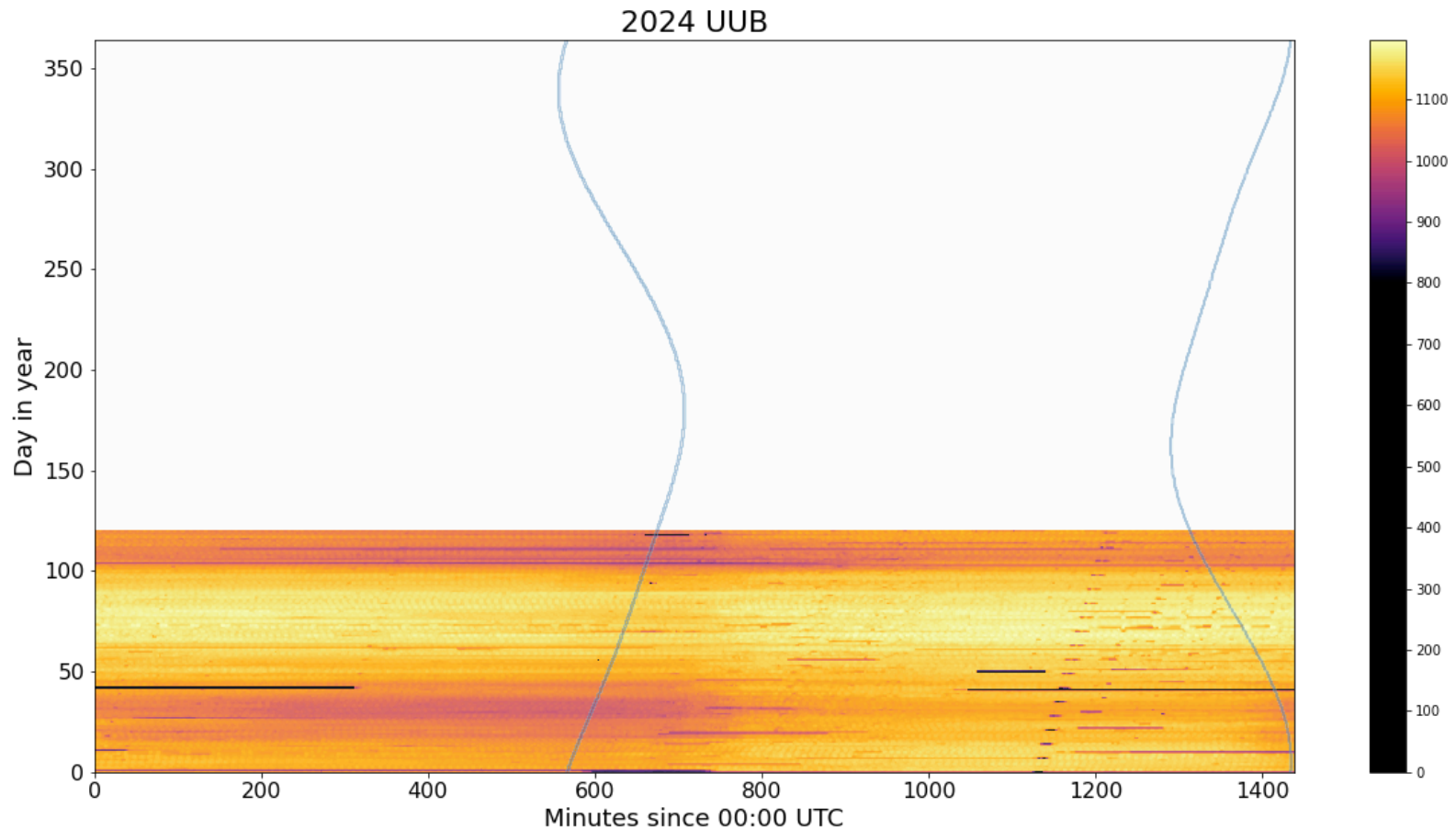
- with ~same scale than for 2023



- nights not so quiet
  - in February (pb identified and already reported)
  - in April (weather conditions ?)
- loss of efficiency in April
  - night and day, and despite the increase of the nominal UUB hexagons

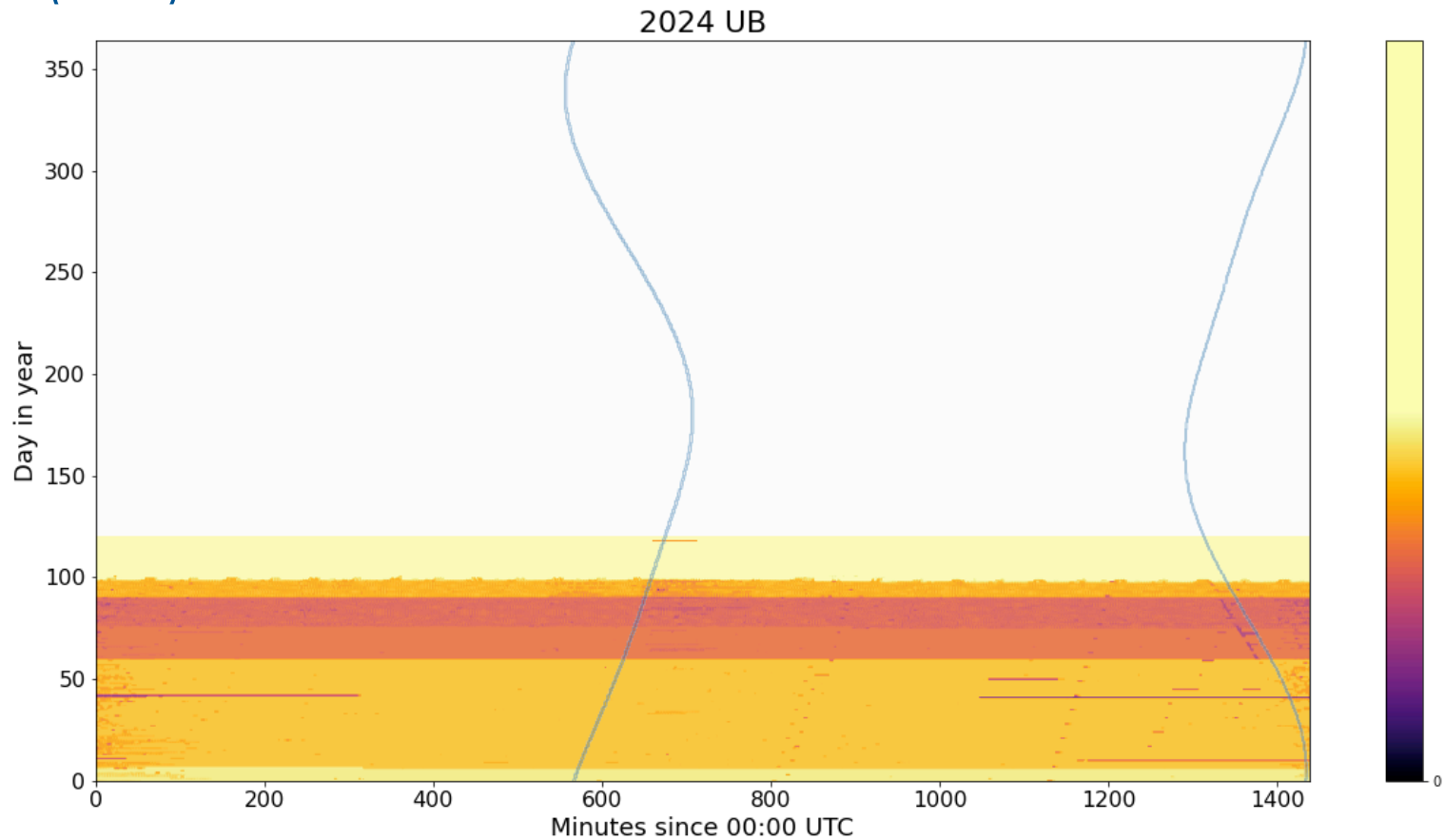
# Hexagon map 2024

- scale to enhance the periods with decrease

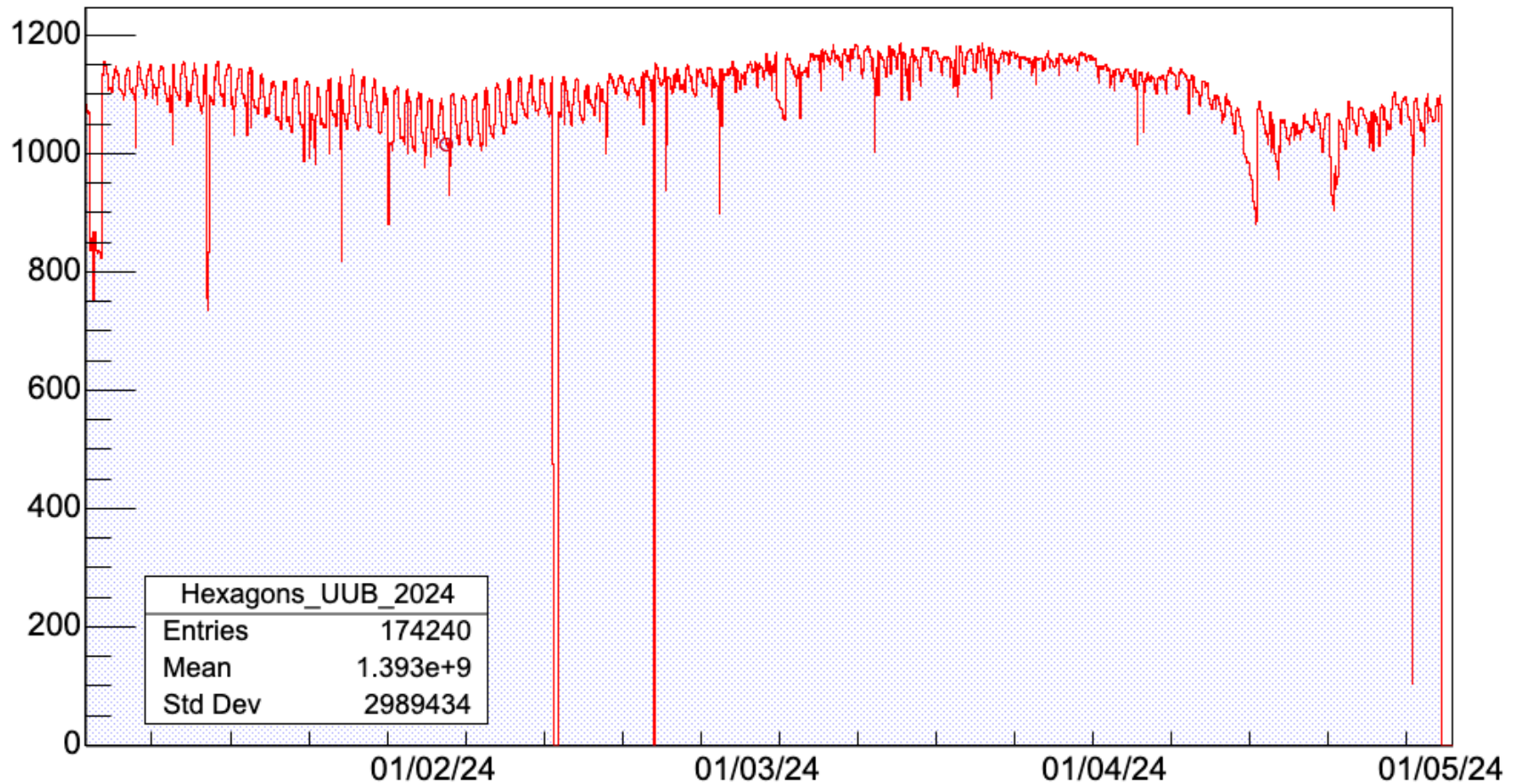


# Hexagon map 2024

- ▶ Periodic decrease seen also in the number of UB hexagons
  - (new)



2024 (curve in red is after bad periods cut)

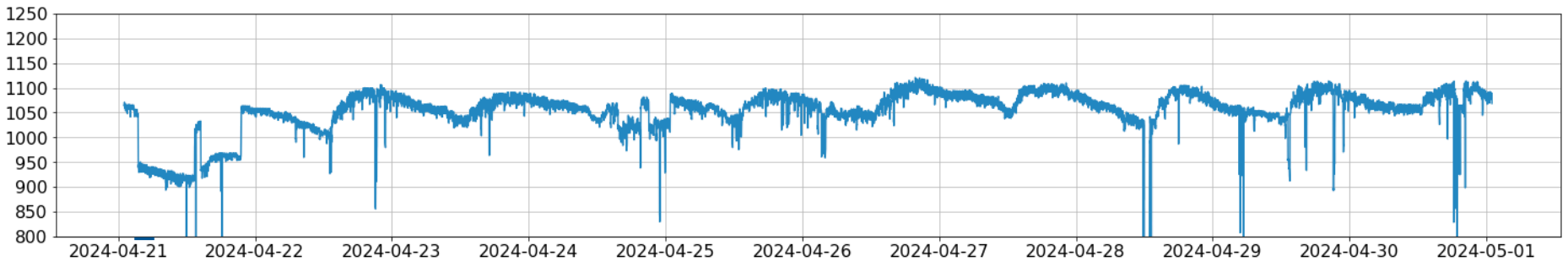
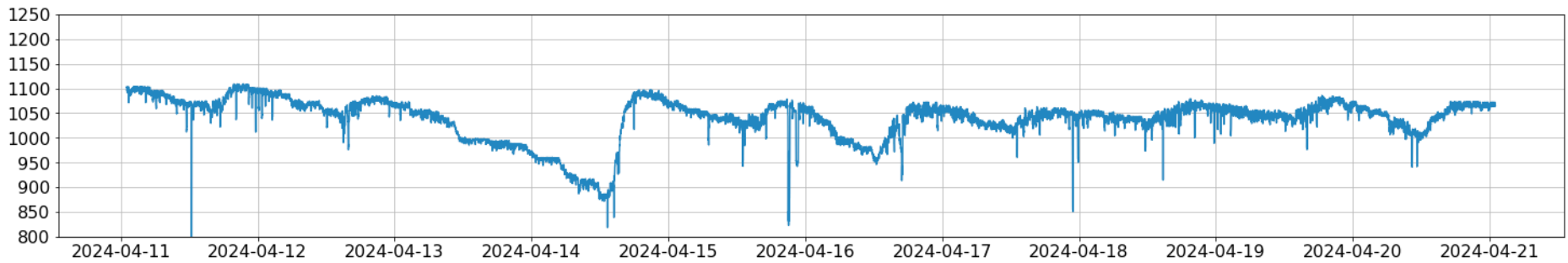
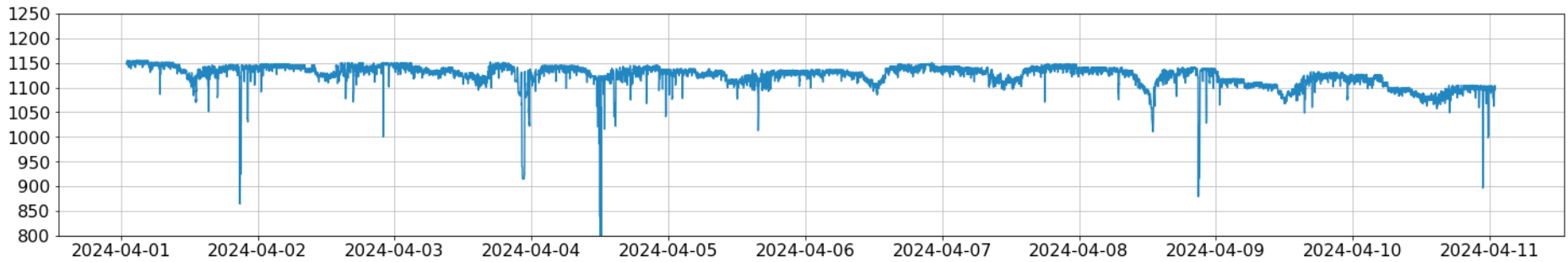




# Daily modulation

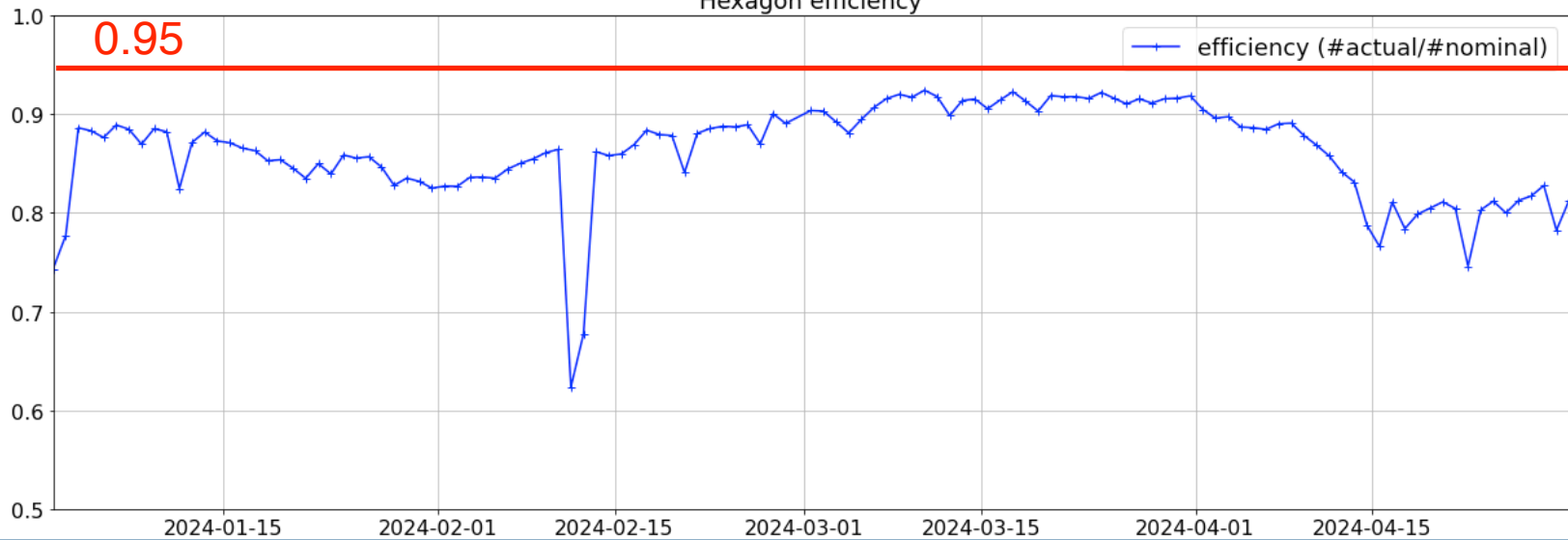
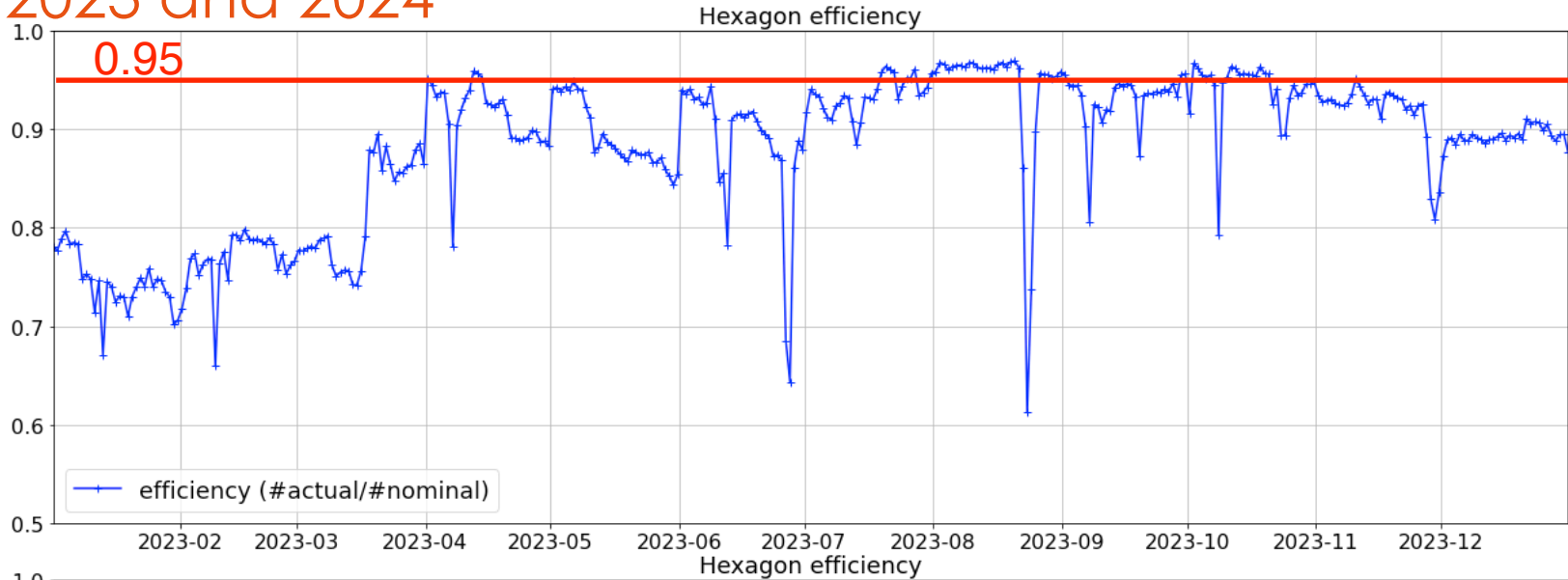
## ► Zoom for April

- nominal ~1300



# Efficiency

## ► 2023 and 2024



# Concluding remarks

- Hexagon efficiency in the first four months of 2024 is lower than in 2023
- Nights are no more quiet periods (day/night modulation)
- The global behavior prevent us to see if there is still a sunrise effect
- Regular patterns of decrease still there, origin still unknown