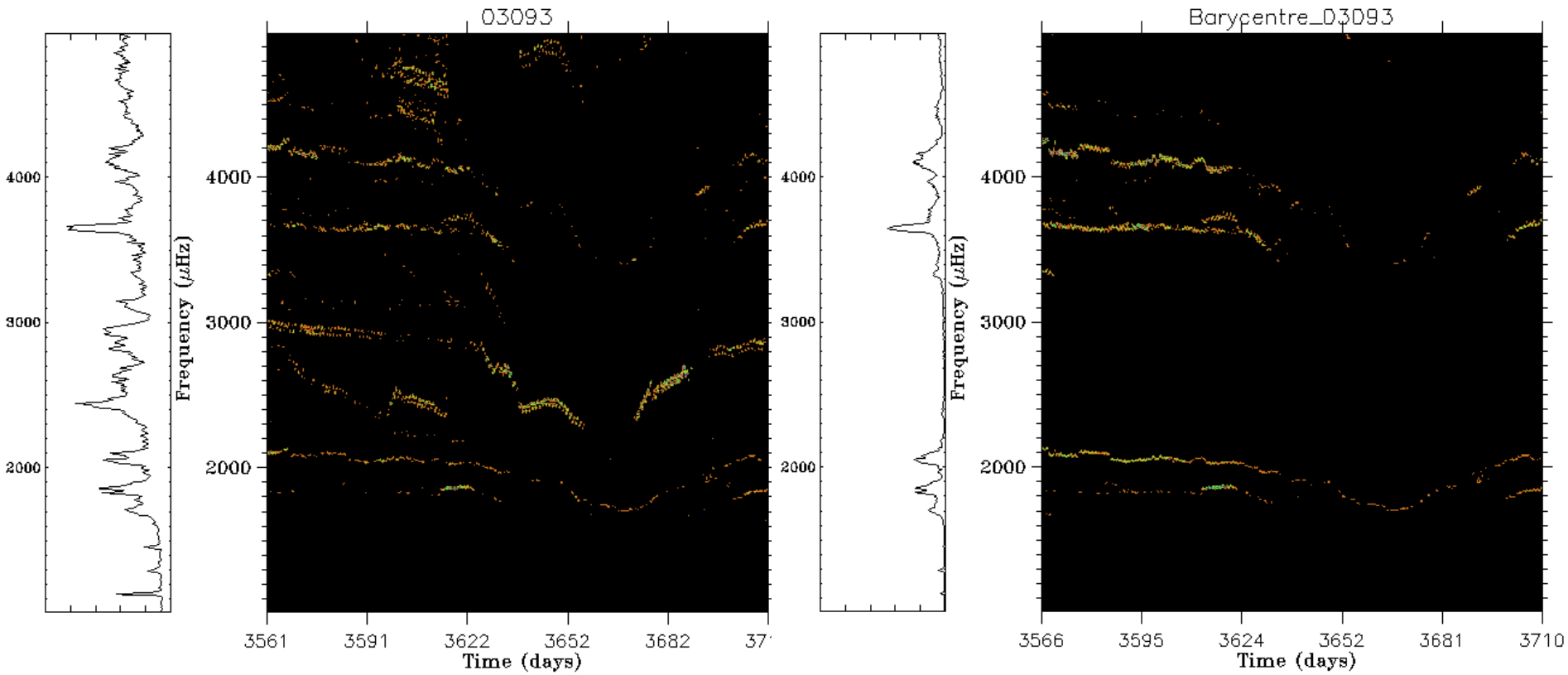
Residuals of jitter

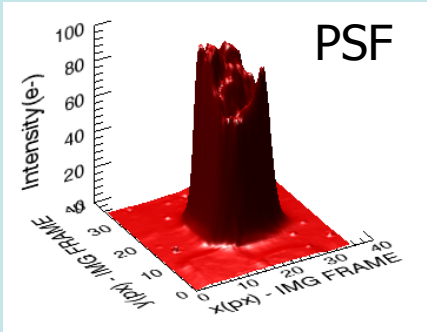


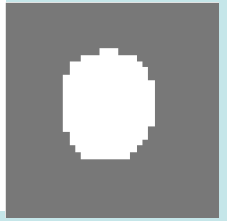
Jitter photometric correction method

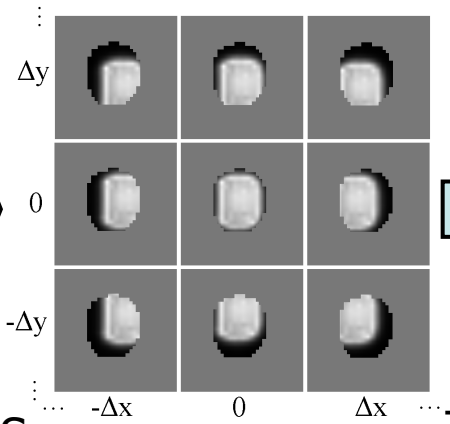
$$F_{c_i} = K(\Delta x_i, \Delta y_i).F_{m_i}$$

Corrected Flux — Factor of correction — Jitter — On-orbit Measured Flux

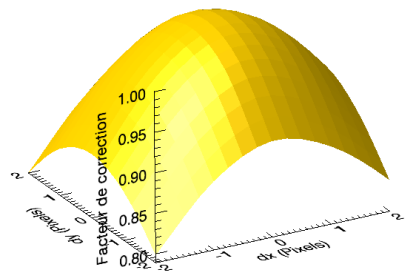
Method: correction using PSF







Correction Surface



On-orbit Barycentres SEISMO

$$(x_i, y_i)_{SISMO}$$

LoS

$$\begin{bmatrix} \varphi \\ \theta \\ \psi \end{bmatrix}$$

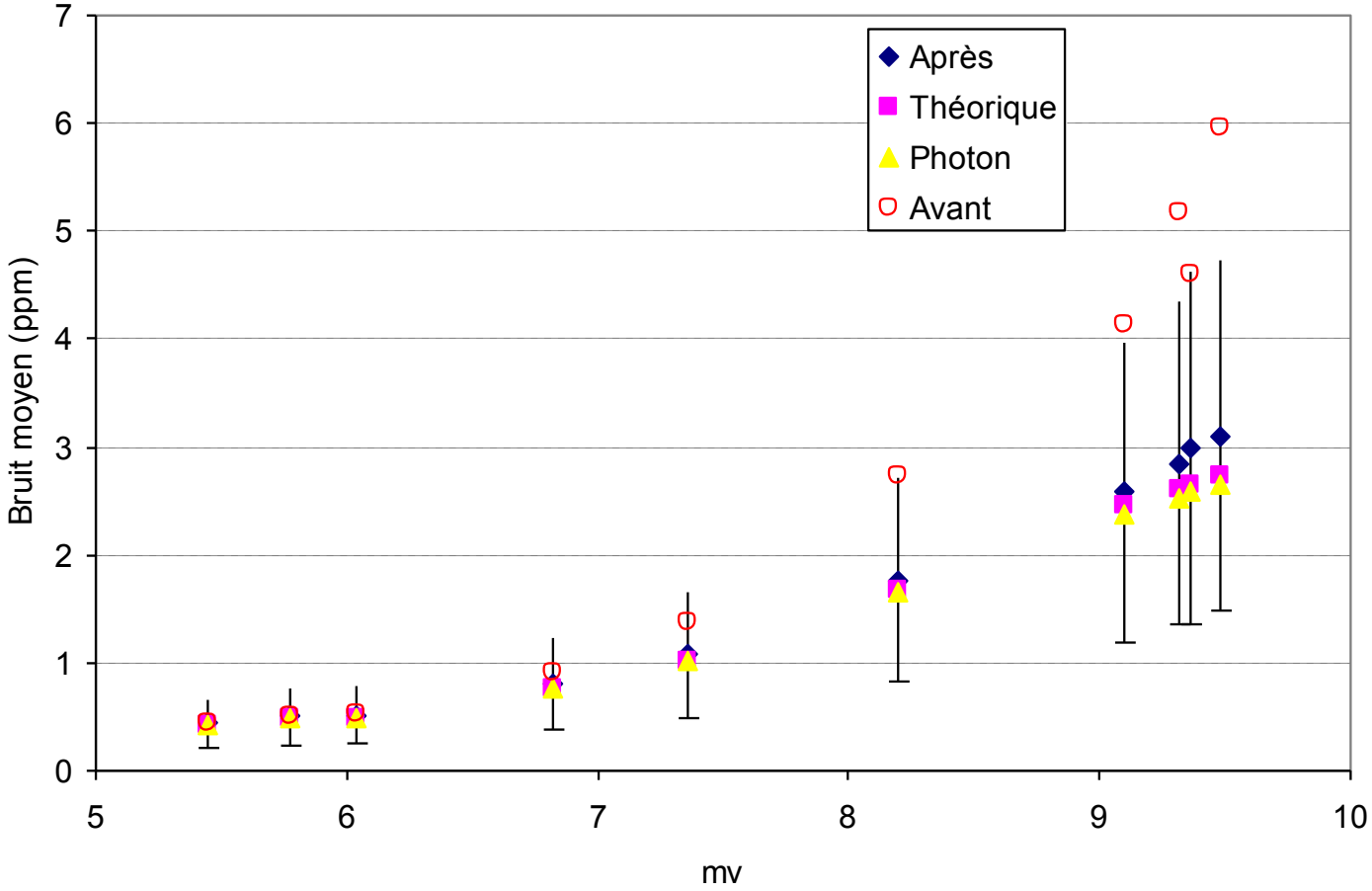
Jitter EXO

$$(\Delta x_i, \Delta y_i)_{EXO}$$

Jitter SEISMO

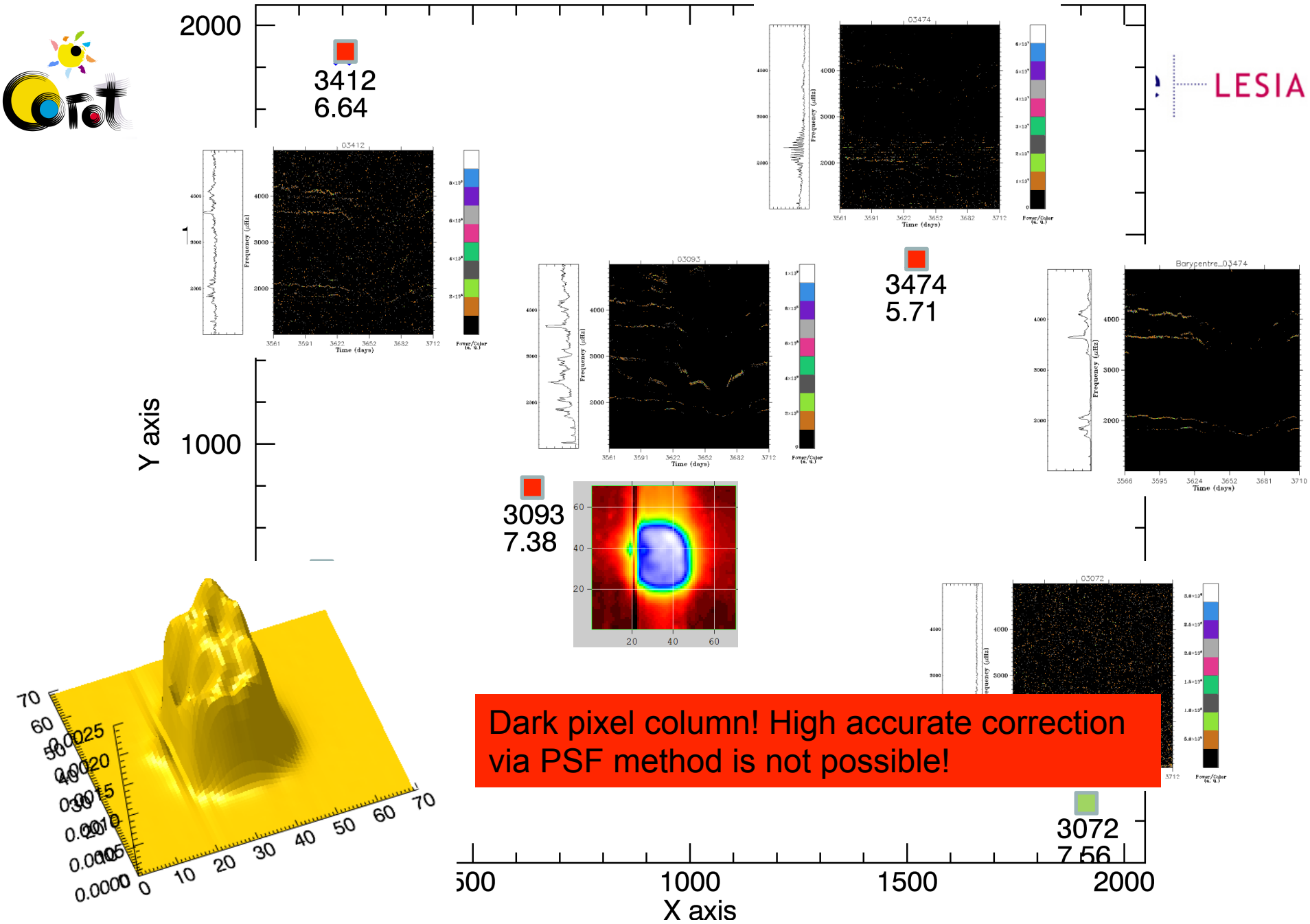
$$(\Delta x_i, \Delta y_i)_{SISMO}$$

Jitter correction performance for IRa01



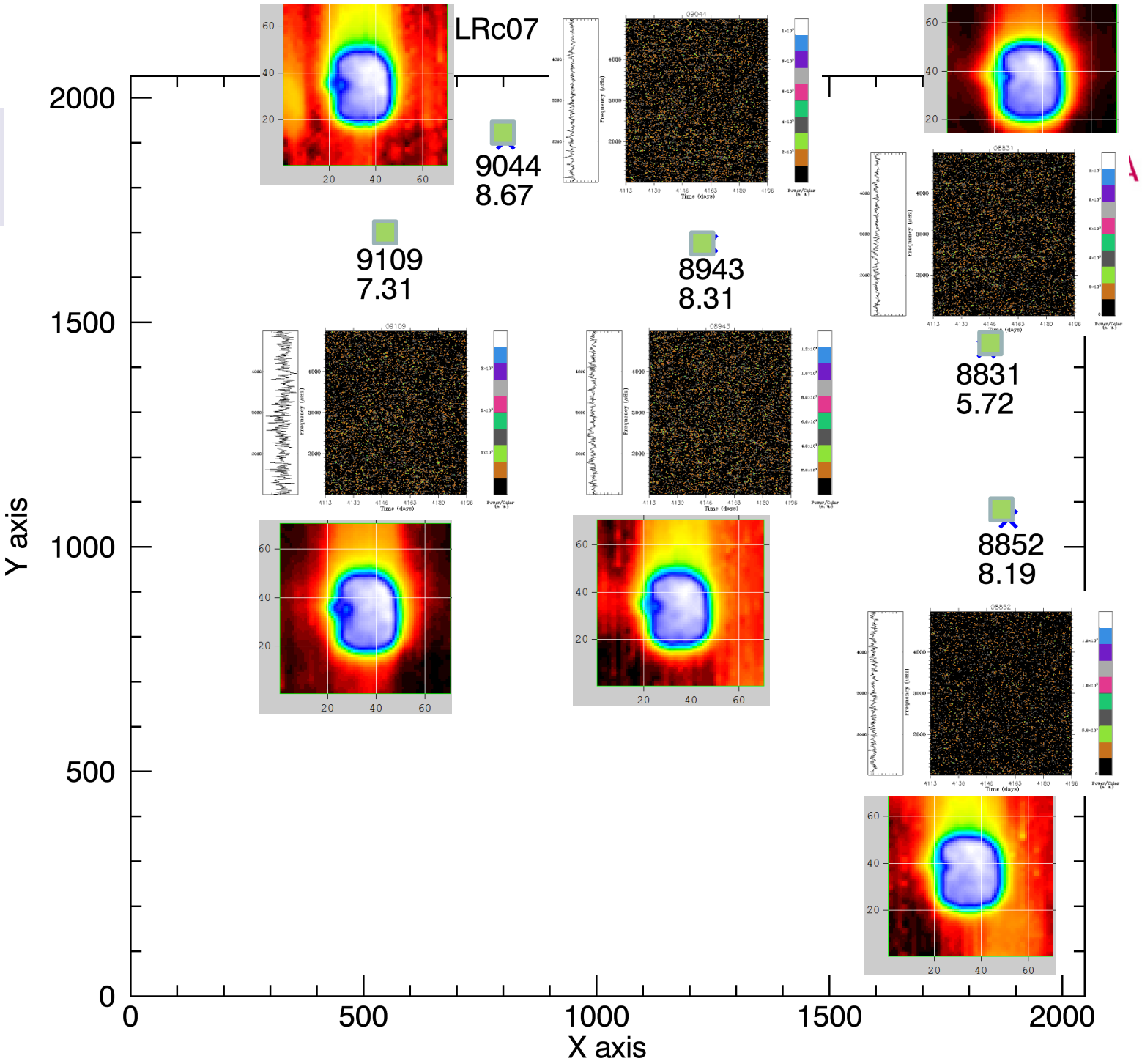
LRa03

LRa03 Position of stars

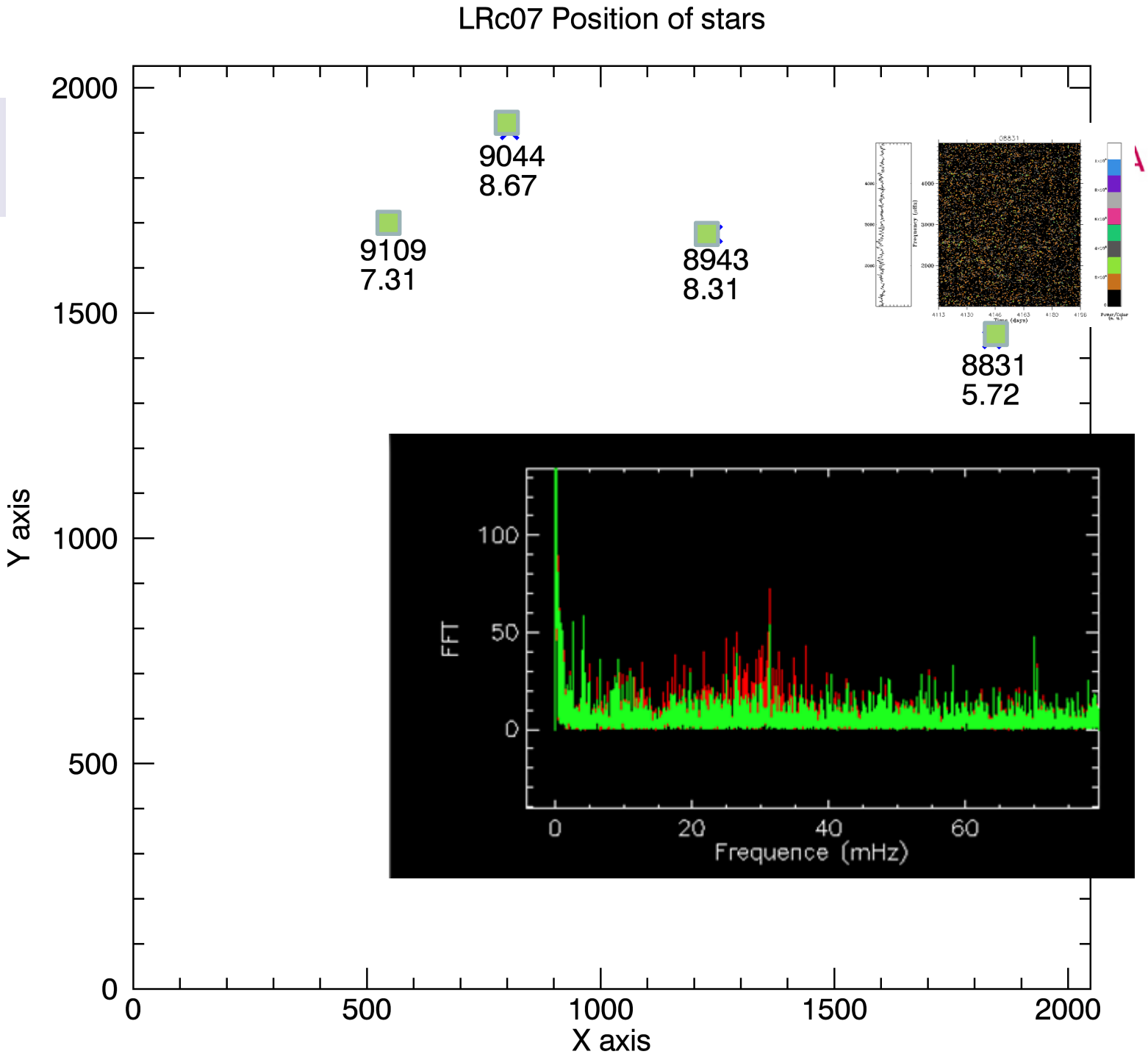


Dark pixel column! High accurate correction via PSF method is not possible!

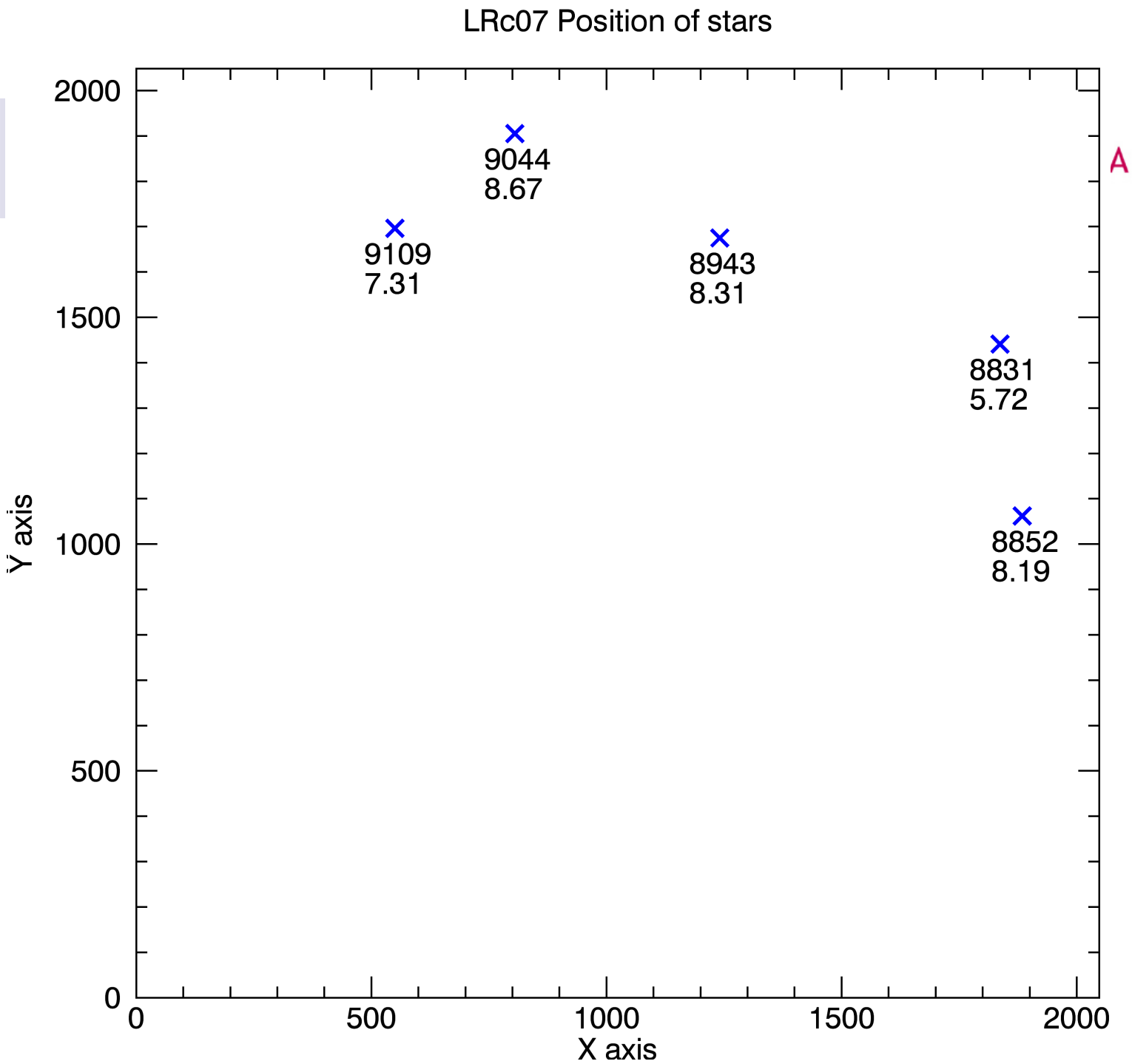
LRc07

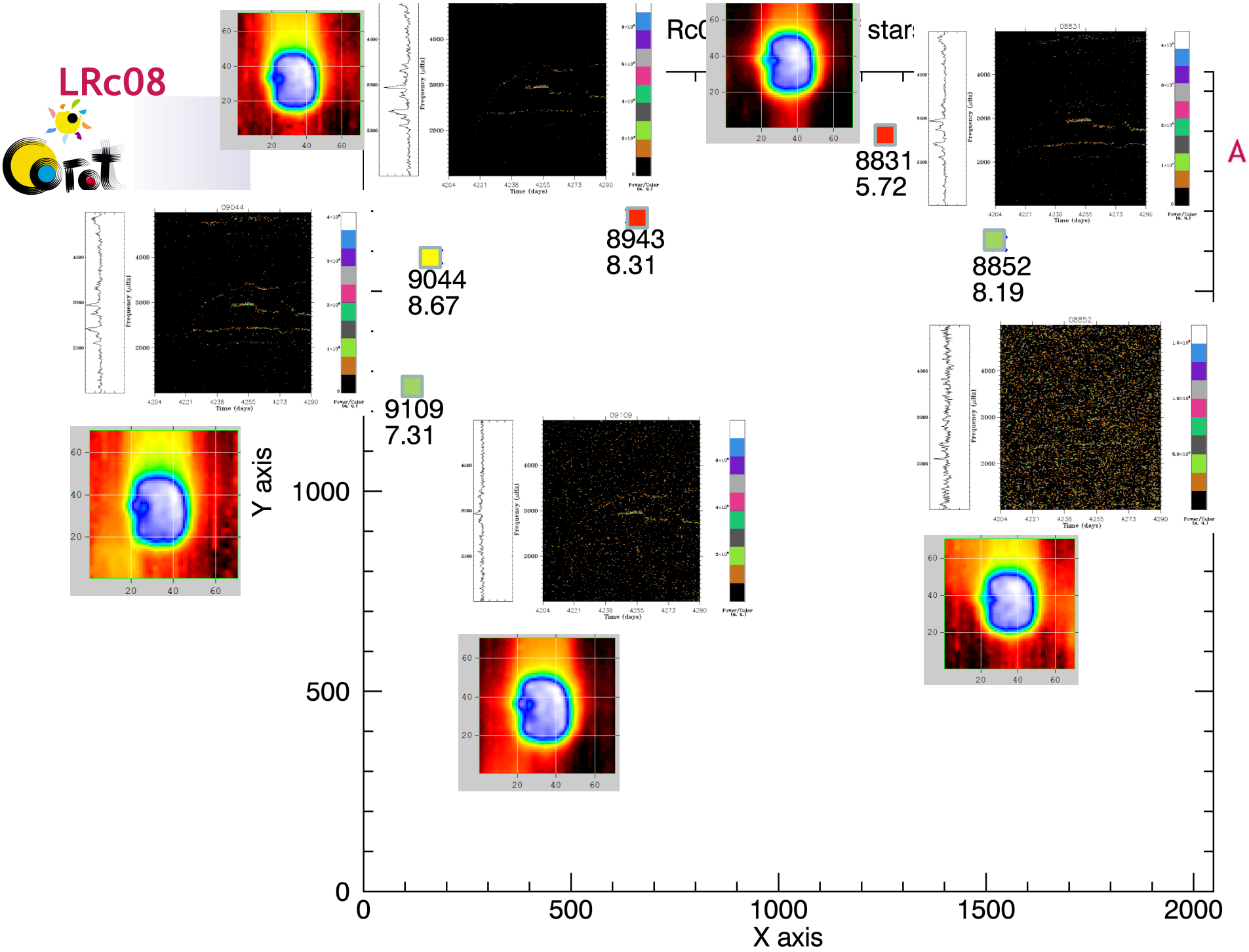

LRc07
9044
8.67
9109
7.31
8943
8.31
8831
5.72
8852
8.19
Y axis
X axis
0
500
1000
1500
2000

LRc07

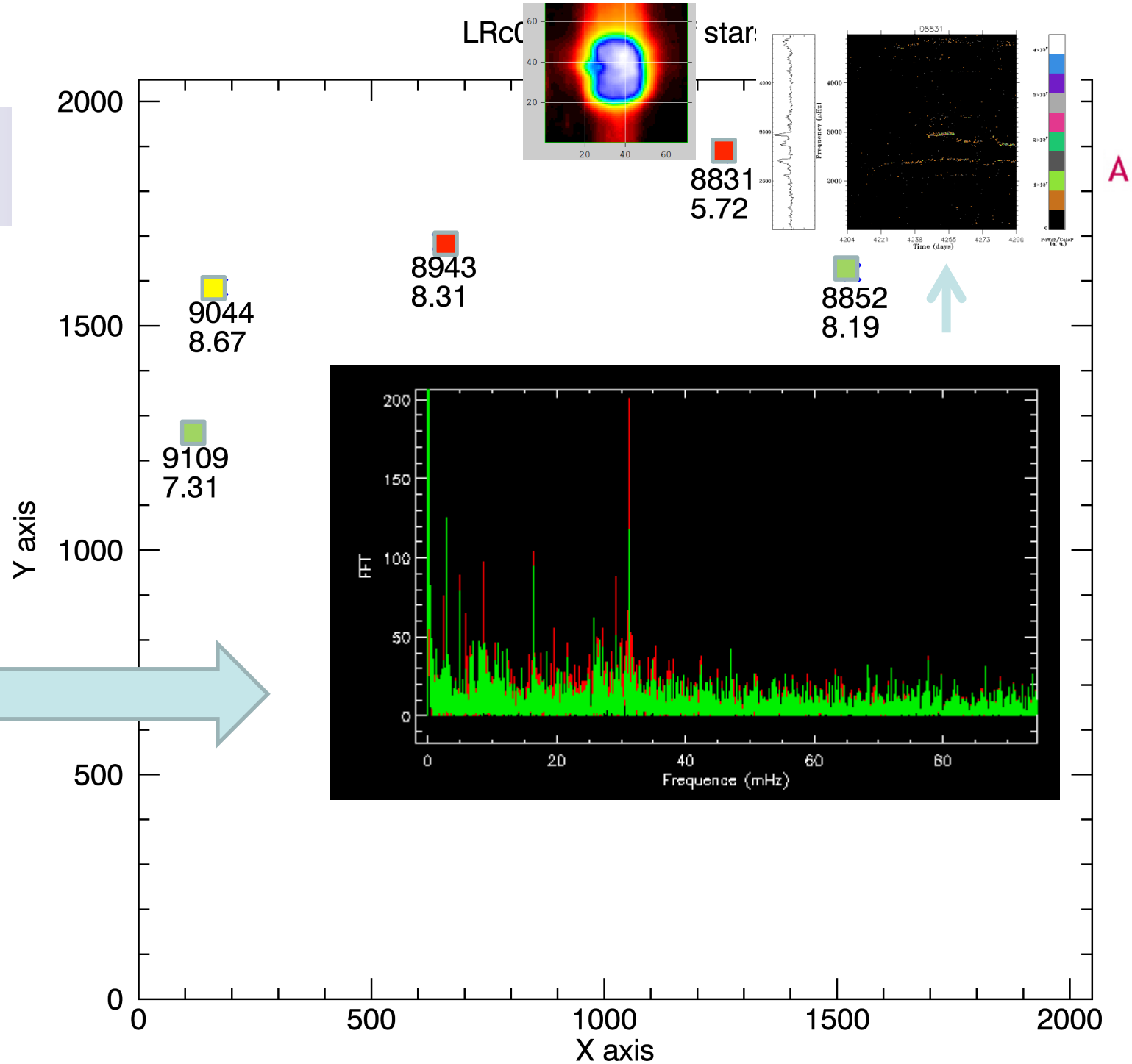

LRc07 Position of stars
9044
8.67
9109
7.31
8943
8.31
8831
5.72
Y axis
X axis
0
500
1000
1500
2000
FFT
100
50
0
20
40
60
Frequence (mHz)

LRc08


LRc07 Position of stars
9044
8.67
9109
7.31
8943
8.31
8831
5.72
8852
8.19
A
Y axis
X axis
0
500
1000
1500
2000


LRc08
Rc0
star
A
8831
5.72
8943
8.31
9044
8.67
8852
8.19
9109
7.31
Y axis
X axis
0
500
1000
1500
2000

LRc08



No sense for a MV 5.7 star!

Conclusions

- On-ground Line of Sight calculation is under suspection.
- Some tests are going to be done to verify jitter photometric corrections on bright stars providing important hints about the source of the problem.