

# Supernova SN2017gfh

cronaca di una “serendipitous discovery”!



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Not a really serious technical report...  
Not a “*B00king.com*” *Hotel advertise* but...  
an “half way, in between...”

short story about the “serendipitous”  
discovery of SN 2017gfh

It's really “serendipitous”...

18 August 2017

That friday night I do not found “interesting”  
object among the lot of  
alerts/announcements on the  
“Latest Supernovae page\*”

\*always updated and well mantained by **David Bishop**... really a big thank you, David  
[www.rochesterastronomy.org](http://www.rochesterastronomy.org)

It's really “serendipitous”...



I decided to open my little wooden observatory, housing my instruments...

It was my 4th observing night of 2017....



# Hardware is hardware

- A Newton "Tube"  
My optic: Orion Optics UK 250mm f/4.8  
Good optic, modest 2" focuser
- G41 Mount, good and affordable
- one good CCD camera  
ICX285AL(Starlight Express) , yes it is...:  
NO Darks, good QE and linearity  
Very low noise  
Sbig 2000 used as guiding camera...  
Noisy but effective



The Amateur Astronomer's Old Faithfuls

... but without software...

- I mention my preferred ones :

AstroArt, CCDSoft for “On Field” takes  
Astrometrica (great piece of SW), Fitswork  
And AstroArt (again) for stacking and  
post-processing work

Astrometrica is particularly useful to determine obj  
Position and relative Magnitude. Almost full  
automated and very accurate.

The Amateur Astronomer's Old Faithfuls

... but without software...(2)

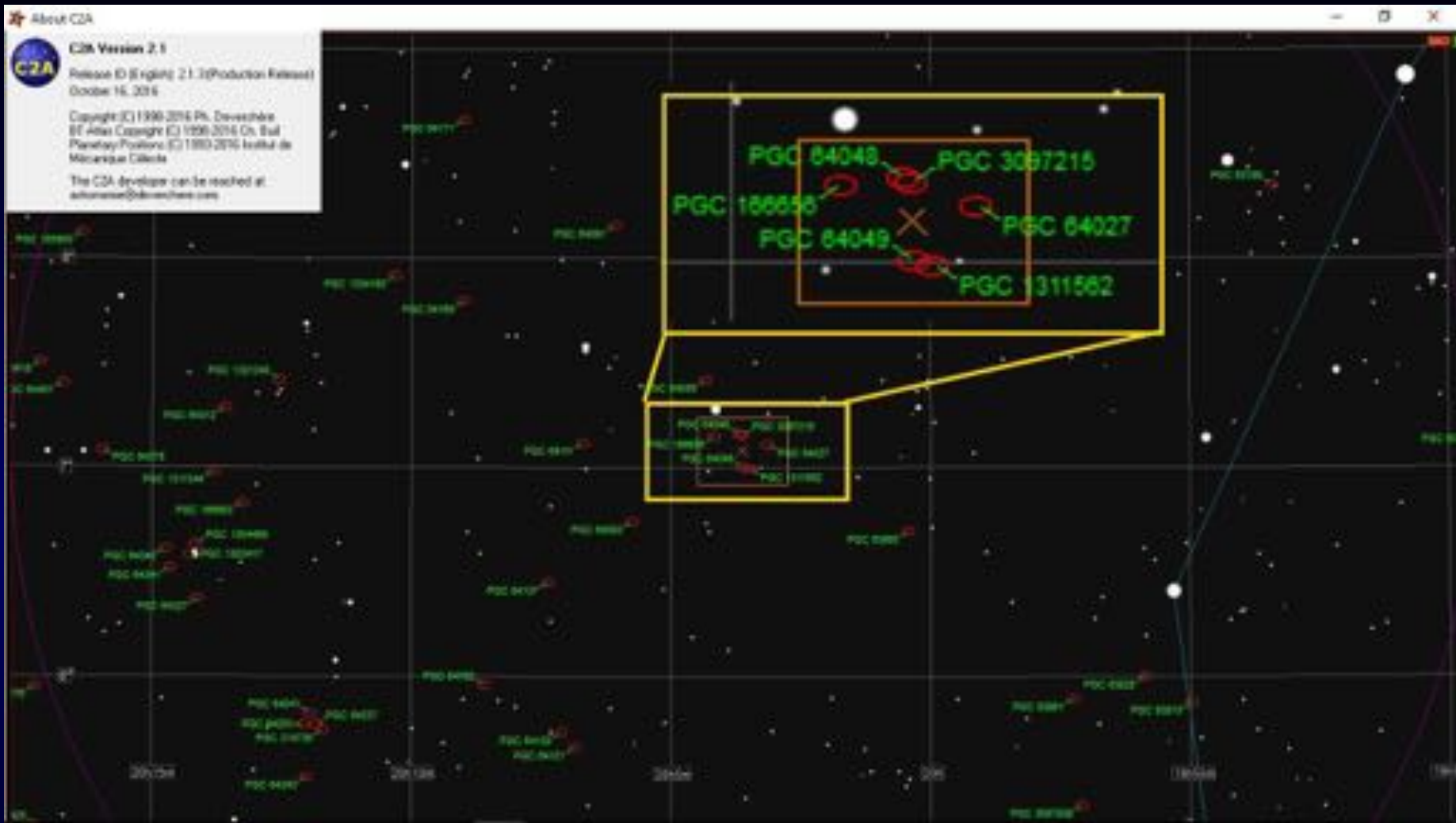
- C2A is a good freeware: I like its simplicity but full of rich features. Good for SN search thanks to the PGC2003 Galaxy Catalog implemented in it

By the way.... I don't use any software to point my scope, still preferring slewing it with direct A/R and DEC commands and refining by hand the field pointing...

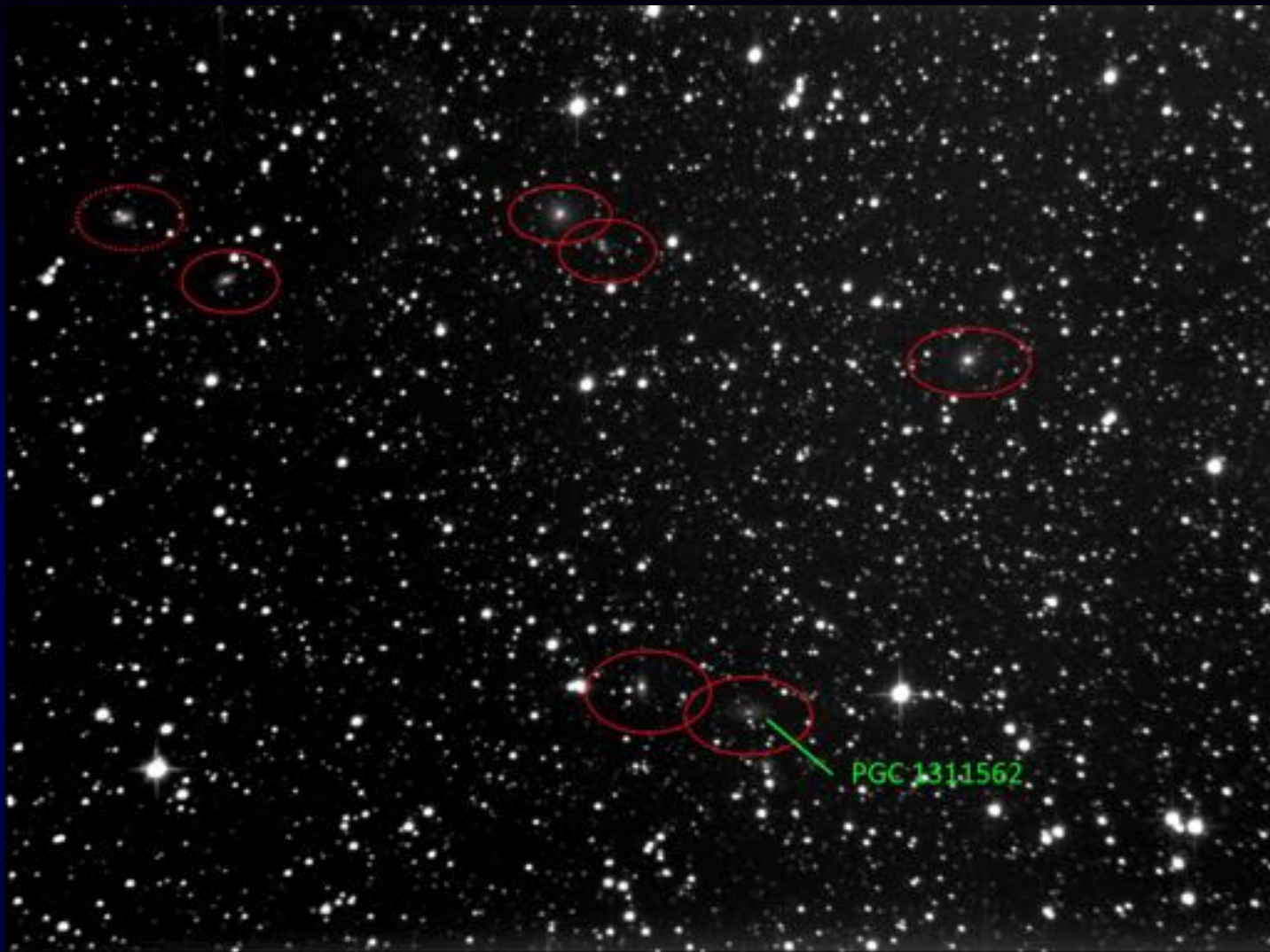
The Amateur Astronomer's Old Faithfuls

On that night  
happened...





My observing session begins with a quick exploration of what is “ONLINE” in the night sky. C2A comes with 1million PGA2003 catalog inside. The density of galaxies displayed is a basic important parameter of “where to point the telescope” to increase/optimize the search for a possible SN



The first exposure confirms that all the objects are placed correctly in the field of view.... Other tiny galaxies are also visible, not included in the PGC2003 catalogue...



Probably more tiny galaxies offer to occasional observer higher probability to discover a new SN compared to a single 'big' galaxy:

- high number of galaxies into one single frame (density...)
- it's easy to spot a new little dot in a tiny galaxy halo



One single 'field' but made by stacking more than one frame:  
→ thus I can record fainter objects...  
Good focusing and seeing conditions, obviously, help a lot....

01:00 p.m.

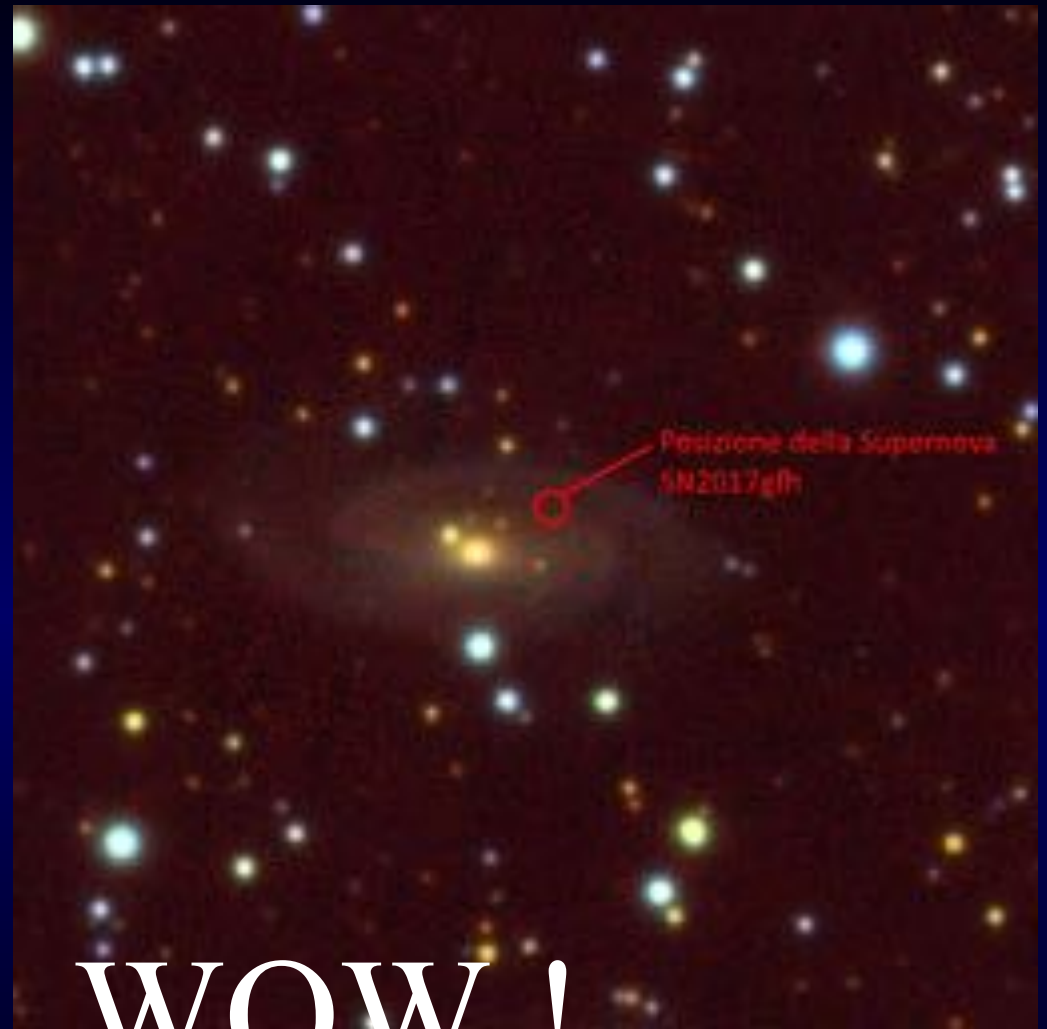
... going to sleep ...

*Zzz....*

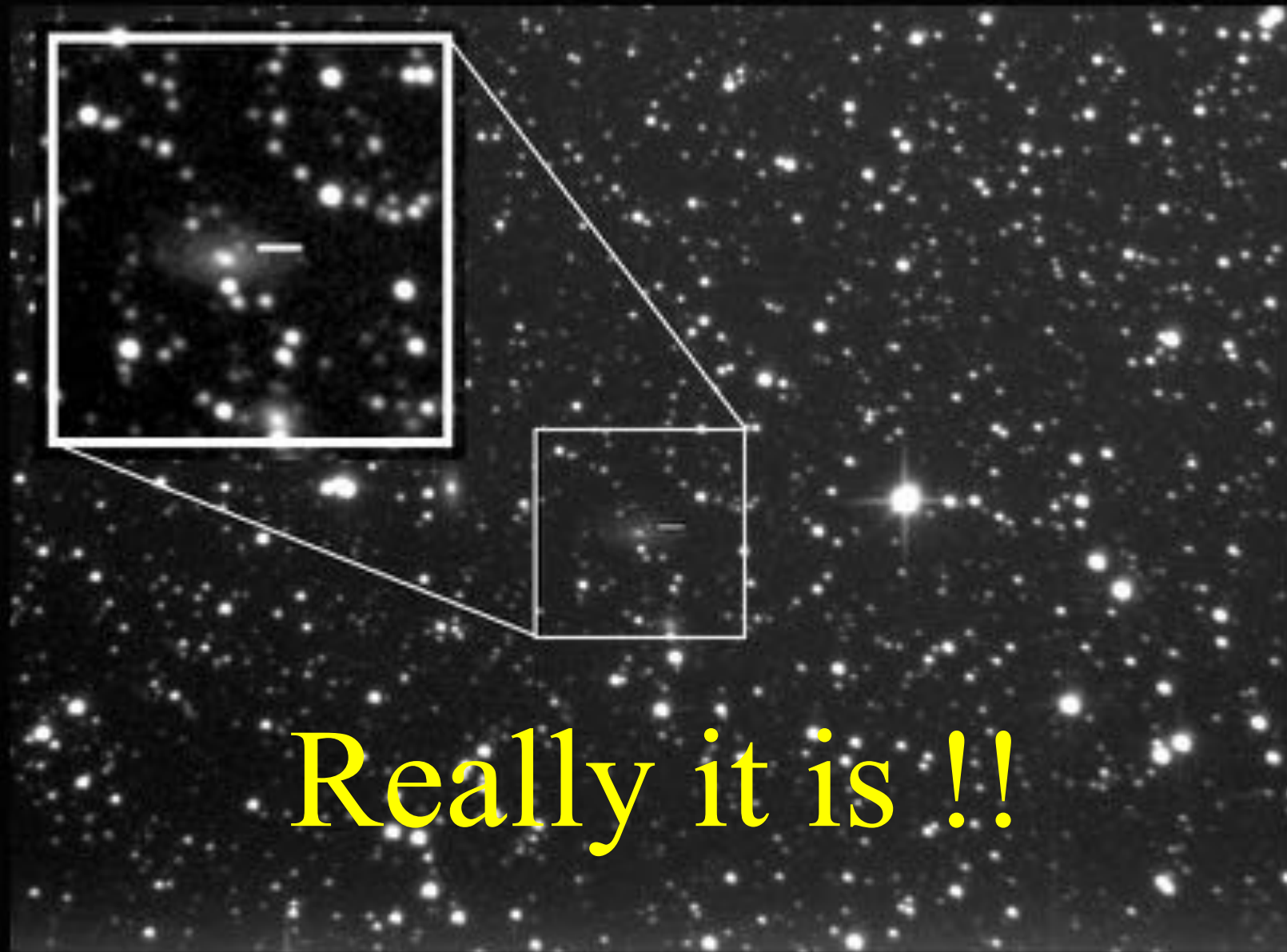
Saturday morning I begin  
to explore my first “rich field”  
And in the second galaxy  
I take into account...

Quick comparison  
with DSS2 (red and  
blue) and a final look  
to Gaia picture ...  
there were so many  
little stars in the  
halo... DSS2 didn't  
show me all...

But after all I can give  
a confirmation....



WOW !



Really it is !!



TNS: a quick and effective way to communicate your discover... It's an... AstroWhatsApp :-)



## Discovery certificate for object 2017gfh

TNS Astronomical Transient Report No. 13188

Date Received (UTC): 2017-08-19 21:47:49

Sender: Mr. marco russiani

marco russiani report/s the discovery of a new astronomical transient.

IAU Designation: SN 2017gfh

Coordinates (J2000): RA = 20:03:27.40 (300.864167) DEC = +06:59:27.20 (6.990889)

Discovery date: 2017-08-18 20:22:50 (JD=2457984.3491898)

Potential host galaxy: PGC 1311562

But wait... (for confirmation)



**Classification certificate for object 2017gfh** 

TNS Classification Report No. 1132

Date Received (UTC): 2017-08-21 16:52:55  
Sender: ePESSTO (ePESSTO\_Bot1)  
Group: ePESSTO

Joe Lyman, David Homan, Kate Maguire, O. Yaron, on behalf of ePESSTO report's a classification of object: SN 2017gfh

Type: SN IIb  
Redshift: 0.024

The following Classification spectrum was provided:

Obdate: 2017-08-20 02:29:36  
Instrument: EFOSC2-NIT  
Telescope: The ESO New Technology Telescope

Details of the object and its spectra can be viewed here: <http://vlsr.ira.weizmann.ac.il/object/2017gfh>

**Thanks to my wife Cristina, my sons and my relatives & friends. All they encourage me with my astro-hobby and sometimes can share with me some delightful night skies!**



Namibia 2009 – The Milky Way “Core”

A nighttime photograph of the Falce di Luna (Luna Nuova) in Krk Island, Croatia. The image shows a stone wall with a church spire and a crescent moon in the sky. The scene is illuminated by warm lights, creating a dramatic atmosphere. The text "And ... of course ... Thanks for your attention !" is overlaid in yellow on the image.

**And ... of course ...  
Thanks for your attention !**

Falce di Luna (Luna Nuova) - Isola di Krk (Veglia) in Croazia - 2006