Making MAXI dataset to search for associated neutrino events

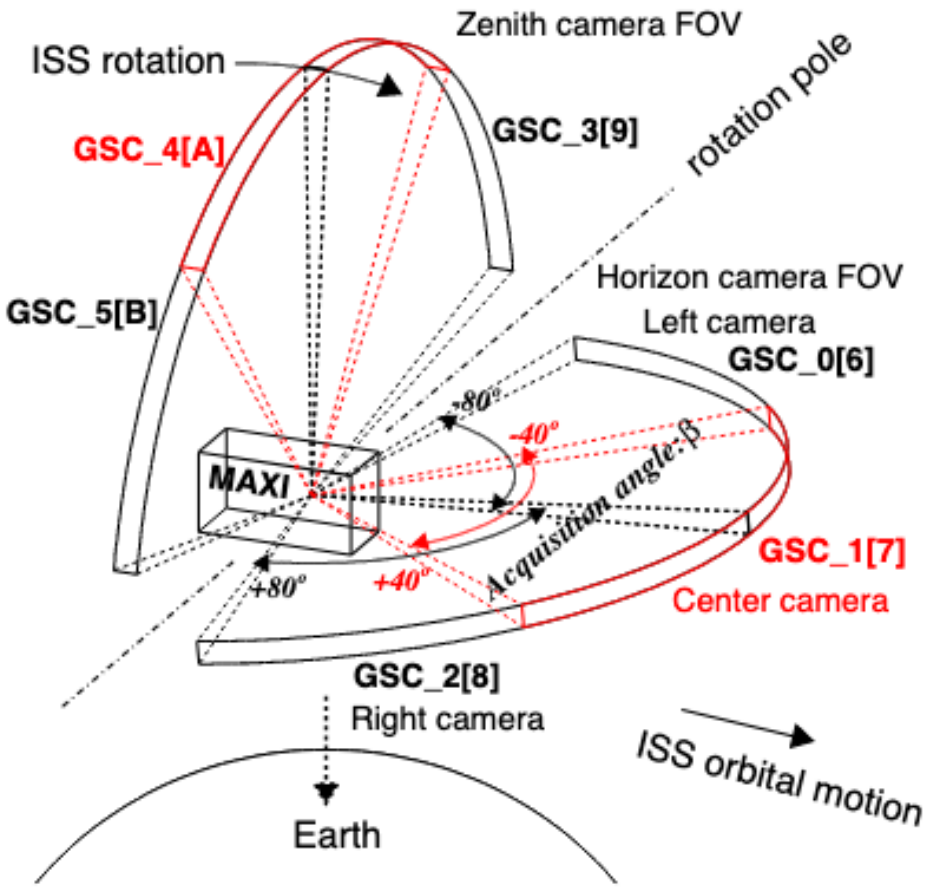
- νイベントに対応するX線イベントを調べる
  - 時刻や座標の範囲が決まっているデータを調べれば良いので難しくない
- X線イベントに対応するνイベントを調べる
  - 全データを調べなければいけないので、工夫がいる
  - イベントファイルのフォーマットを見直して計算しやすくする

今日はこの話

event process : summary

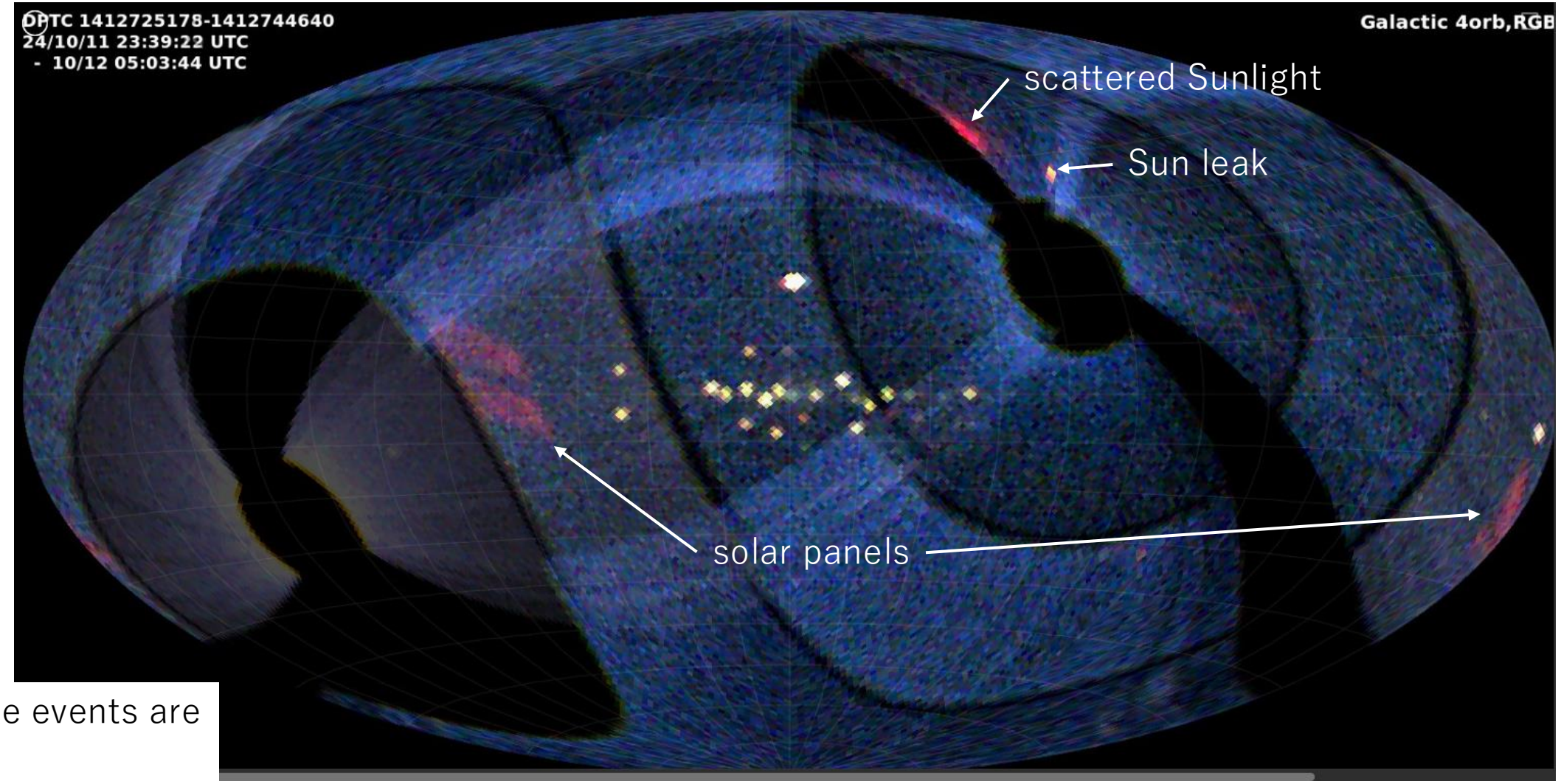
1. use "processed event data" of each cameraID (MAXI archive)
2. add sun-leak flag (maxiutil by Sugizaki-san)
3. add paddle flag and adjust file boundary (TSTART, TSTOP)
4. modify GTI extension to reflect actual observing time

GSC cameras

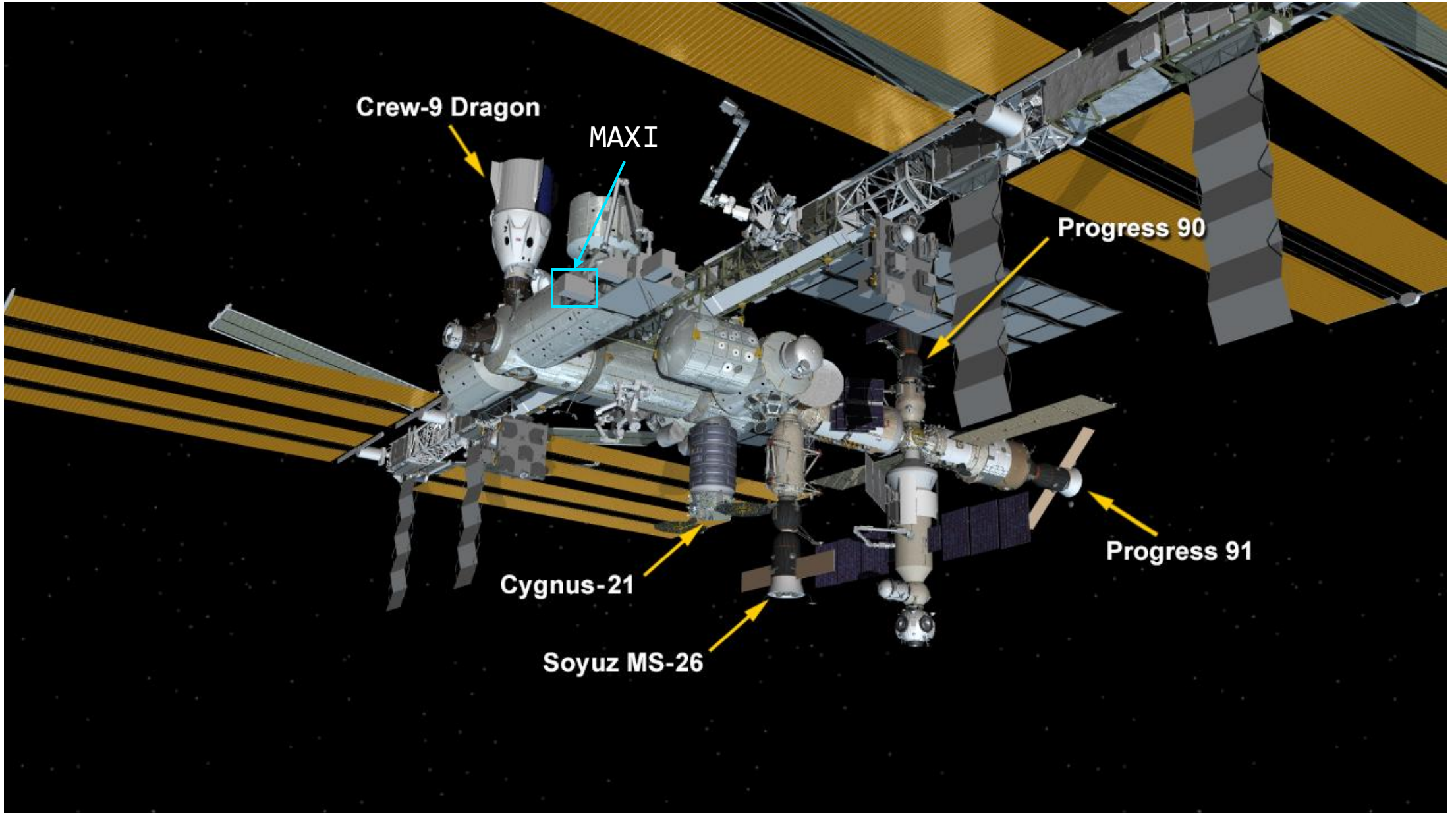


- 6/12 are available now

all-sky image (6h~4orbits)



Most of the fake events are due to the Sun



https://www.nasa.gov/international-space-station/space-station-visiting-vehicles/

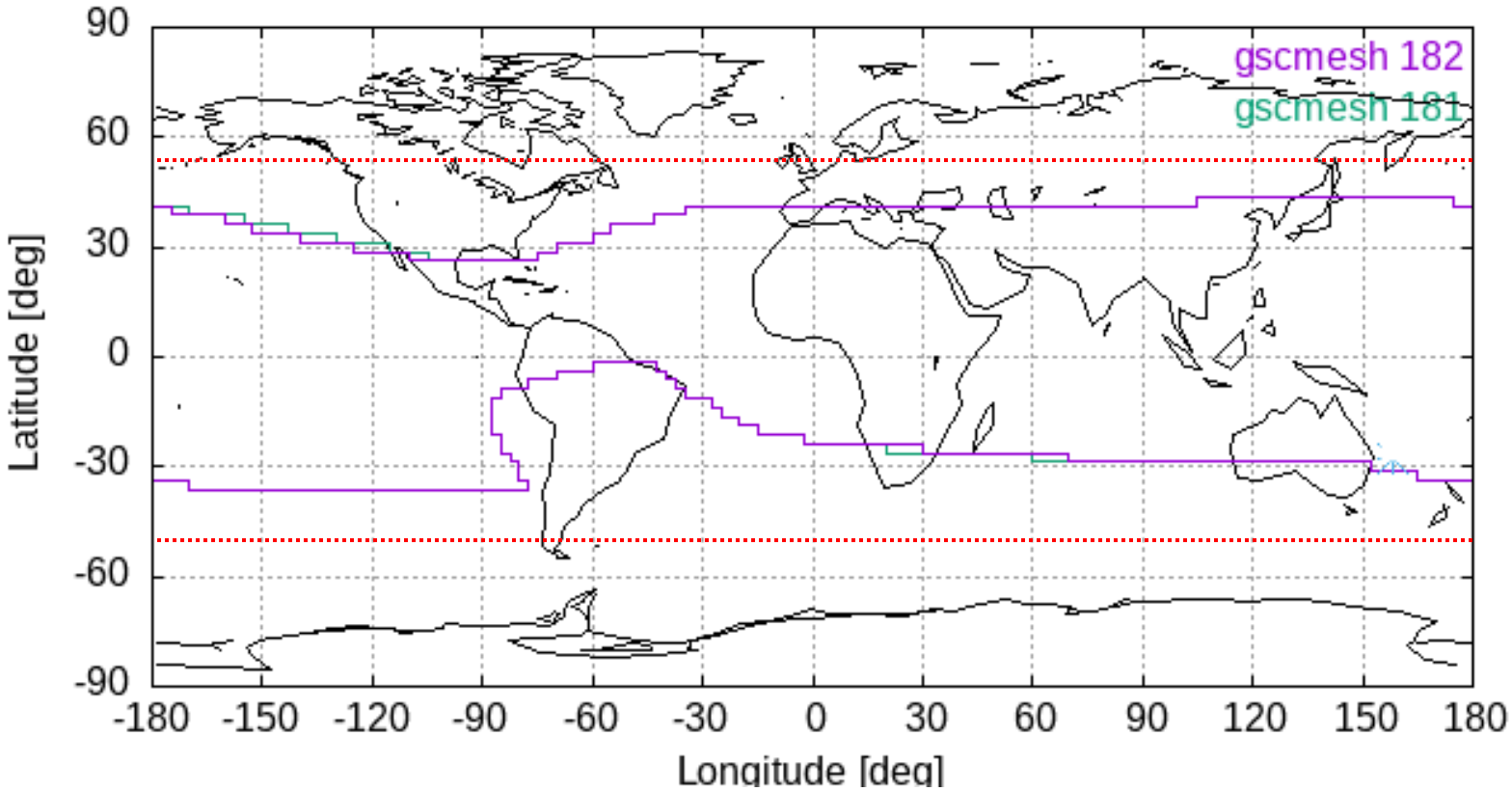
calculation of the position of possible fake events

- Sun leak & scatter
  - MAXI (ISS) attitude
  - position of the Sun
  - position in the detector coordinates
- paddle
  - MAXI (ISS) attitude
  - position angle of the solar panels
  - position in the detector coordinates
- vehicles
  (not included in the current event files)
  - dock information
  - position in the detector coordinates

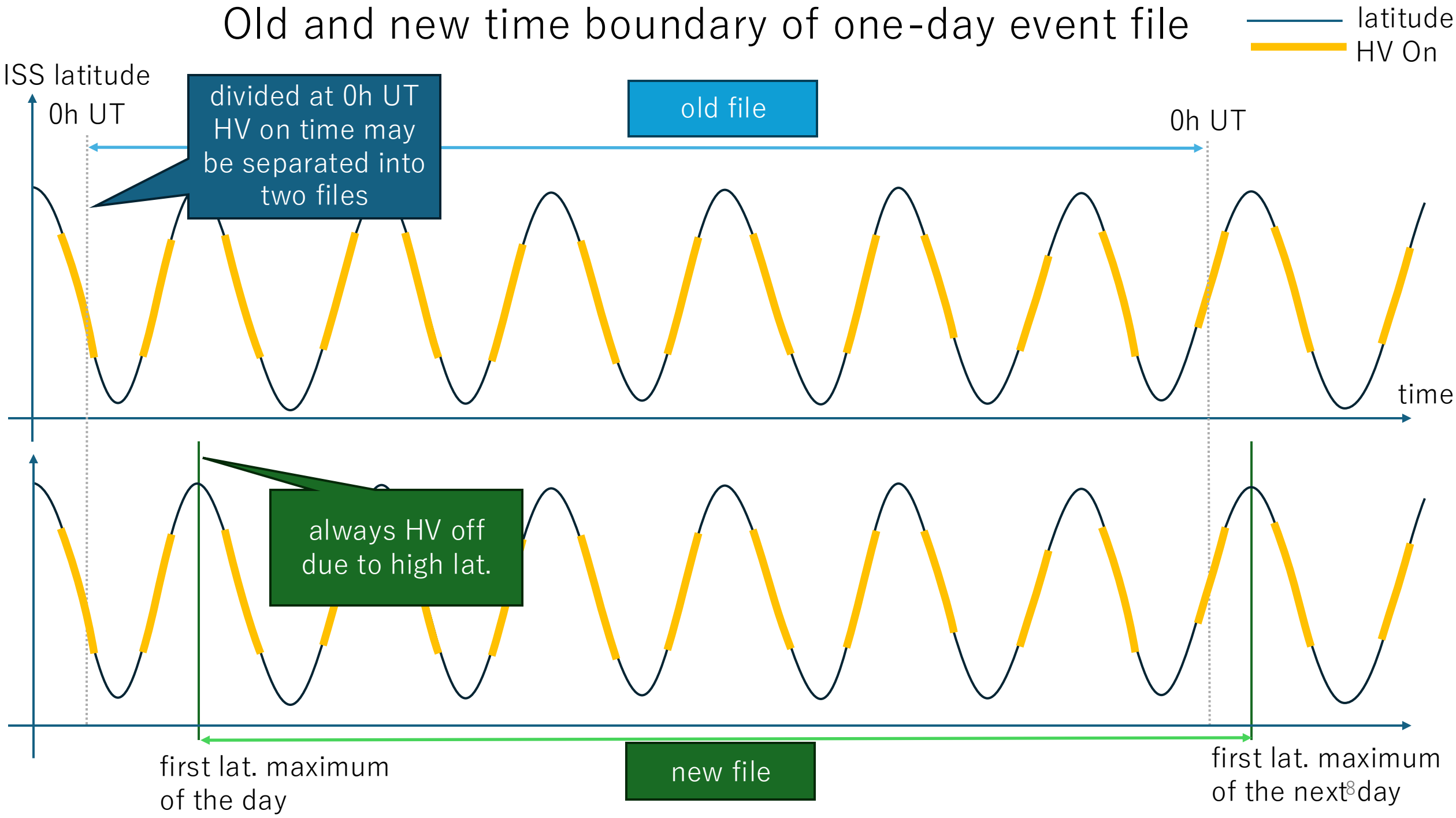
file boundary

- inclination of the ISS orbit: 51 deg
- GSC does not observe in high latitude, because particle background is high
- HV on time < 25 min
- events in a "HV on time" should be in a single file

- exposure maps calculated with the same boundaries are available
  (done by Kawakubo-san)



Old and new time boundary of one-day event file



processing time (for one-day events)

- sun-leak check 15-20 sec
- paddle check 1 hour
- GTI extension 10 sec

- 2 PCs are working
- a new PC will be available soon
- (Supercomputer in JAXA?)