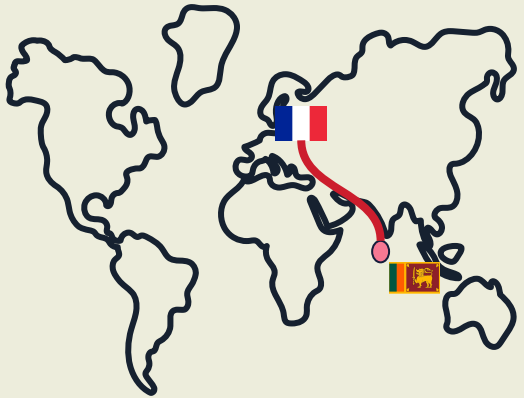
About Dilruwan

- Born in Sri Lanka
- Bachelors in Physics (**figure out a way to flee the country** . That is Masters + PhD !!!)
- Choose France as a destination (Master fellow student from ANR)
- Master 1 in Physics from university of Strasbourg
- Master 2 in Astrophysics from Strasbourg Astronomical observatory
- **Currently a PhD student at IPAG Under the supervision of Maïca Clavel and Gilles Henri .**

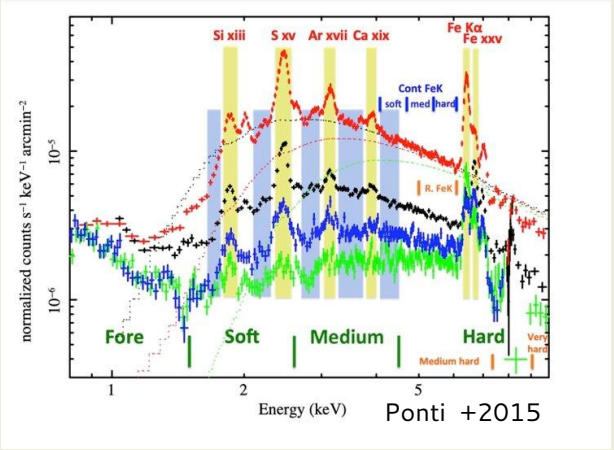


About his Research

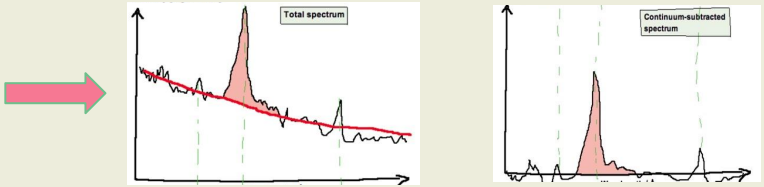
He is trying to understand the Origin of the non thermal diffuse X-ray emission in the Galactic Center. !!

In english :- His research is about discrete photon counting statistics

He is only interested in ***Fe Ka fluorescent line***



How to get this ***Fe Ka*** flux ? ***Continuum subtracted Flux map***



About his Research

"A wise astronomer once pointed out that if a picture is worth a thousand words, then a spectrum is worth a thousand pictures "

Flux map worth same as spectrumS !!

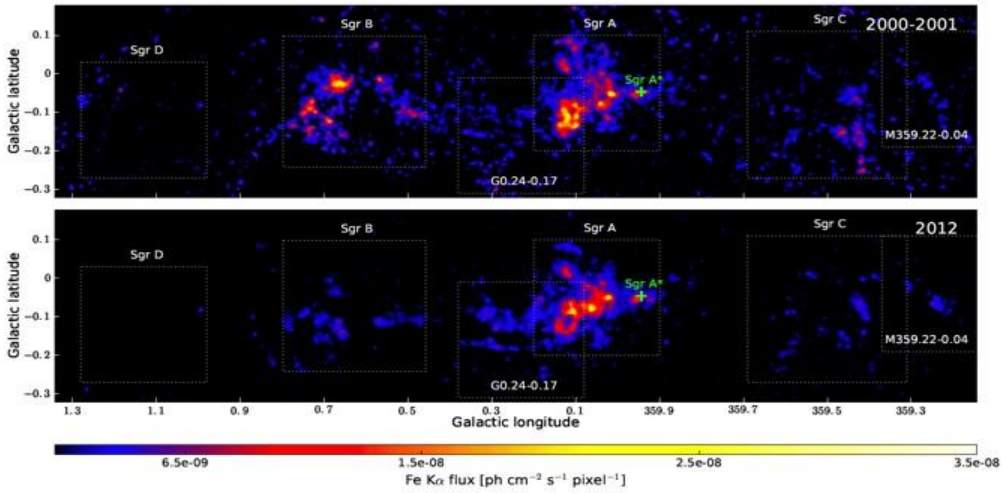


Fig. 3. Background- and continuum-subtracted intensity maps of the inner GC region measured by *XMM-Newton* at 6.4 keV in 2000–2001 (top) and 2012 (bottom). The maps are in units of ph cm^{-2} s^{-1} pixel^{-1}, with 2.5″ pixel size, and smoothed using a Gaussian kernel of 5 pixels radius. The dotted square regions are discussed in more detail in Sect. 4

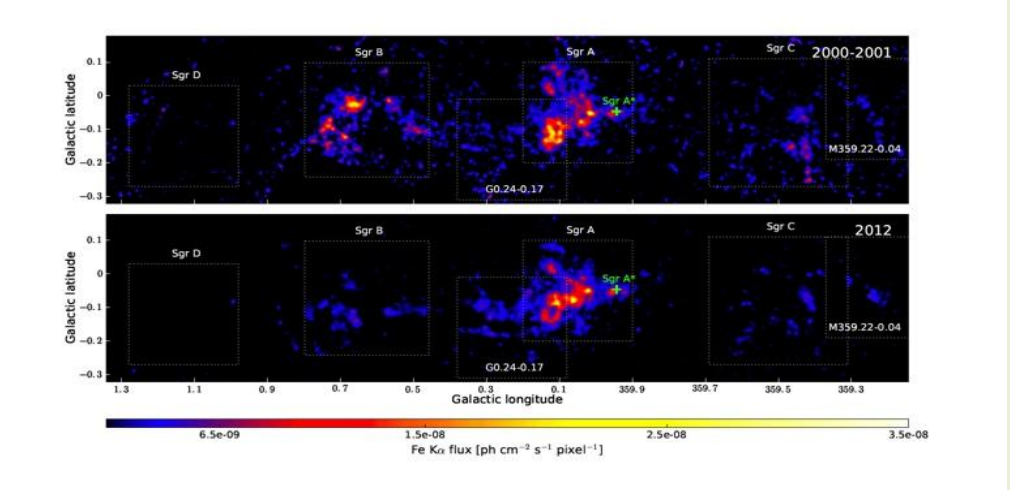
About his Research

Bright X-ray **echos** show strong variability over decadal time scales (2000-2012)

Dilruwan and his supervisors are interested in temporal variation of underlying diffuse emission up to 20 years of time scales

XMM- Newton Survey 2020- IPAG

480,000 s



Terrier +2018

Scientific goal ?

To statistically estimate a minimal "constant" flux value for each pixel.

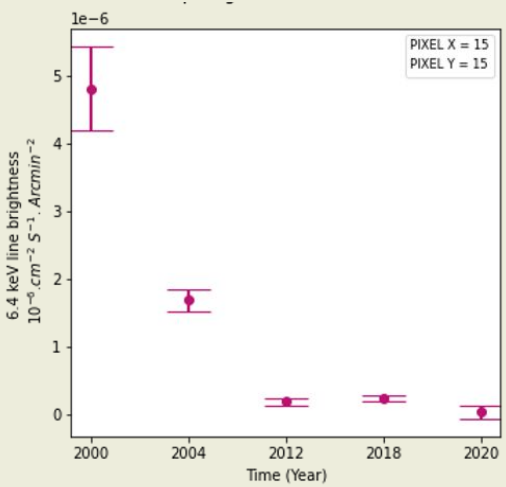
About his Research

Scientific goal ?

To statistically estimate a minimal "constant" flux value for each pixel.

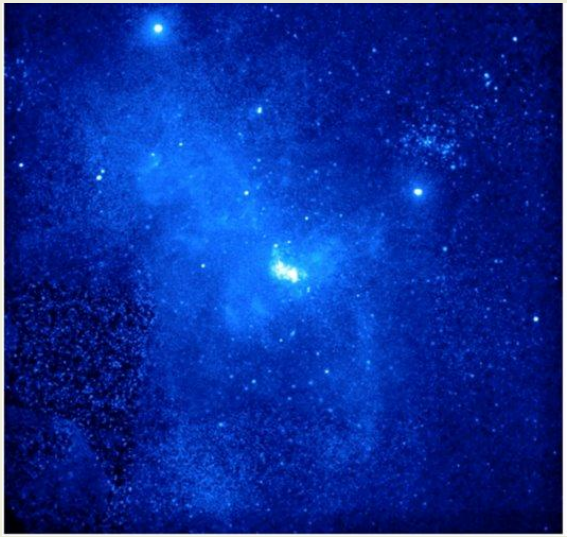
Observed Flux (t) = Constant Flux + Variable Flux (t)

Lots of Statistics are on their way
!!!!



Future prospects with athena

- Athena will observe the Galactic Center an entire order of magnitude faster than XMM-Newton.
- Athena future observations can be further used to measure Fe Kα flux with unprecedented accuracy.
- Combine XMM (Deep and Long) , and Athena will give new insights of the Galactic center diffuse emission !!!



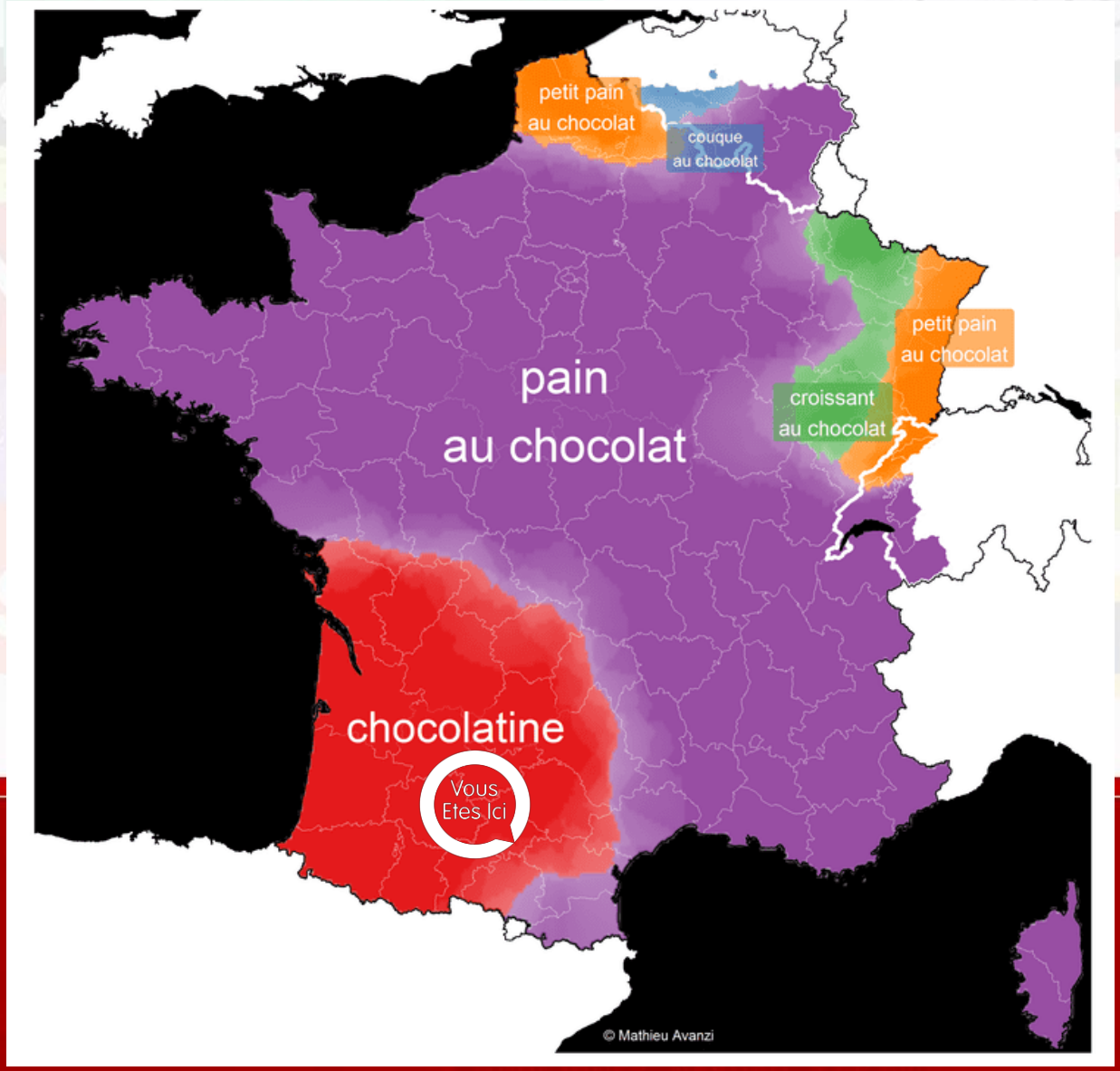
SIXTE simulation of what Athena's WFI instrument will see after 27 hours observation towards the centre of Milky Way .

How to make bad career choices

The life of Maxime PARRA

narrated by Dilruwan SHANAKA hé-hé

- Born and raised in France (but the southern part)



- High (school) in TOULOUSE
- Bachelor in TOULOUSE
- ~~Master in PARIS~~ 3 years hermit experiment
- Master in TOULOUSE
- Flees cowardly to GRENOBLE for PhD
  because doctoral school is pain

- Now PhD in matplotlib colorblind palettes
  with some astrophysics when he's bored

- Loves being paid to test local cuisine

Current situation

- *1st year PhD student at IPAG/Roma Tre with :*

pop *Stefano Bianchi*

The only serious slide

- Working on BHLMXBs wind signatures
  aka X-ray absorption lines
  (remember pop's talk)

- Main goal is to compare MHD winds solutions from our group to observations

But first...

- identify the best candidates for thorough analysis
- Get the most up-to-date view of the global landscape of detection/non detection

WATCHDOG: A COMPREHENSIVE ALL-SKY DATABASE OF GALACTIC BLACK HOLE X-RAY BINARIES

B. E. Tetarenko[1], G. R. Sivakoff[1], C. O. Heinke[1], and J. C. Gladstone[1]

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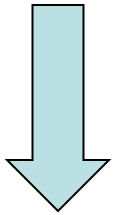

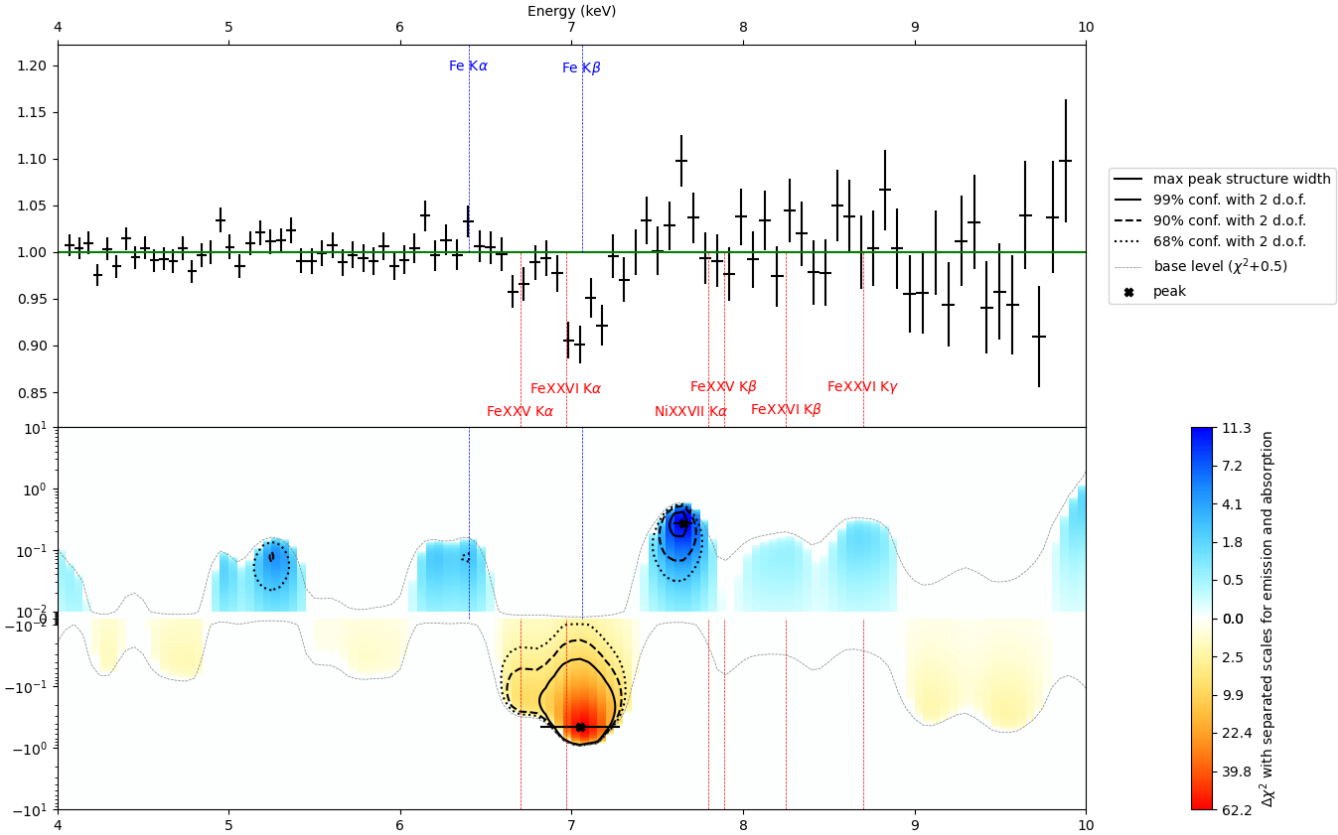

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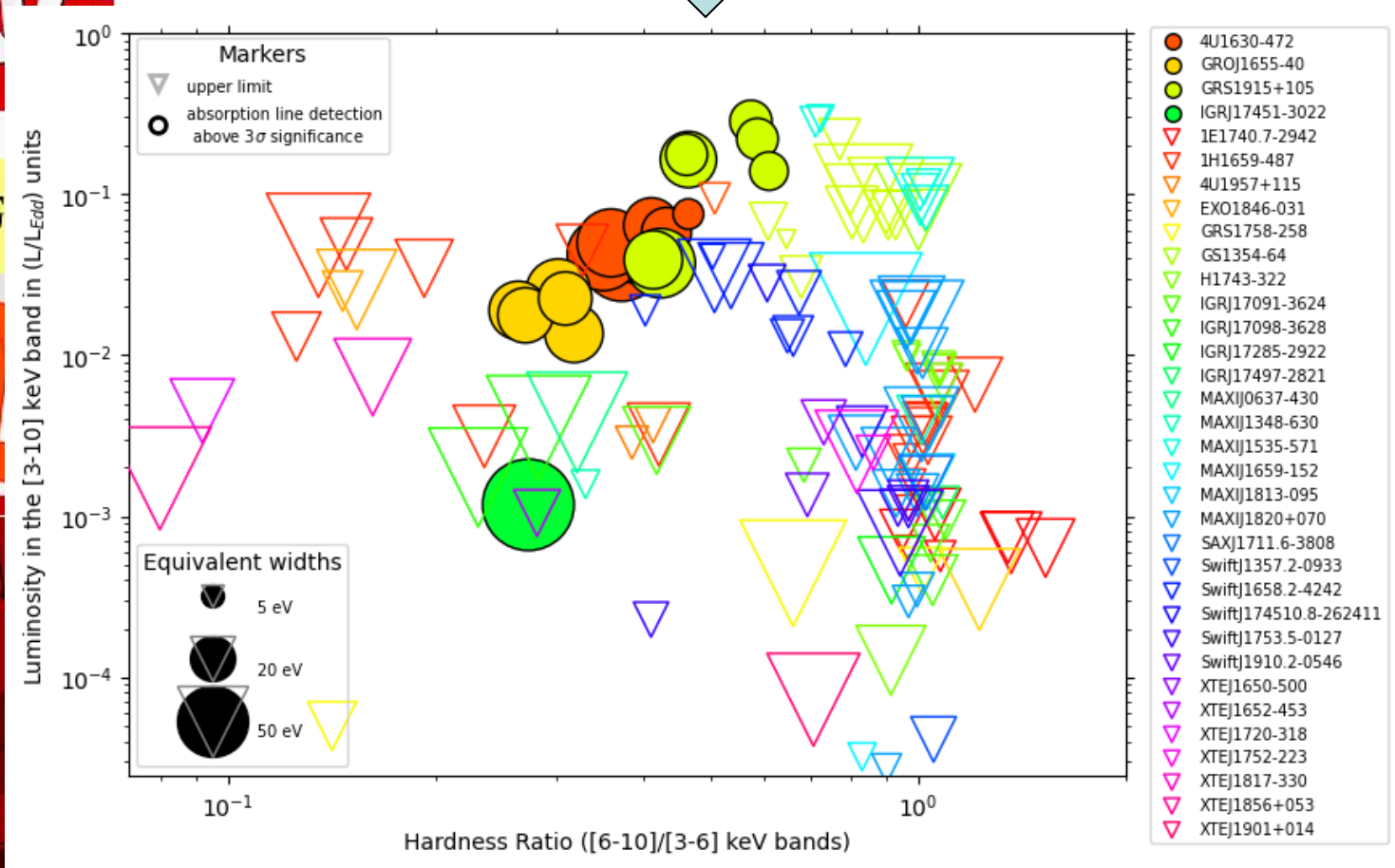

Non-work-related activities

- Climbing (mostly falling actually)
- Testing time dilatation through netflix, youtube and videogames
- Going out (body is very covid-friendly)
- Converting depressive thoughts into memes
- Long-term monitoring of pizzeria quality in various French/Italian/Spanish cities