

## \*DATA PROCESSING IN ASTRONOMY

1) One-dimensional data processing: Fourier series, multiresolution analysis, filtering, denoising.

2) Image processing: single scaled transforms, multiscaled transforms, analytical detection of structures (wavelets, ridgelets, curvelets), filtering, denoising, fitting algorithms.

3) Practice for Astrophysics: Wavelab, GALFIT, shapelets, CHEFs (including Python notions).

## \*Bibliography

- STARCK, J.-L; MURTAGH, Fionn. Astronomical image and data analysis.
- STARCK, J.-L; MURTAGH, Fionn; BIJAOU, A. Image processing and data analysis: the multiscale approach.
- MALLAT, S. G. A wavelet tour of signal processing.