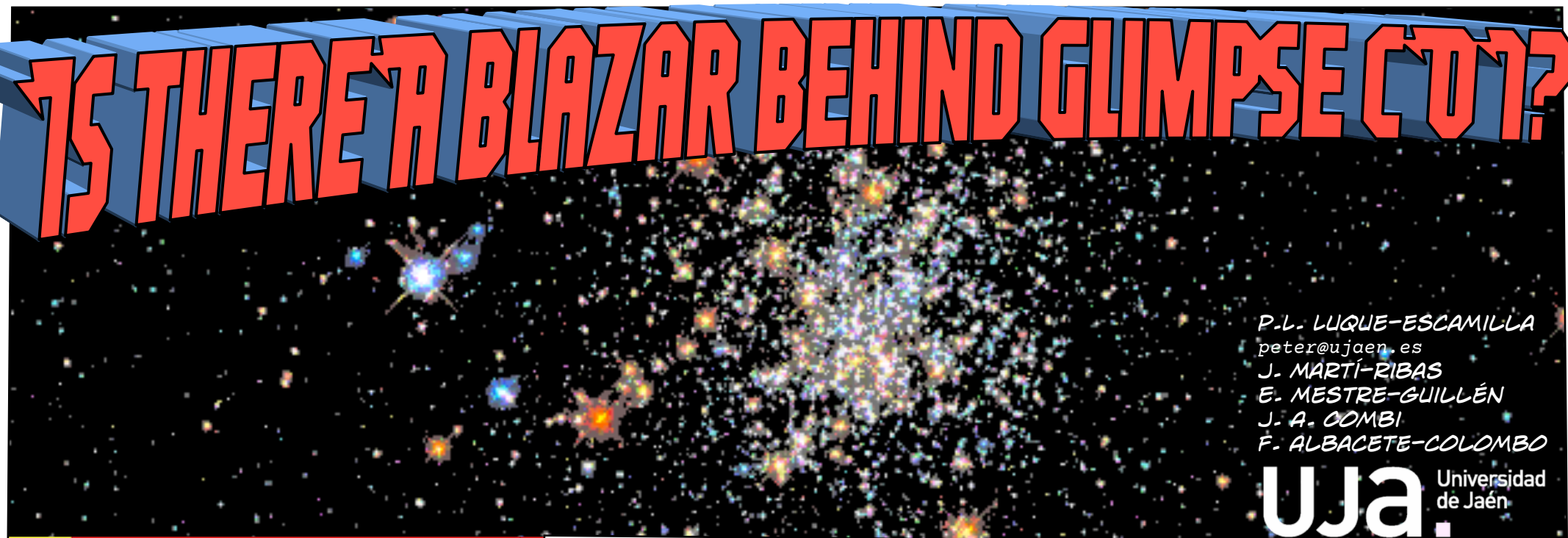


IS THERE A BLAZAR BEHIND GLIMPSE C07?

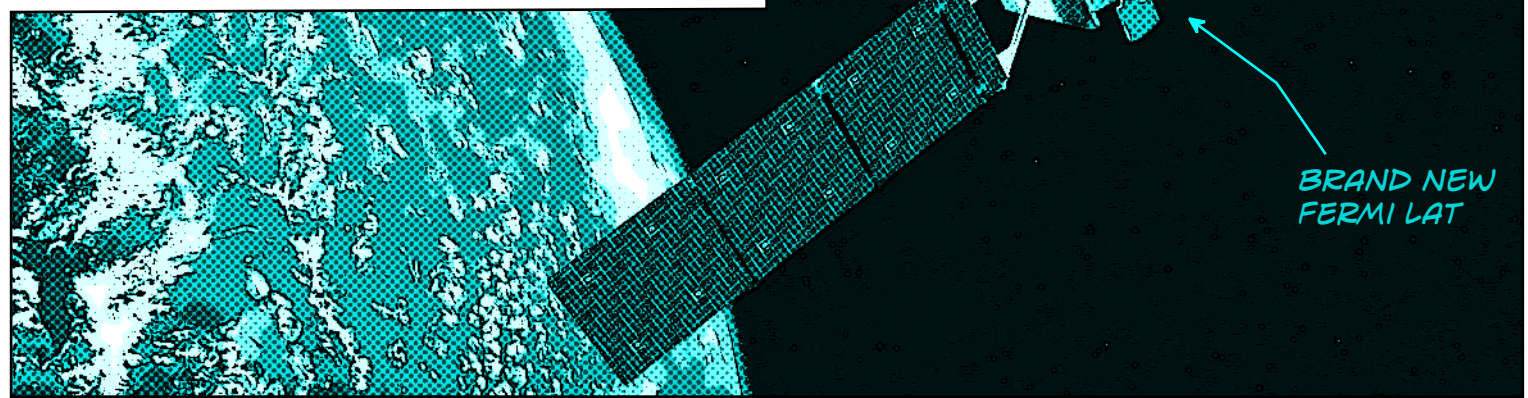


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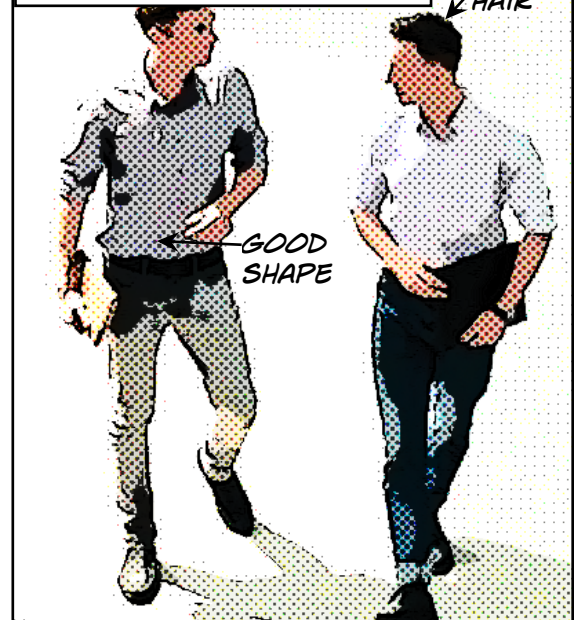
UJa. Universidad de Jaén



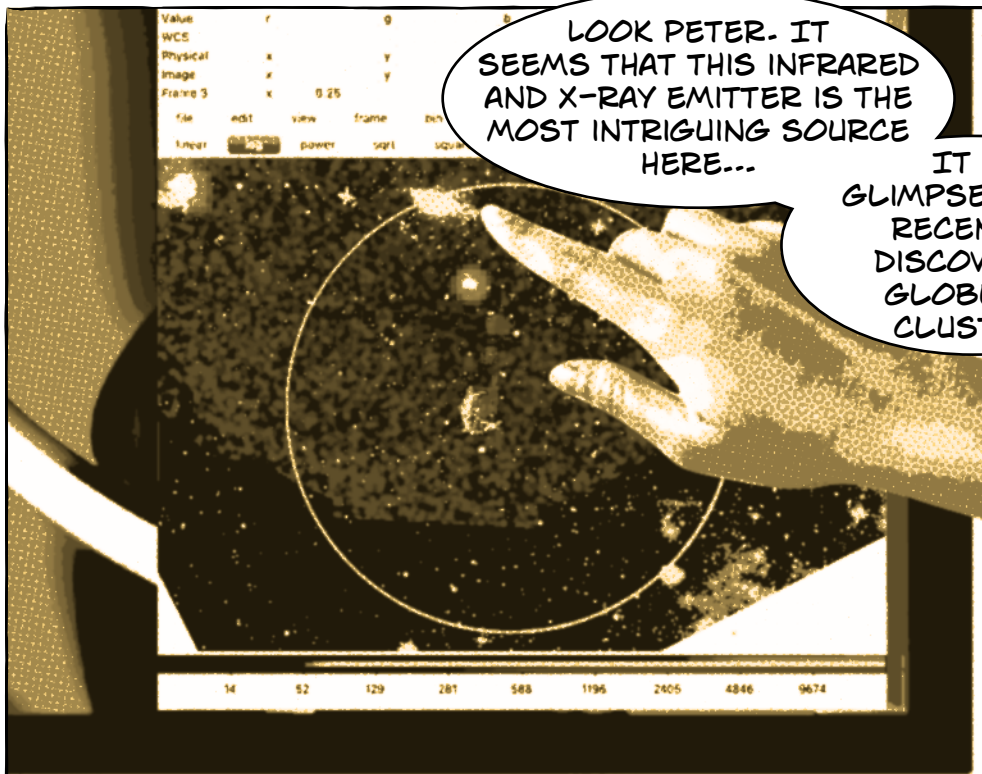
THIRTEEN YEARS AGO...



IN JAÉN (SPAIN) WE MET AT THE CAMPUS...



WE WERE YOUNG AND WILD AND FREE...



LOOK PETER. IT SEEMS THAT THIS INFRARED AND X-RAY EMITTER IS THE MOST INTRIGUING SOURCE HERE...

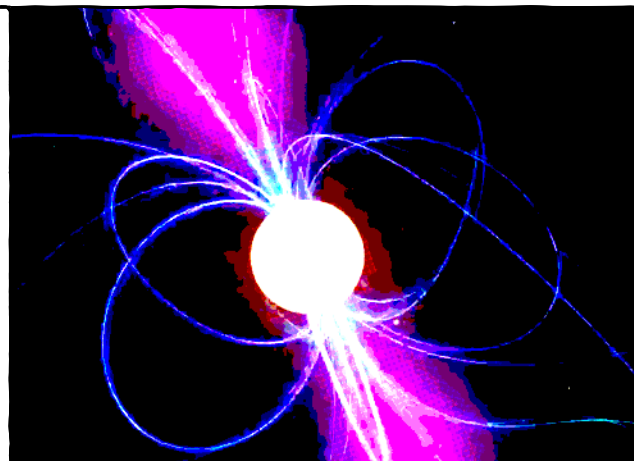
IT IS GLIMPSE C01, A RECENTLY DISCOVERED GLOBULAR CLUSTER.



JOSEP! PERHAPS MILLISECOND PULSARS IN GLIMPSE C01 ARE RESPONSIBLE FOR THE GAMMA EMISSION!

THERE WAS ONE UNIDENTIFIED FERMI SOURCE, CALLED OFGL J1848.6-0138, WITH SOMETHING INTERESTING INSIDE ITS 0.16 DEGREE ERROR CIRCLE.

THAT WAS A GOOD IDEA. GLIMPSE C01 IS AT ABOUT 5 KPC. COLLECTIVE CONTRIBUTION OF EMISSION FROM ACCELERATED PARTICLES IN THE MAGNETIC FIELDS OF MILLISECOND PULSARS MAY EXPLAIN THE OBSERVATIONS...



Astronomy
&
Astrophysics

Counterpart candidates to the unidentified Fermi source 0FGL J1848.6-0138

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ABSTRACT

Aims. We aim to contribute to the identification of the counterpart for one of the bright sources of gamma-rays in the catalogue obtained and released by the Fermi collaboration.

Methods. Our work is based on a extensive identification of sources from different wavelength catalogues and databases.

Results. As a first result, we report the finding of a few counterpart candidates inside the 95% confidence error box of the Fermi LAT unidentified gamma-ray source 0FGL J1848.6-0138. The globular cluster GLIMPSE-C01 is remarkably distinctive being among the most peculiar objects consistent with both the position uncertainty in the gamma-ray source and a conceivable physical scenario for gamma-ray production. The Fermi-observed spectrum is compared with theoretical predictions in the literature and the association is found to be plausible but not yet certain because of its low X-ray to gamma-ray luminosity ratio. Other competing counterparts are also discussed. In particular, we pay special attention to a possible Pulsar Wind Nebula inside the Fermi error box, whose nature is yet to be confirmed.

Conclusions. Both a globular cluster and an infrared source resembling a Pulsar Wind Nebula were found to be in positional agreement with 0FGL J1848.6-0138. In addition, other interesting objects in the field are also reported. Future gamma-ray observations will reduce the position uncertainty and we hope eventually confirm one of the counterpart candidates reported here. If GLIMPSE-C01 is confirmed together with the possible Fermi detection of the well known globular cluster 47 Tuc, then this would provide strong support to theoretical predictions that globular clusters are possible gamma-ray sources.

Key words. globular clusters: general – globular clusters: individual: 47 Tuc – gamma rays: observations – stars: winds, outflows
globular clusters: individual: GLIMPSE-C01

1. Intro-
The Fermi Large Area Telescope (Fermi-LAT) has produced a first catalogue of highly-significant gamma-ray sources based on their first three months of observations (Abdo et al. 2009a). The LAT instrument onboard Fermi

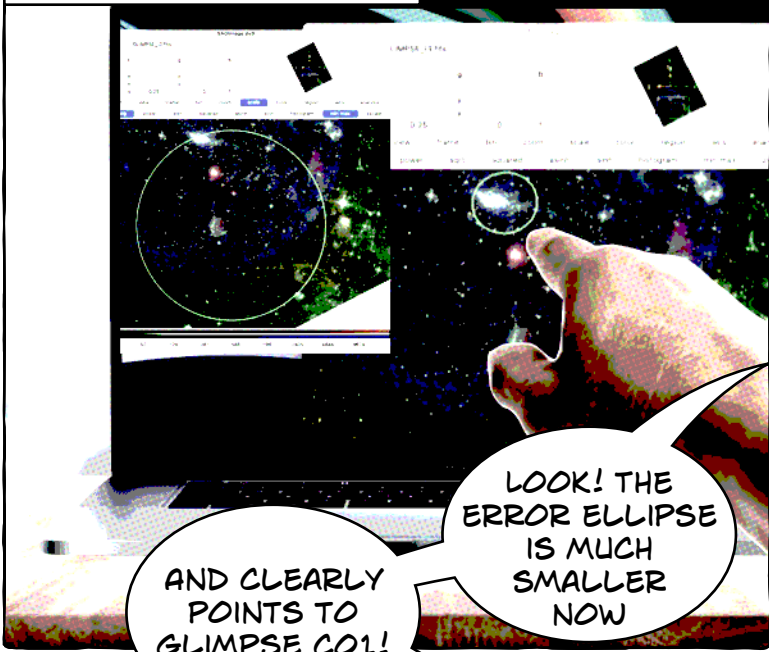
globular cluster GLIMPSE-C01 (Kobalnický et al. 2009) is a new class of gamma-ray sources with other possible counterparts.

In this paper, we first devote our attention to the identification of a globular cluster (GC) associated with the Fermi-LAT source 0FGL J1848.6-0138. In support of a globular cluster (GC) association, we present an observational and theoretical point of view of the Fermi-LAT source 0FGL J1848.6-0138 as a new class of gamma-ray sources.

NICE!
WE ARE THE FIRST TO RELATE THIS FERMI SOURCE TO GLIMPSE C01!

AFTER SOME EFFORTS, WE WERE ABLE TO PUBLISH OUR RESULTS. BUT IT WAS 2009...

BUT NOW, IN 2022...



AND CLEARLY POINTS TO GLIMPSE CO1!

LOOK! THE ERROR ELLIPSE IS MUCH SMALLER NOW

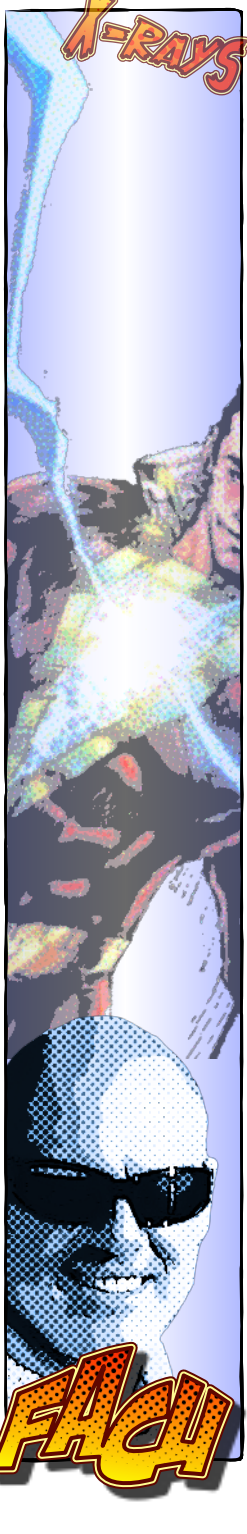


IT'S TIME TO...

CALL THE J-TEAM!



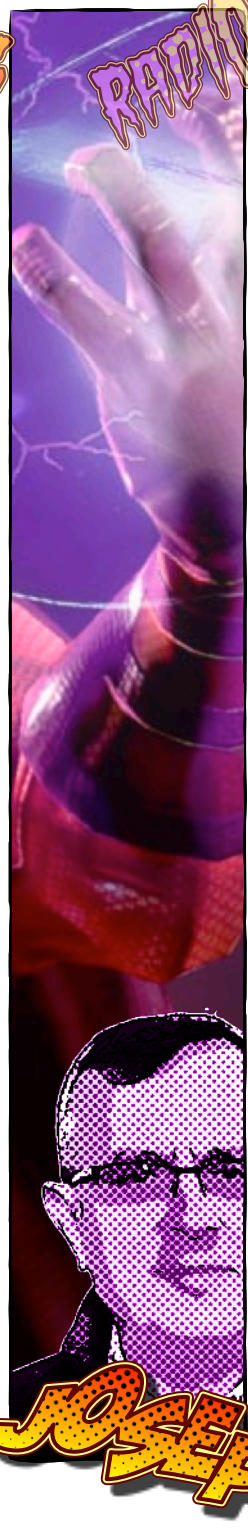
JORGE



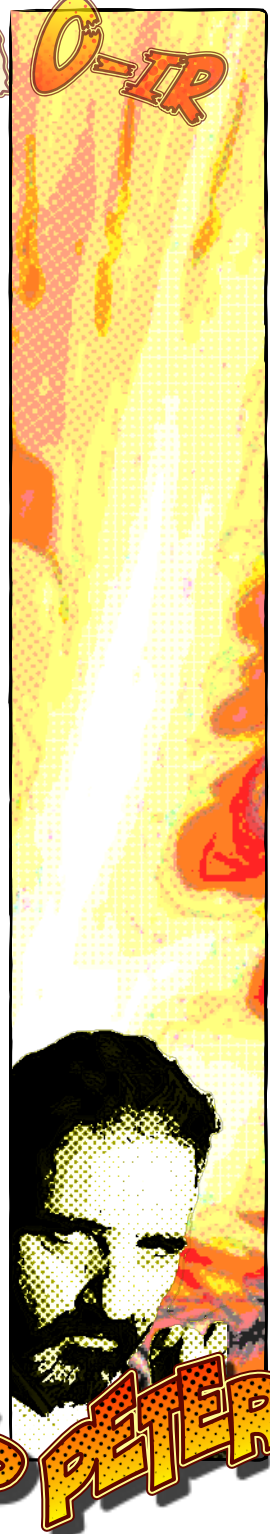
FACU



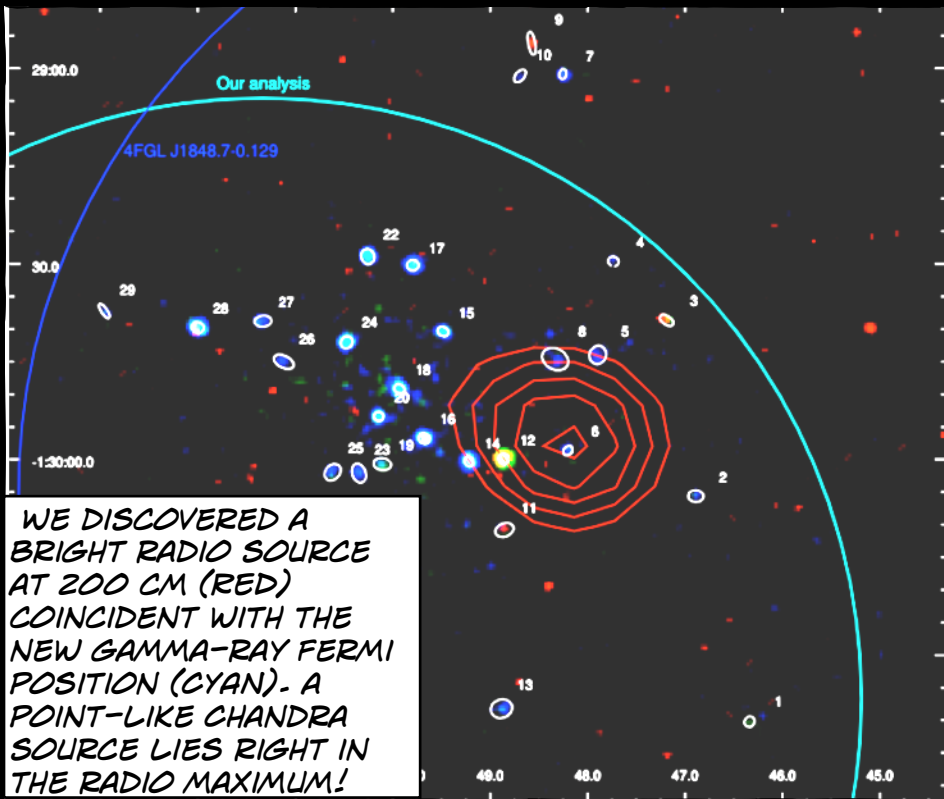
MIKE



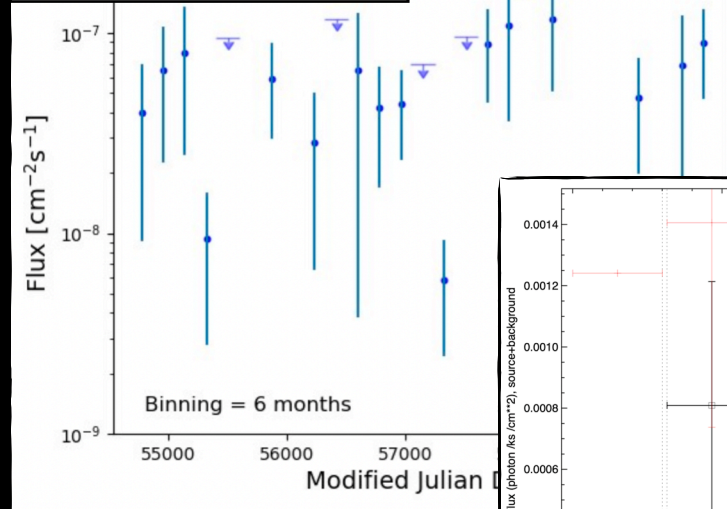
JOSEP



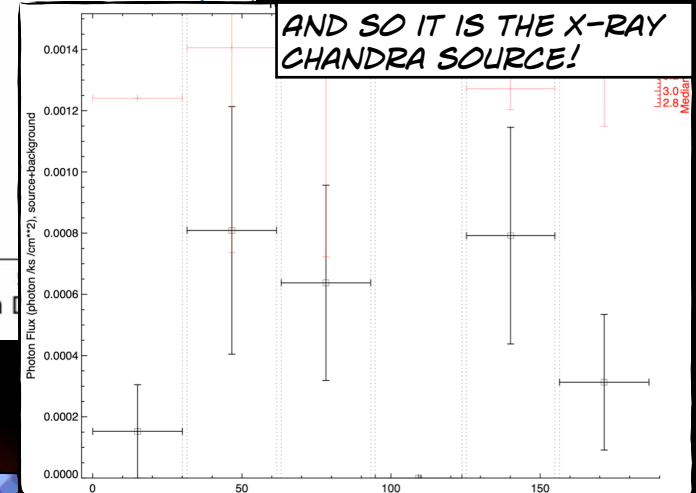
PETER



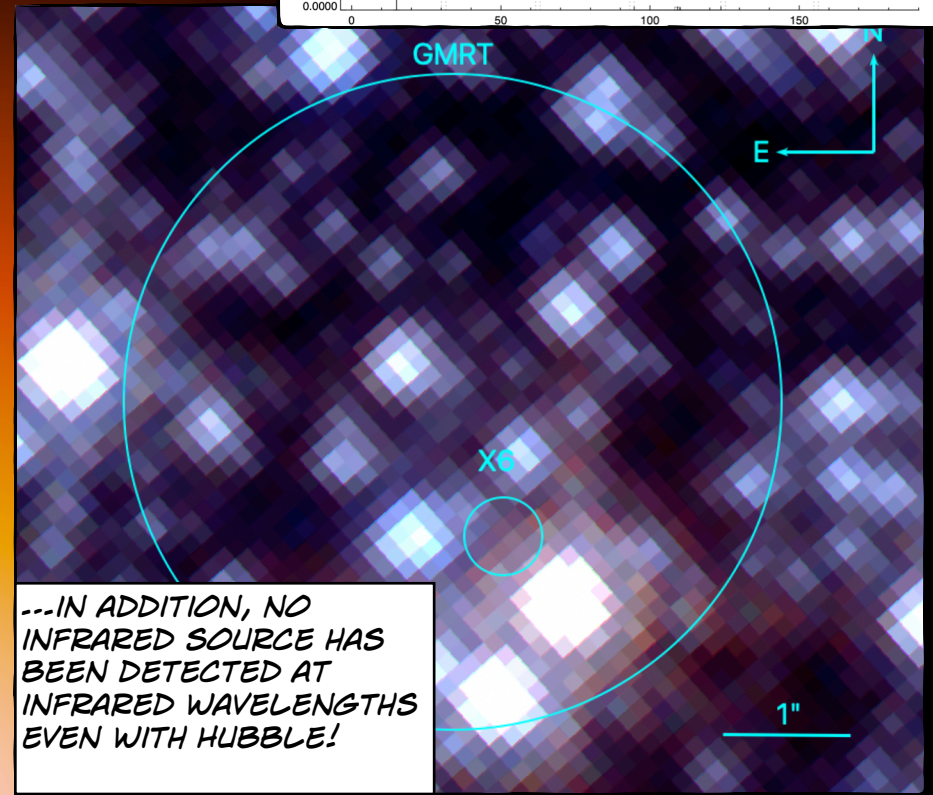
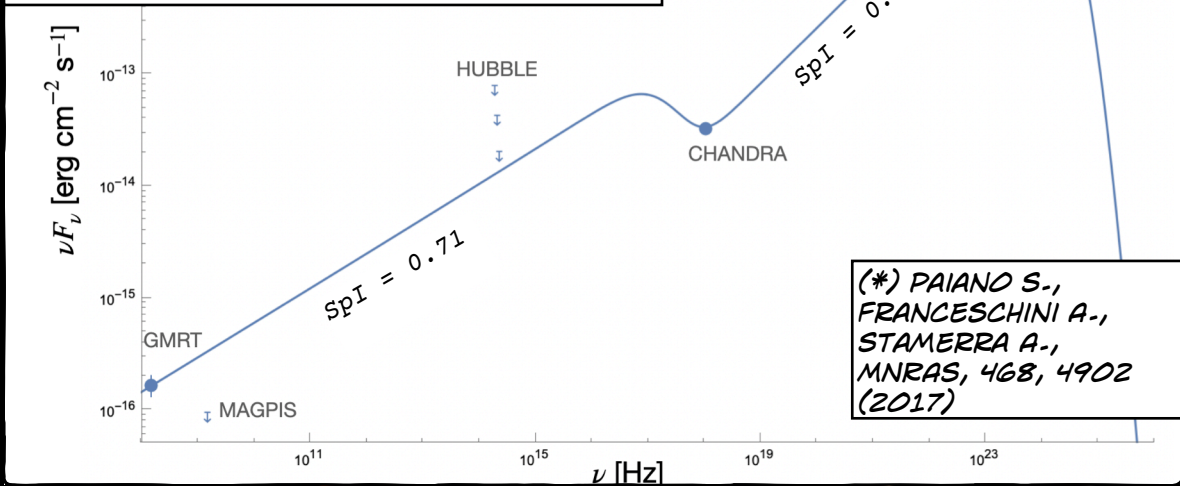
THE FERMI SOURCE IS VARIABLE!



AND SO IT IS THE X-RAY CHANDRA SOURCE!



THE SED BUILT FROM ARCHIVAL DATA IS TENTATIVELY FITTED WITH A SIMPLE MODEL (*) AND EXHIBITS THE DOUBLE BUMPED SHAPE TYPICAL OF LOW FREQUENCY PEACKED BLAZARS...





ALL THIS POINTS TO A BLAZAR!

SPECTRAL INDICES SEEM COMPATIBLE WITH THOSE OF FERMI BLAZARS (*)

AND ASSUMING A TYPICAL GAMMA LUMINOSITY OF 10^{47} ERG/S WE GET A REDSHIFT $z = 0.44...$

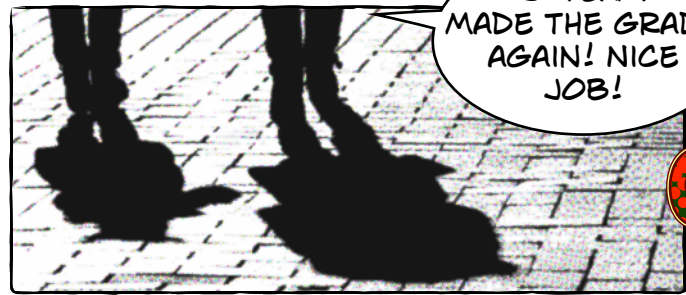
(*) OUYANG, Z. ET AL. A&SS 366, 12 (2021)



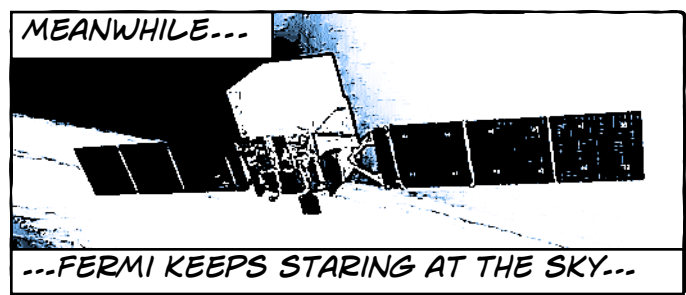
...WHICH SEEMS PLAUSIBLE!



SO GLIMPSE CO1 COULD NOT BE RELATED TO THE GAMMA EMISSION, AS THE FERMI COLLABORATION STATES!



J-TEAM MADE THE GRADE AGAIN! NICE JOB!



MEANWHILE---

---FERMI KEEPS STARING AT THE SKY---

COMING SOON!

manuscript no. output

A blazar candidate for the Fermi source 4FGL J1848.7-0129

arXiv:1808.01291v1 [astro-ph.HE] 20180801

The J-Team¹

ABSTRACT

Fermi source 4FGL J1848.7-0129 has been related to the globular cluster GLIMPSE C01 since its discovery. However, this association deserves a revisit given the accumulated data, and the recent discovery of a multi-wavelength available data of the Fermi source region. In particular, low frequency radio observations from the MeerKAT radio telescope in Namibia, together with X-ray data from Chandra, suggest that the source is associated to the globular cluster NGC 6396. We propose now a newly discovered blazar as the most promising responsible for the gamma ray emission.

¹The collaboration operating the Fermi Gamma-ray Space Telescope released their first catalog of sources in 2009. The Fermi Gamma-ray Space Telescope was subsequently launched in 2008.