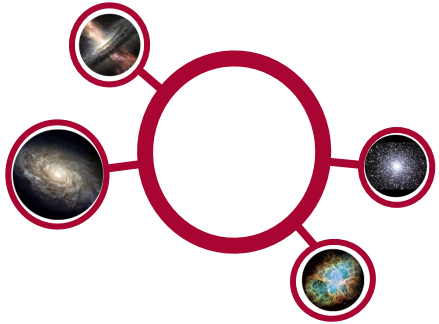
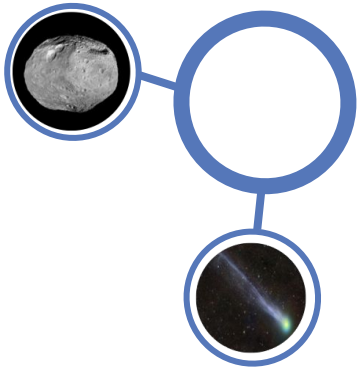
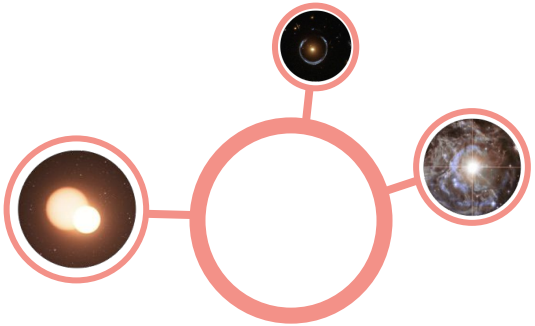


Welcome



Fink Team



Logistics

- Welcome!!!
- Photos will be taken throughout the meeting. Please let us know if you prefer not to be photographed!
- Collaboration dinner @ Le Canapé : Tuesday, 9 January, XX pm
- Add your slides to the indico page
- Extra questions, comments, references should be directed to slack:
  - #2024_collaboration_meeting
- To open the door in the ground floor ask the reception
- Room “Salle du conseil” booked for the 3 days
  - If you need to work, have meeting, etc.

Code of Conduct

Full text https://bit.ly/3vVSIU4

Respect:

Harassment and sexist, racist, or exclusionary comments or jokes are not appropriate. Harassment includes sustained disruption of talks, inappropriate physical contact and offensive comments.

Please avoid raising your voice.

Collaborate:

Fink's communication language is English. Most of us are not native English speakers. Be patient. The important thing is to communicate.

Remember to *criticize ideas, not people*.

If you see or experience a problem you can confidently reach Emille, Julien, Anais

Fink: looking back - I

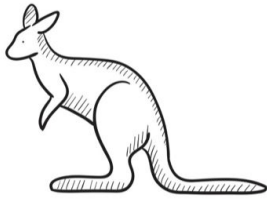
2019: **Project started**

- Merging two independent R&D efforts: Active Learning & big data processing
- Letter of Intent submitted & project pre-selected

2020: **First data processed**

- Partnership signed with ZTF
- White paper published

2021: **Confirmation of the project + Fink goes to Australia**



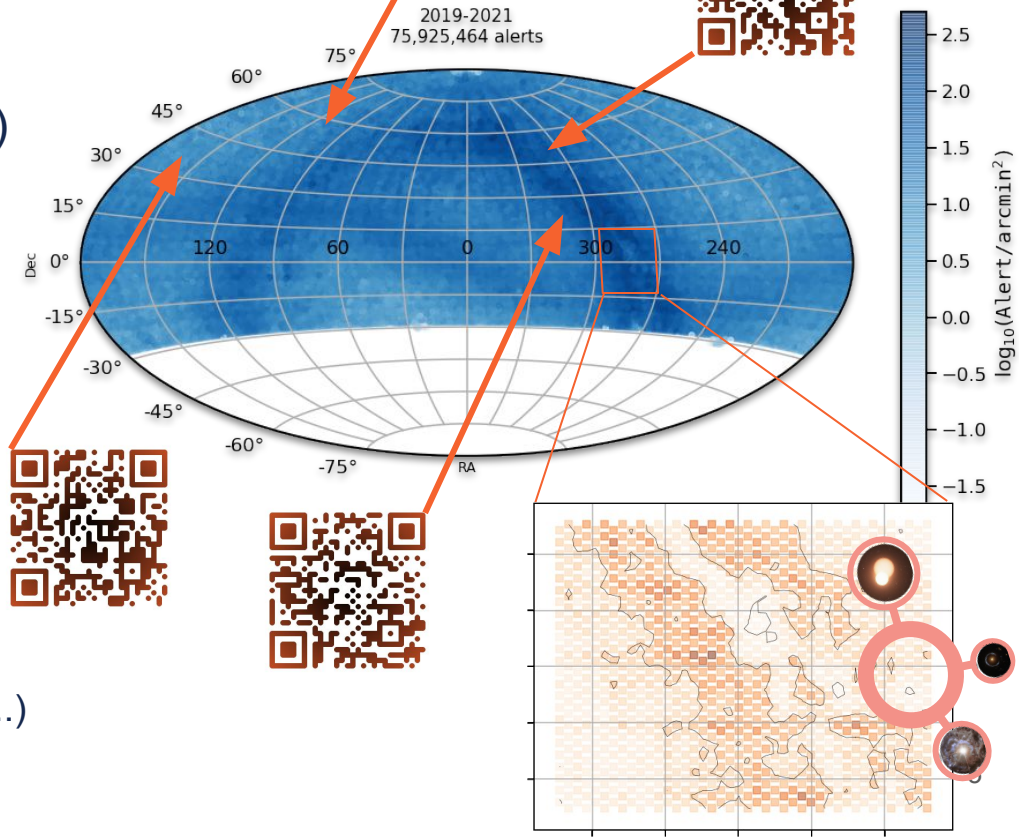
- Project selected by Rubin (7 laureates: 1 Chile, 3 Europe, 3 US), and officialised at IN2P3 (LSST Master Project)
- First science papers submitted (Active Learning, KN follow-up, Satellite glints)
- Partnerships with other projects: GRANDMA, SVOM

ZTF/Fink statistics

210 million alerts received, 143 million processed (https://fink-portal.org/stats)

Typical nightly rates (200,000 alerts):

- ~75,000 known variable stars
- ~25,000 known SSO
- ~100 new SSO candidates
- ~100 new supernovae & core-collapse candidates
- ~50 (known+new) AGN
- ~10 (un)identified satellite glints
- ~5 new SN Ia candidates
- ~1 fast transient candidate (KN, GRB, CV ...)
- ~1 new microlensing candidate
- ~1 anomaly



Fink: looking back - II

2022: **Solidification of tools + community**

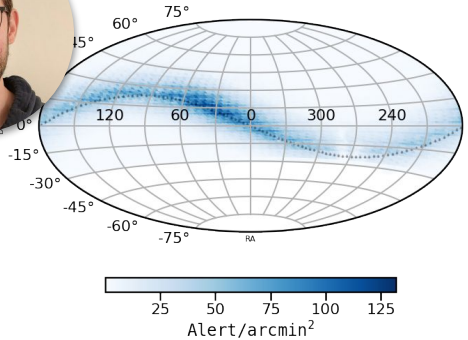
- Many active projects: AGN, SN, KN, SSO, GRB, neutrinos, satellites, microlensing, anomaly detection, etc …
- ELAsTiCC: major effort in deep learning development with LSST-like, successfully tested communication protocol
  - Engagement of the Brazilian group
- MITI grants:
  - Solar System (PI: Benoit)
  - PISN (PI: Emille)
- 1st Fink Collaboration meeting @ Annecy
- 1st Fink Hackathon @ Grimentz, Switzerland

2023: Preparing for Rubin

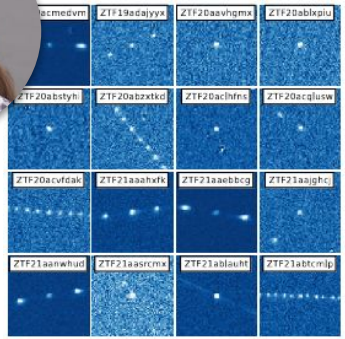
- Data transfer at scale: service started in January, +1B downloaded since January
- First light of the **Anomaly Detection Module**
  - 10 exciting anomaly candidates per night since January: #anomaly_bot
- Community engagement to follow-up interesting targets:
  - AT2023sze (SN candidate)
  - AT2023awt (anomaly)
- **OzFink Workshop**: 50 participants including Australia, France, New Zealand and South Korea
- First implementation of on-the-fly active learning loop for SN classification at the Siding Spring Observatory, Australia
- Stronger links with the Solar System community, esp. with Euclid SSO WG

2023: paper highlights

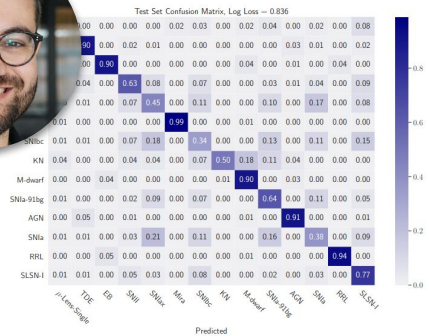
Enabling discovery of S… System objects in large alert data streams



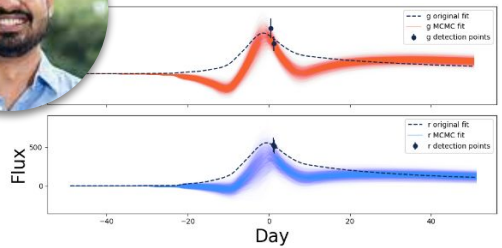
The rate of satellite glints in ZTF and LSST sky surveys



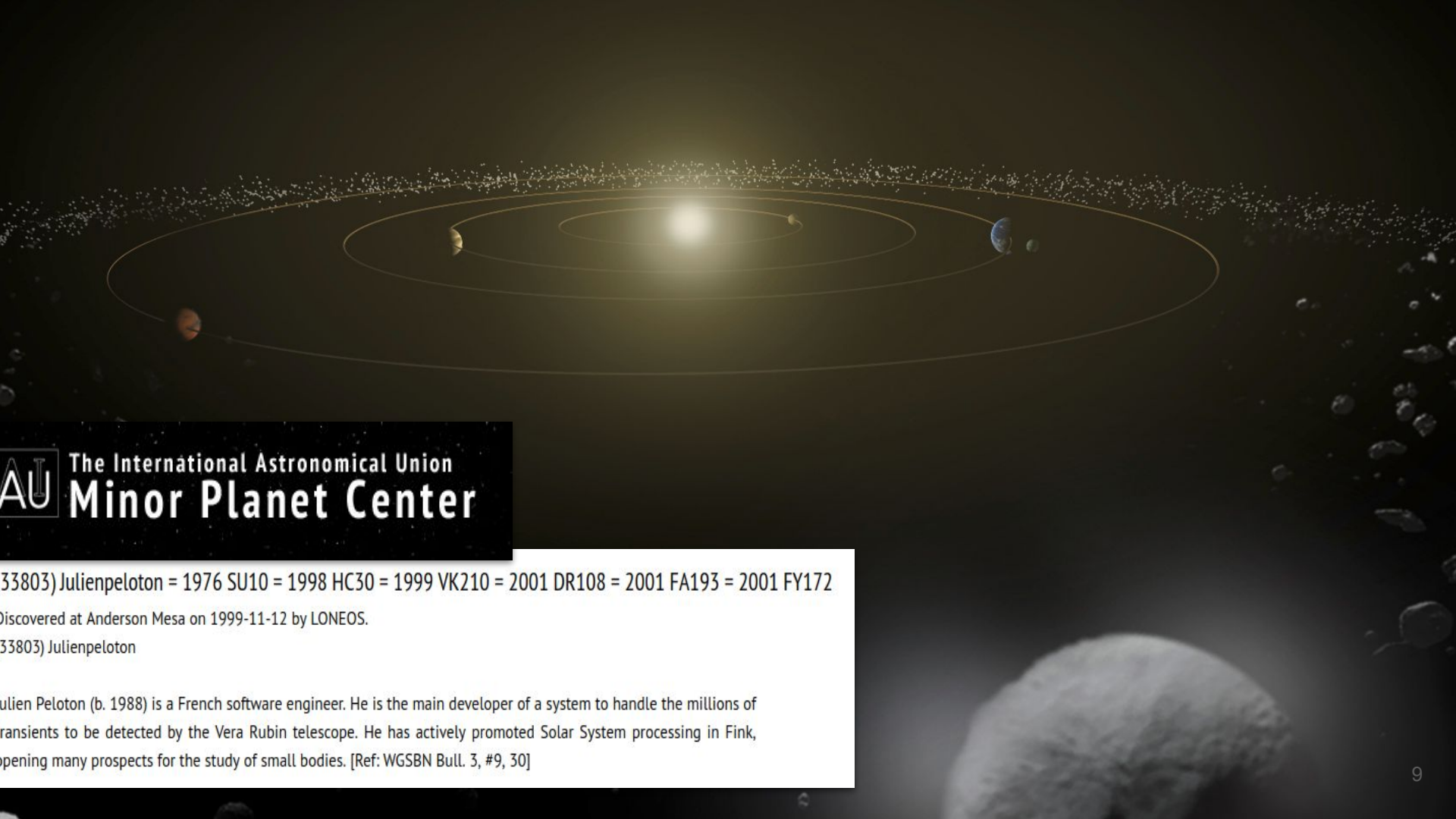
Low-latency High-throughput Classification of Astronomical Transients using Deep Model Compression



Bayesian multi-band fitting of alerts for kilonovae detection



All papers at: https://fink-broker.org/papers



The International Astronomical Union
Minor Planet Center

33803) Julienpeloton = 1976 SU10 = 1998 HC30 = 1999 VK210 = 2001 DR108 = 2001 FA193 = 2001 FY172

Discovered at Anderson Mesa on 1999-11-12 by LONEOS.

33803) Julienpeloton

ulien Peloton (b. 1988) is a French software engineer. He is the main developer of a system to handle the millions of ransients to be detected by the Vera Rubin telescope. He has actively promoted Solar System processing in Fink, pening many prospects for the study of small bodies. [Ref: WGSBN Bull. 3, #9, 30]

Open science prize

Fink has been awarded the open science prize for Free Software in research 2023 by the French Ministry of Research

*"The award recognizes projects and research teams [...] contributing to the construction of a crucial **common good**."*

"They highlight exceptional or highly promising achievements, which can inspire both the scientific community and society as a whole."

This was a prize given to the entire project!

Credits: D. Longieras, IJCLab

Press release: link

Now what?

- 2024 is the last year of ZTF, also the last before the beginning of LSST

Suggestion:

- Familiarize ourselves with Fink tools available: *Fink changes fast!*
  - Do not hesitate to send feedback
- Finalize on-going projects
- Solidify connections with follow-up facilities and other related communities
- Fully explore the possibilities with data we already have -- ZTF and L
- Prepare for LSST -- *this will not be easy*

Preparing for Rubin

FINK BRAZIL

Enabling Astronomical Transient discoveries in the Rubin era:
the Fink-Brazil Workshop

6–10 May 2024
Centro Brasileiro de Pesquisas Fisicas

www.cbpf.br/fink2024

FAPERJ
Fundação Carlos Chagas Filho de Amparo à Pesquisa do Estado do Rio de Janeiro

CBPF
Centro Brasileiro de Pesquisas Físicas

cnrs

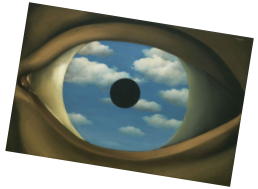
Poster design: Anastasia Voloshina

Now what?

Main goal of this meeting is to get to Wednesday with 2 items for each of us:

- **Milestone**: what is the one thing you will be happy to report in the **end of 2024**, which you would consider a success in your Fink-related efforts?

- **DreamShot**: what is the most crazy thing you would like to be able to do with Fink? Short-term, long-term, it does not matter … be bold and feel free to dream away



Extra slides

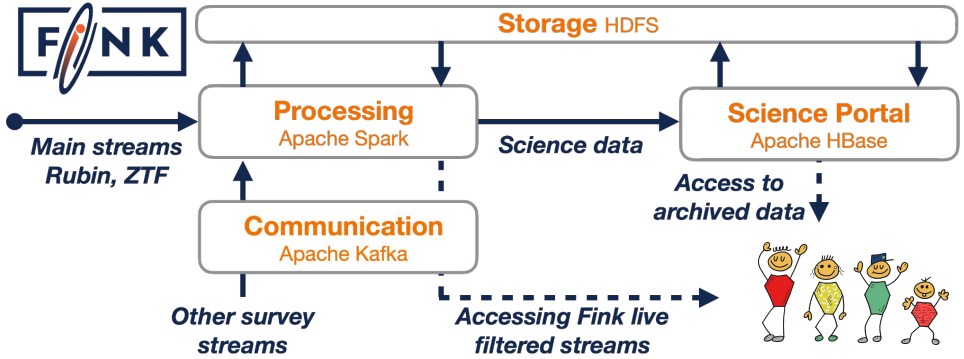
Recent developments

Deployment at CC-IN2P3 started

- Transition from VirtualData to CC during summer 2023
  - 2023 allocation: 250 CPU (x2), 250 TB storage (x7).
- What should you expect? More stability & performance!

All Fink codes are publicly available

- https://github.com/astrolabsoftware
- Bug trackers inside each repository



News: from Oz FINK

News: from Oz FINK

- Submitting grant for:
  - Creating a telescope network with IR photometry + spectra (IFU, ANU 2.3m)
- First contact with teams working with
  - radio transients
  - gravitational waves
  - high-energy
- Australian survey data is accessible through https://datacentral.org.au

OzGrav

ARC Centre of Excellence for Gravitational Wave Discovery