

A meteor detection software for FRIPON

(*Firball Recovery and InterPlanetary Observation Network*)

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Audureau Y. , Marmo C. , Kwon M. K. , Colas F. , Vaubaillon J. , Bouley S. ,
Birlan M. , Zanda B. , Vernazza P. , Gatteccea J. , Caminade S.

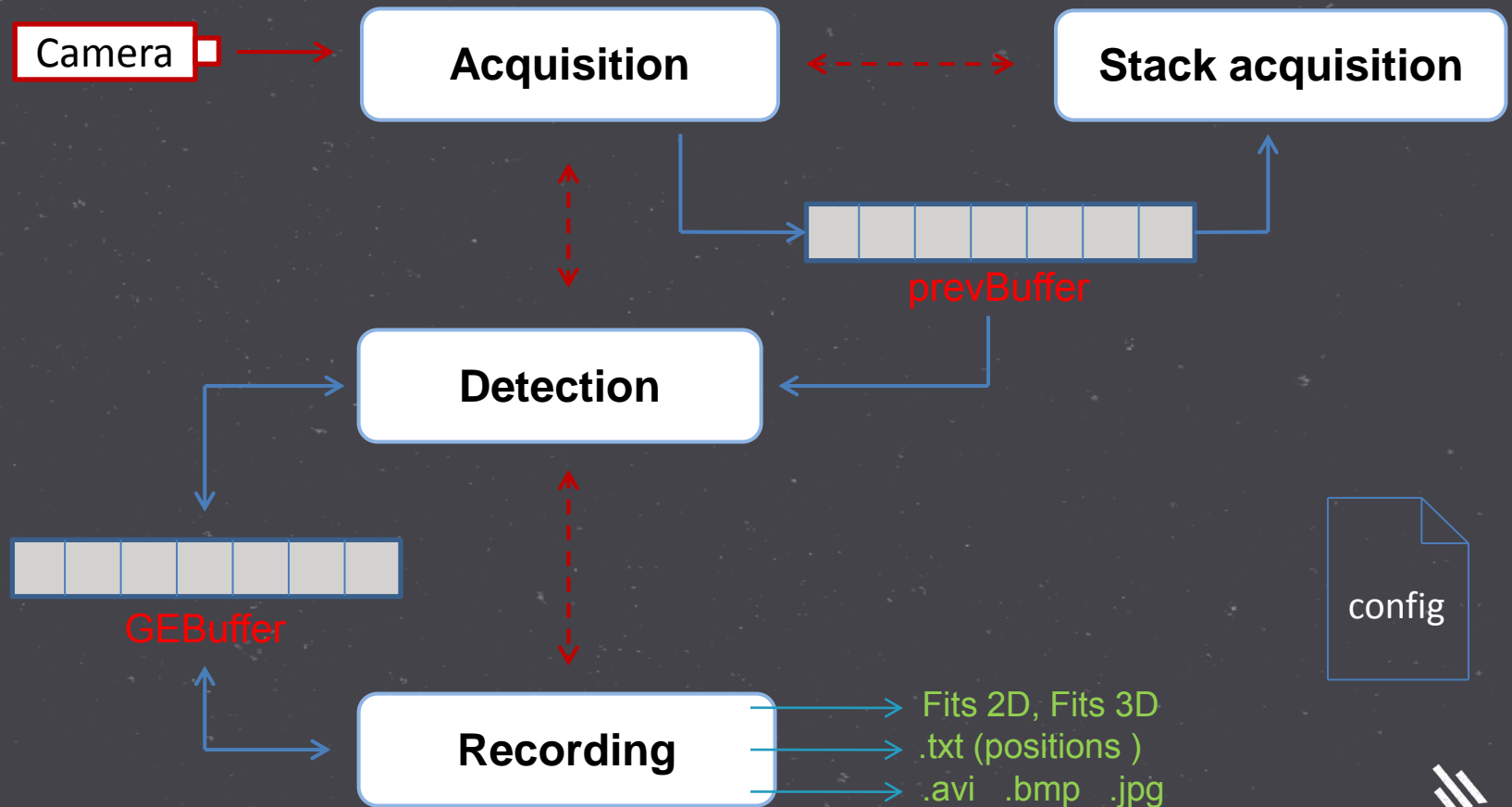
Why a new meteor detection software ?

	UFO Capture (http://sonotaco.com/)	MetRec (Sirko Molau 98)	ASGARD (http://meteor.uwo.ca/~weryk/asgard/)	FRIPON (http://ceres.geol.u-psud.fr/fripon/)	MeteorScan (Peter Gural 96)
Open source	no	yes	no	yes	no
Platform	windows	Msdos, w95, w98	Linux / debian	Linux / debian windows	Mac / Windows
System output	.csv, .xml, .avi, .jpg	.bmp	.tar(.png), .txt, .avi, .png	.avi, .jpg, fits 2D, fits 3D, .txt	.tiff

Main features

- C++ / Cross platform (linux/windows)
- Open source code with documentation, Github
- Continuous real time meteor detection day and night
- Can take videos in input
- Acquisition stack
- Fits 3D and 2D in output
- No destructive compression

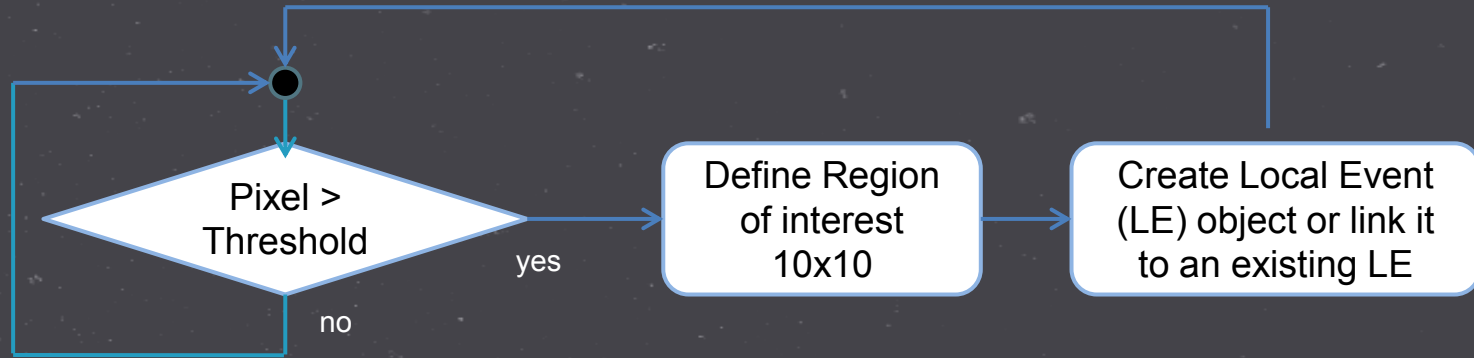
General software organization



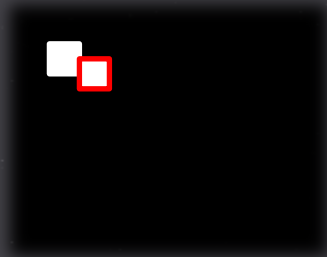
Main steps of the detection process



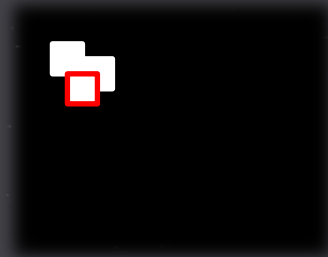
Detection process : local events



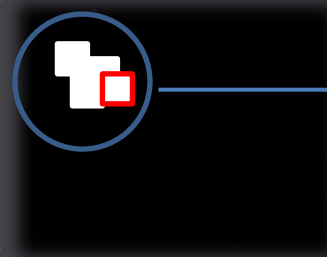
First ROI



Second ROI



Third ROI



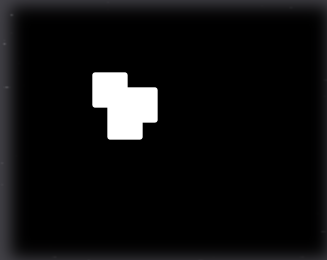
Fourth ROI

1 Local Event

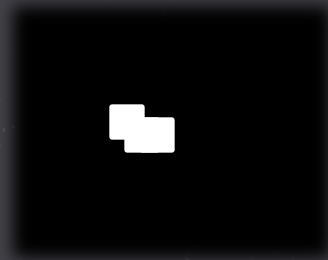
Detection process : global events



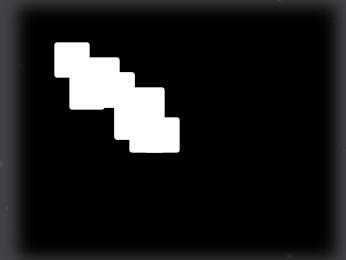
LE Frame n-2



LE Frame n-1

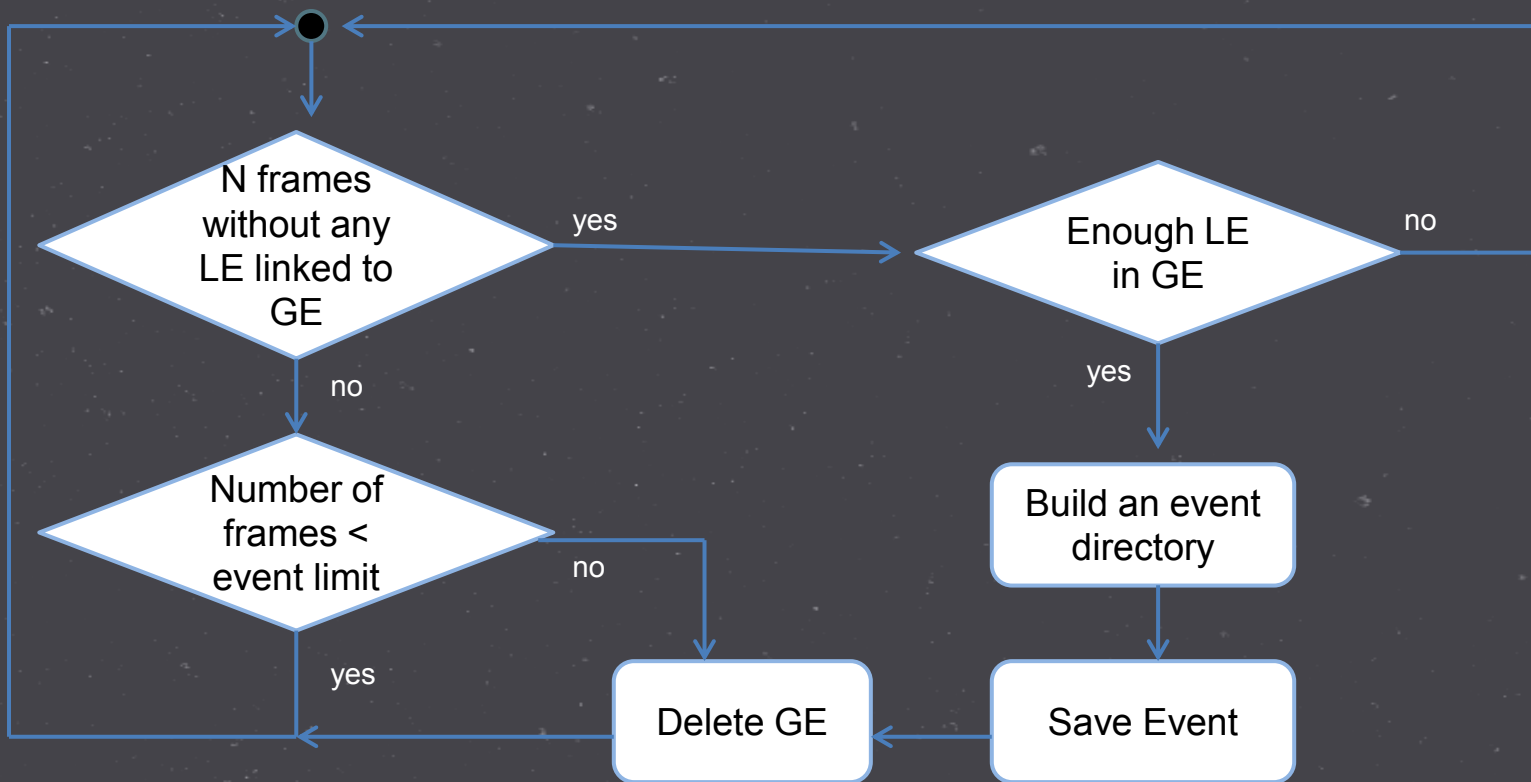


LE Frame n



1 global Event

Detection process : manage GE list



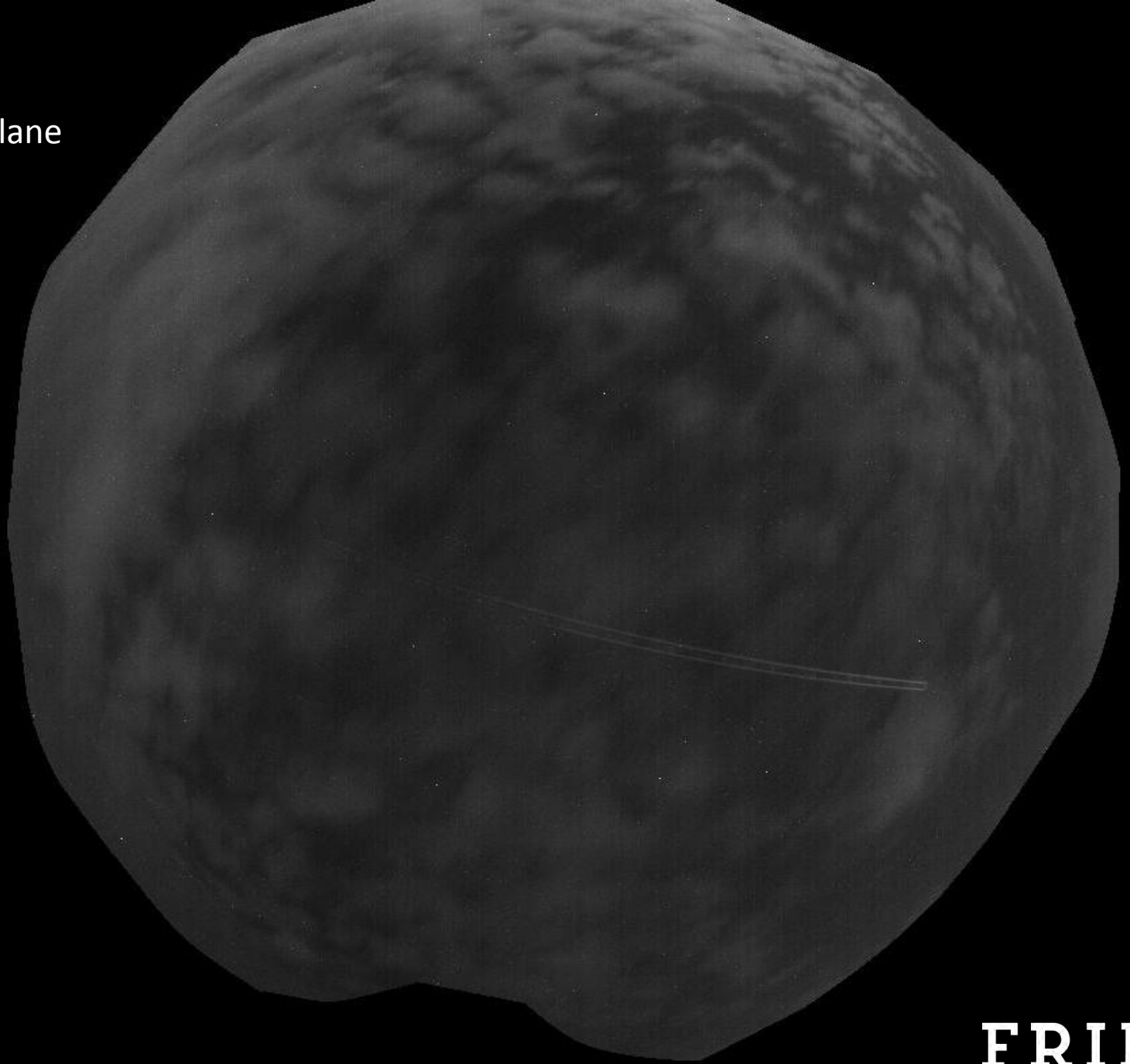
Run the soft

- Command Line with options according to chosen mode :

```
soft -m 3 -c /location/configuration.cfg -t <time>
```

- Mode :
 - 1- List detected GigE cameras
 - 2- Single capture (options : save, format, exposure time, gain ...)
 - 3- Detections (options are in a configuration file)

Plane



FRIPON





FRIPON



- 1) *jean Brunet* ($f=5\text{mm}$ 0.95) 25 im/s
- 2) *FRIPON Orsay* ($f=1.25\text{mm}$ 2.0) 30 im/s
- 3) *Obs de Paris* ($f=1.8\text{mm}$ 1.4) 25 sec



Future work

- Comparison with some others meteor detection software
- Daytime detections
- Some false detections
- Windows version

Thank you for
your attention



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