

Fripipe: The FRIPON pipeline

Jeremie Vaubaillon - IMCCE
e-FRIPON workshop, 11th June 2018

Questions

- What: suite of programs
- Why: process the data, including calibration
- How: daily processing + on demand
- Where: hosted at Marseille
- Who: Jeremie, Simon, Chiara, Min-Kyung, Yohann (mainly)
- When: don't ask...

Functionalities

Detect

Transfer

Measure: **position, flux, time**

Calibrate: **catalogs**

Triangulate: **trajectory**

Propagate: **orbit, strewn field**

Needed

Detect

Transfer

Measure: **position, flux, time**

Calibrate: **catalogs**

Triangulate: **trajectory**

Propagate: **orbit, strewn field**

Calibration image

Method + model:
astrometry,
photometry

Method:
triangulation

Method:
propagation
Data: planet
ephemeris + winds

Software

Detect

Transfer

Measure: position, flux, time

Calibrate: catalogs

Triangulate: trajectory

Propagate: orbit, strewn field

Calibration image

**Method + model:
astrometry,
photometry**

**Method:
triangulation**

**Method:
propagation
Data: planet
ephemeris + winds**

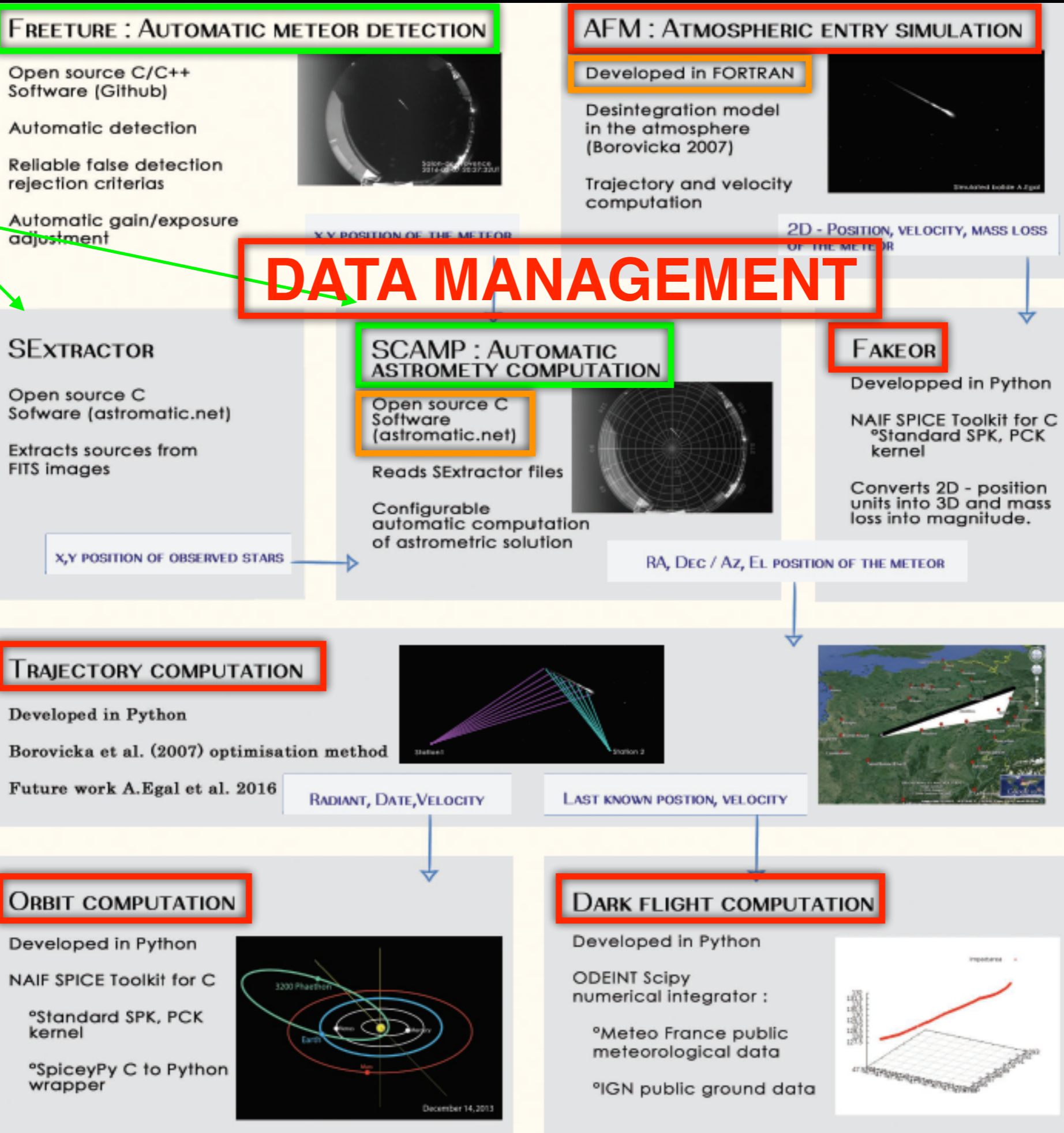
MAIN : Fripipe (python;
astropy, numpy, photutils)
GitLab repo
Close to ESA standards

SExtractor, SCAMP (C):
GAIA ; PV => replace with
DAO and python (?)
Simon routine: (C++): 9th
over polynomial: to translate
Fripipe ongoing routines (w/
Mirel) ; see Antoine's work

Fripipe (today): Borovicka
et al. 1995
TODO: Egal et. al 2016

Orbit: INPOP pla. eph. +
Bulirsch & Stoer propagator
: to plug in / translate
DF : Ceplecha 1987 algo +
MeteoFrance + IGN topo
TODO:
DF: include free data: Univ.
Wisconsin

Released github



Fripipe: TODO list

A.K.A. why don't we have any meteorite yet?

- Astrometry: wrap up a method in python
- Orbits: several methods to implement
- Photometry: Bouguer's curve when astrometry ok
- Compare results with different methods
- Automatisation of the whole pipeline: decide what is a warning vs an error
- Finnish to make it ESA standards friendly