

# Goal

- **Create a CoRoT ExoField archive suitable for solar-like oscillators**
- Remove most of the long-period non-stellar effects
- *Do not* suppress stellar signal
- Have an automatic method



# PLAN

- I. The method originally developed for *Kepler*
- II. First test with CoRoT data



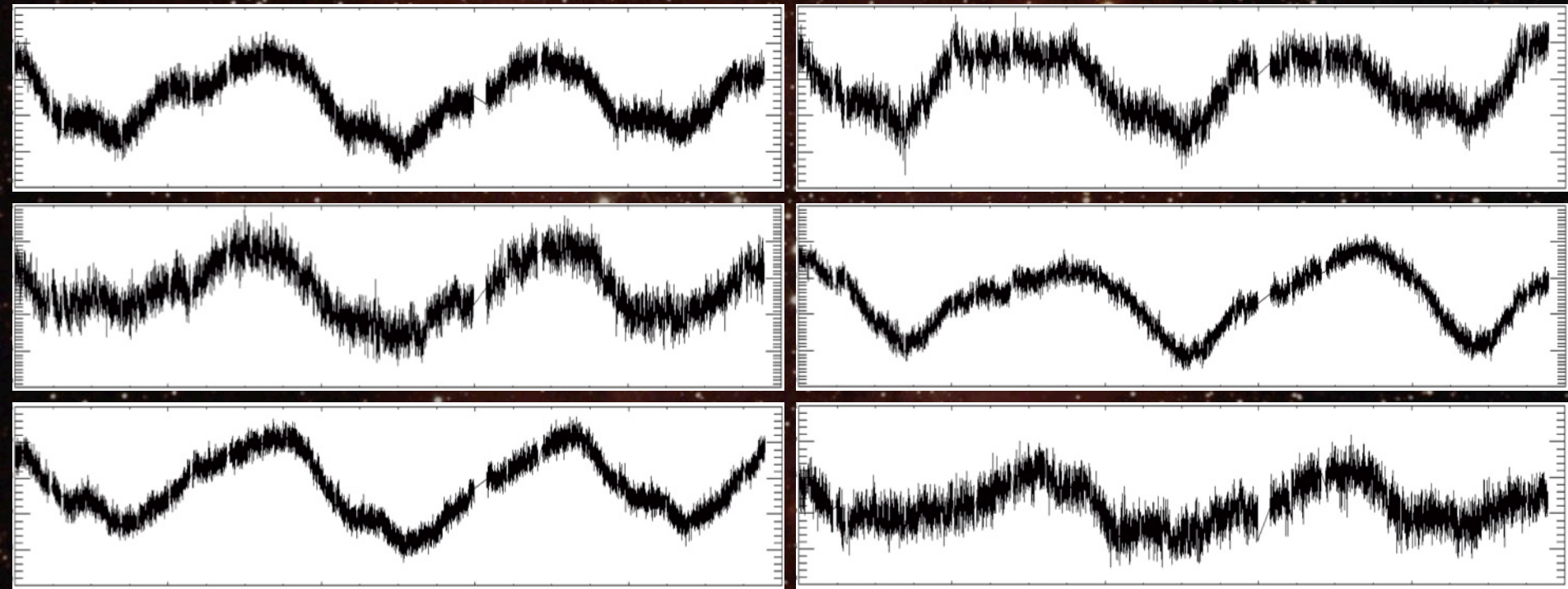
# I. The method developed for Kepler

- ◆ Instrumental modulation in *Kepler* data
- ◆ The method and its consequences



# I. The method developed for *Kepler*

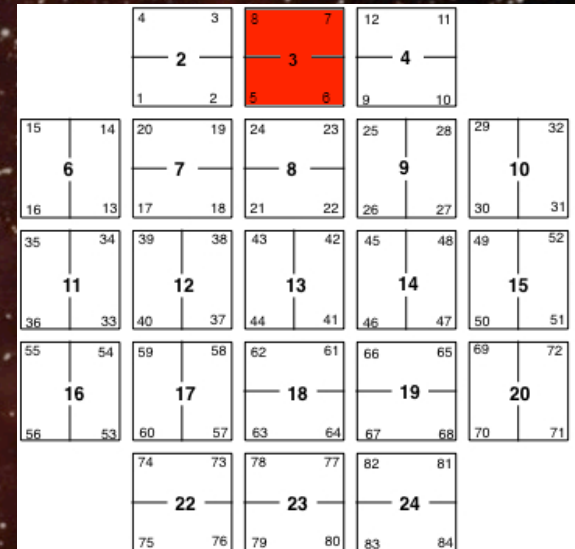
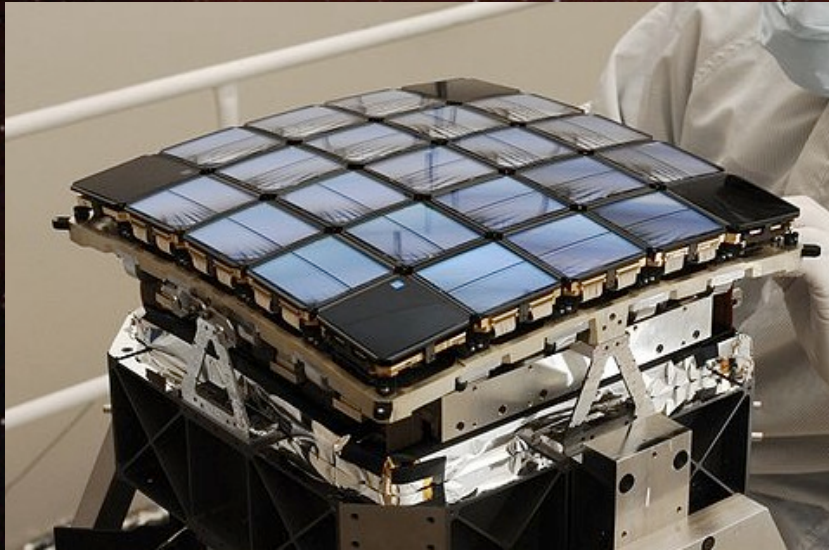
## □ Global tendency in *Kepler* data





# I. The method developed for *Kepler*

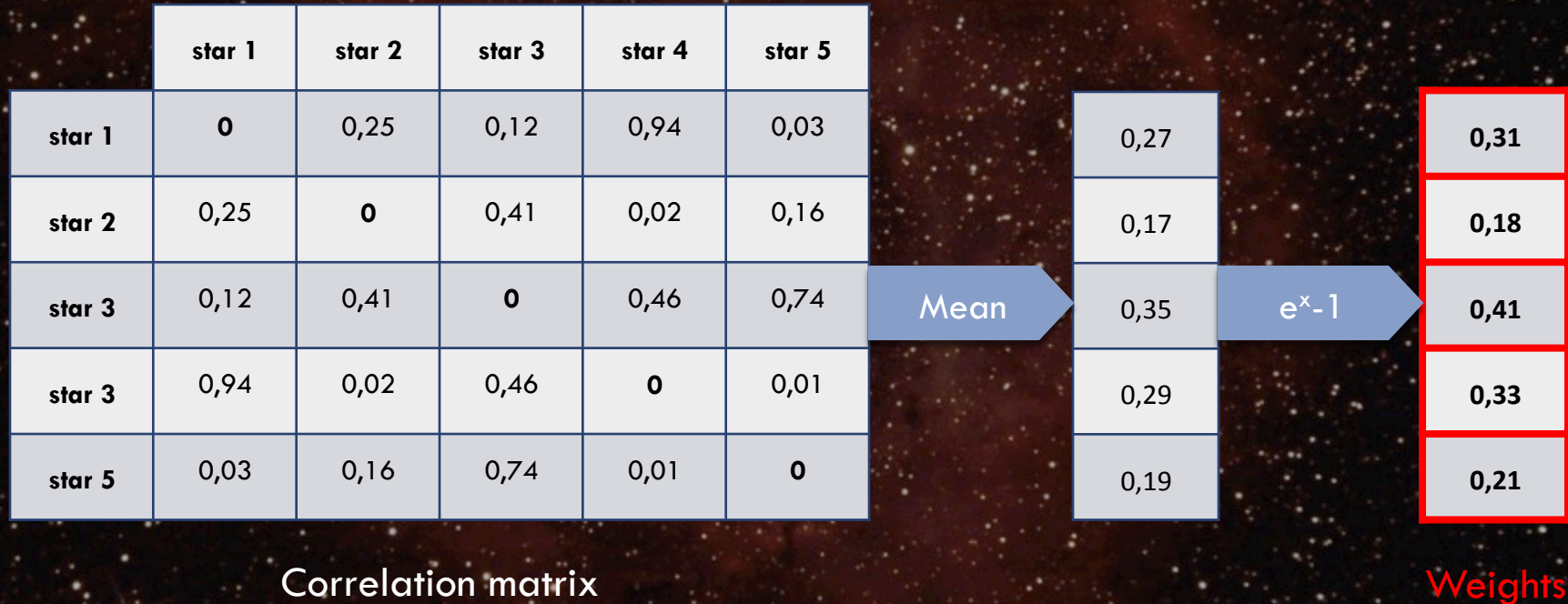
- Divide the data according to the module





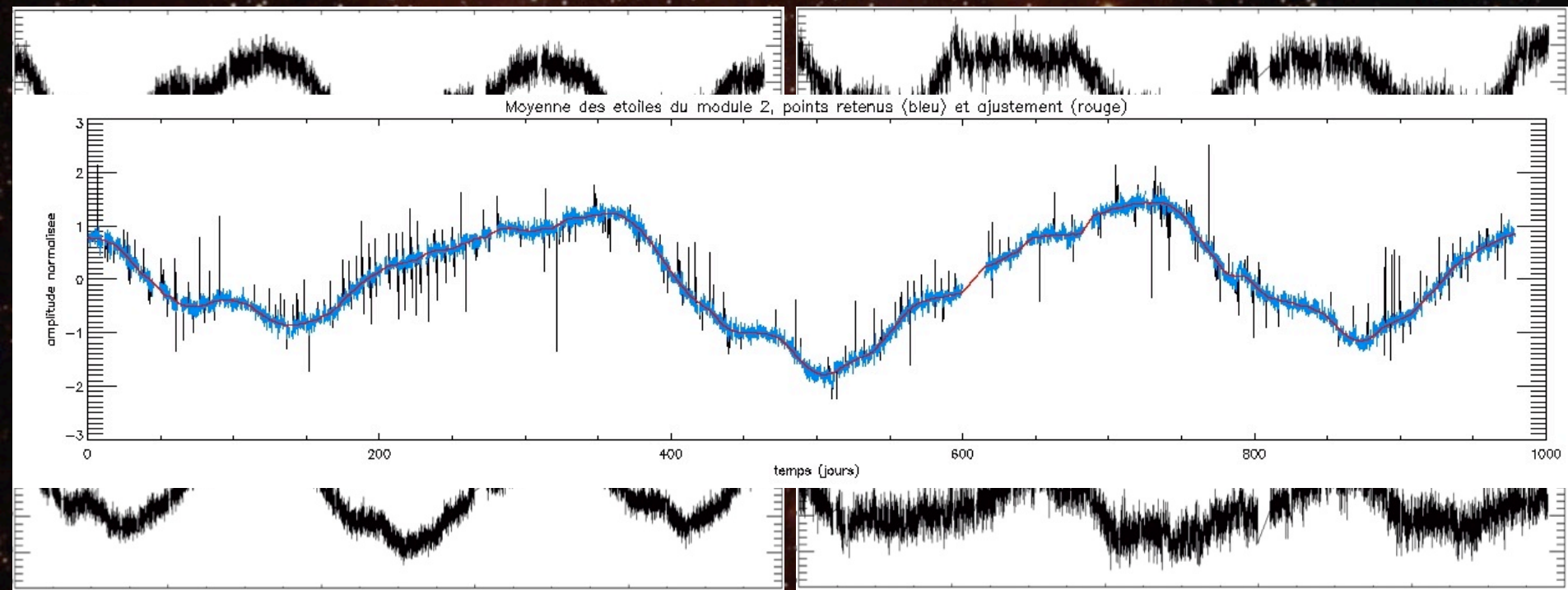
# I. The method developed for *Kepler*

- Weighing lightcurves to calculate the global tendency



# I. The method developed for *Kepler*

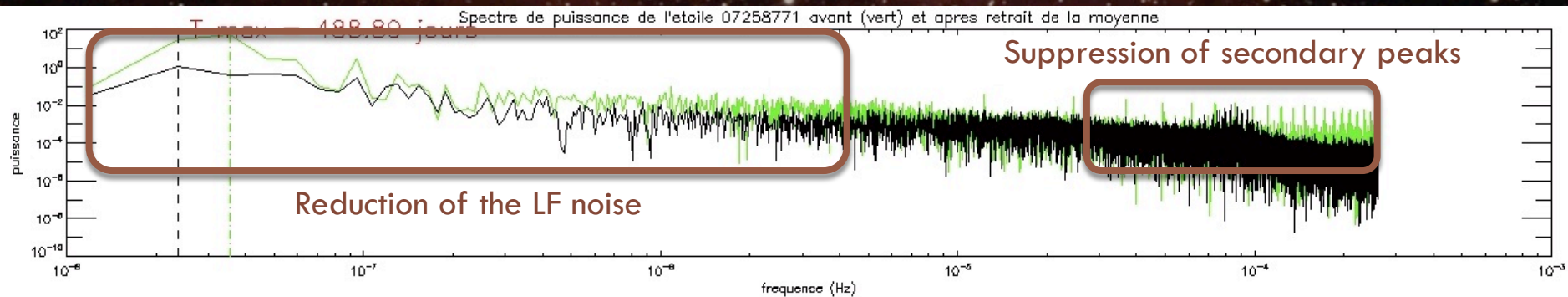
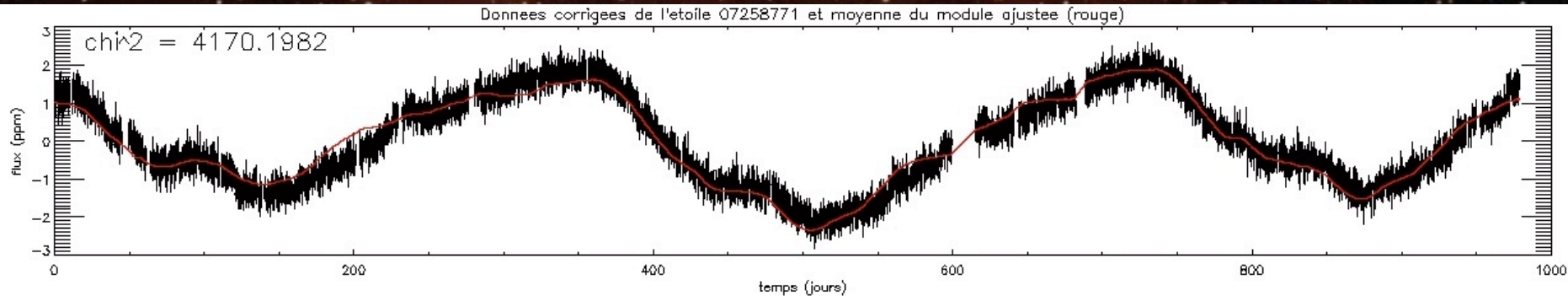
## □ Obtained tendency for a module





# I. The method developed for *Kepler*

- Subtracting the obtained tendency from the lightcurves





## II. First test with CoRoT data

- ◆ Description of the sample
- ◆ Outputs of the method
- ◆ Assessing the modifications induced



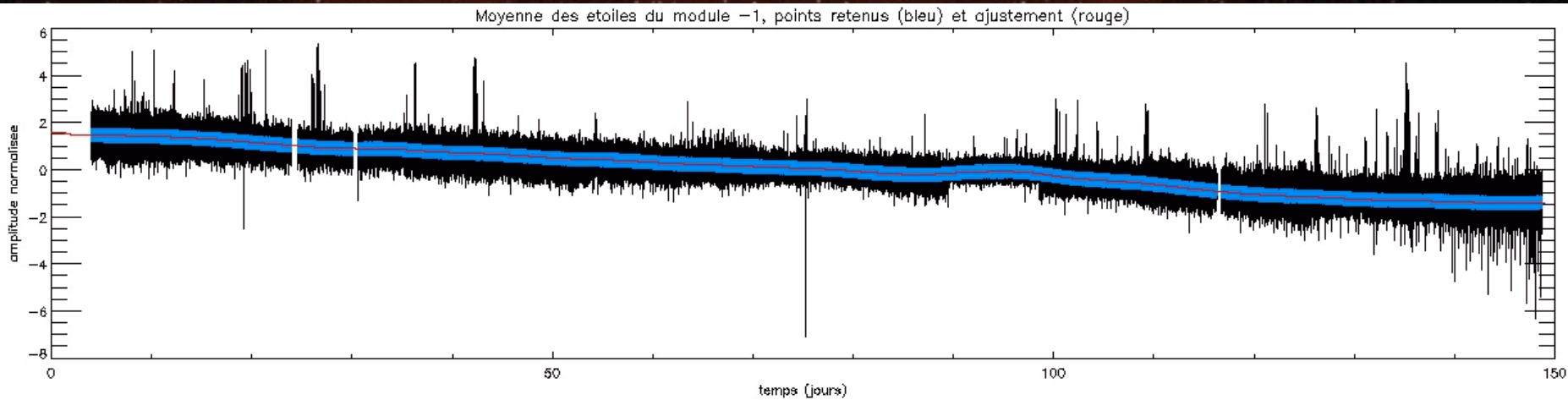
## II. First test with CoRoT data

- Sample of lightcurves from the ExoField
  - 100 stars
  - Raw lightcurves (N2)
  - No particular selection



## II. First test with CoRoT data

- Treating the whole sample as "one module"

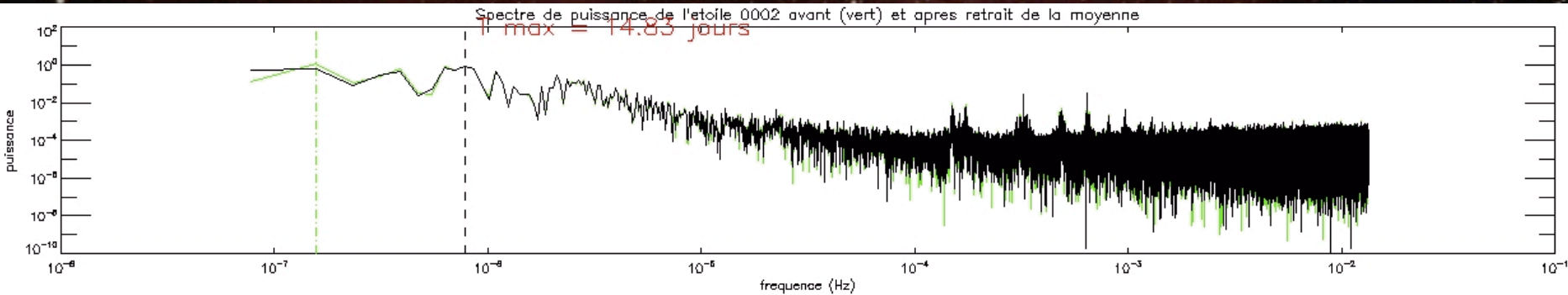
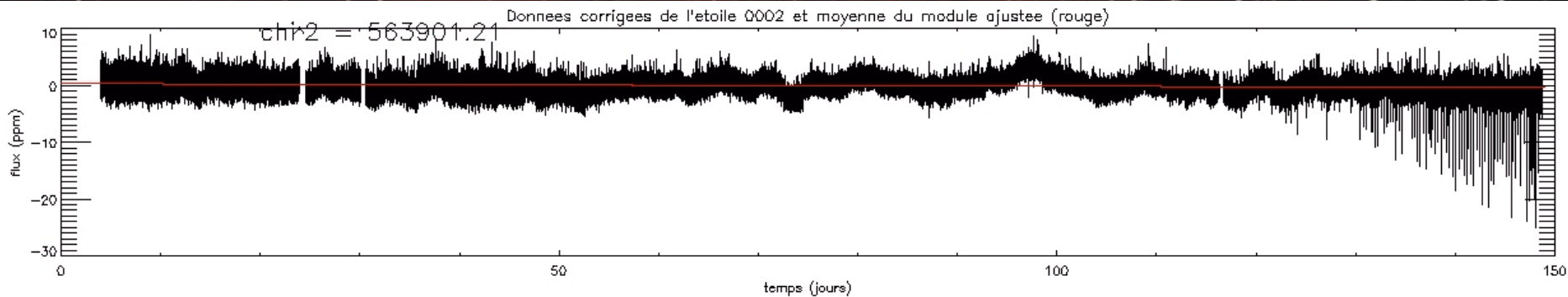


Obtained global tendency



# II. First test with CoRoT data

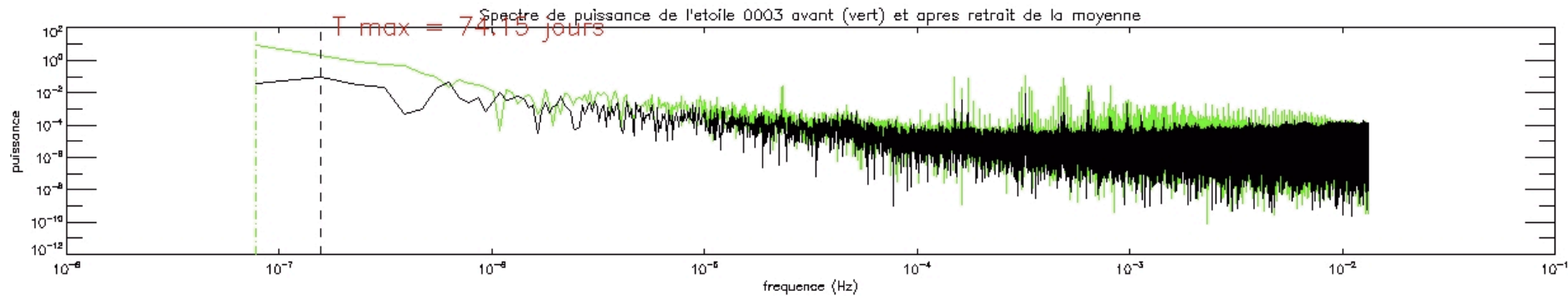
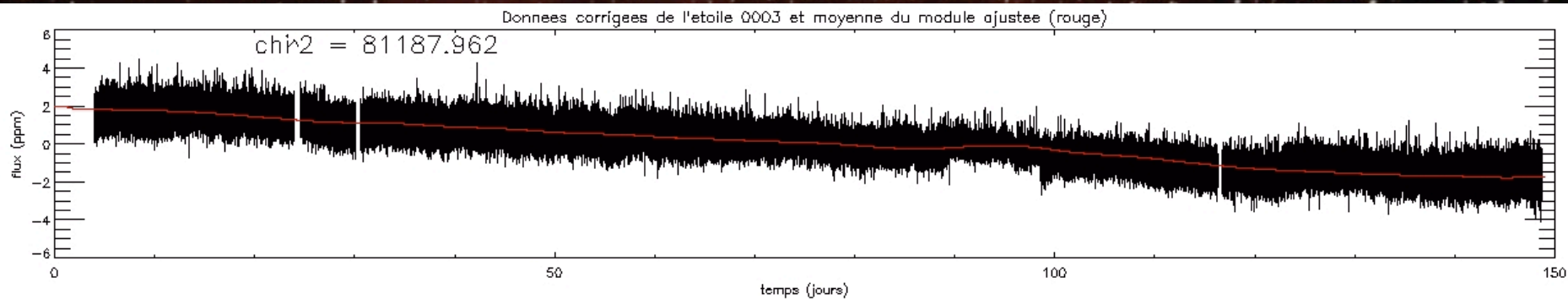
## □ Effects on the lightcurves





# II. First test with CoRoT data

## □ Effects on the lightcurves





## II. First test with CoRoT data

### □ Resulting lightcurves

- Lower LF noise for most cases (  $> 60\%$  )

- Diminution of HF noise

- Effect of the same magnitude as a linear fit correction  
BUT: calculated tendency much richer than the linear fit



## II. First test with CoRoT data

- Improving the method
  - ▣ Divide CoRoT's CCD into smaller areas ("modules")
  - ▣ Correct jumps in the lightcurves
  - ▣ Adapt the method's parameters to CoRoT lightcurves



# Conclusion

- ◆ A statistical method to extract global tendencies
- ◆ Signal from the star conserved
- ◆ Encouraging first results for CoRoT
- ◆ Possibilities to improve the method





# QUESTIONS ?



# Correcting jumps

- Method developed by R. García & S. Mathur

