



Current events

MW-Gaia: Bringing the Milky Way to schools 2021
Online Workshop <http://mao.tfai.vu.it/mwschools>

Europlanet 2021 virtual summer school
<http://mao.tfai.vu.it/europlanet2021>



USING APRIL FOOL PAPERS

HENRI BOFFIN

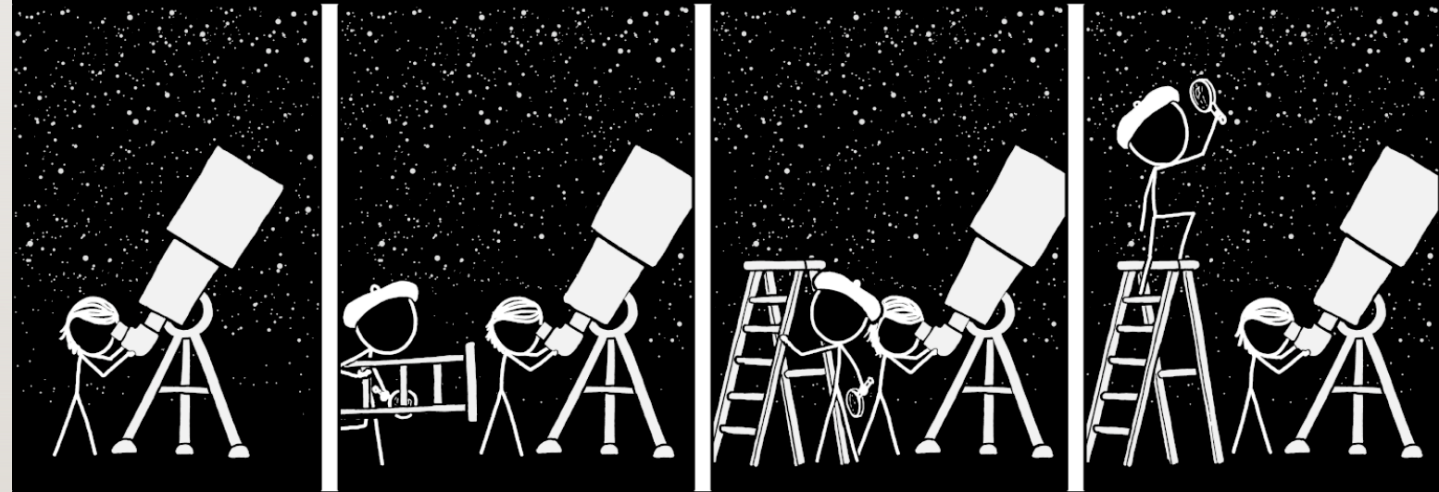
ESO

MOTIVATION

- Use real research
- Papers are too long and too complicated
- Need to change prejudices

“The Universe is made of stories, not of atoms.”

Muriel Rukeyser



<https://xkcd.com/1522/>

*Bridging science
and the
humanities*



<http://eso.org/~hboffin/Attic.html>



***Important
Letter to the Editor***

On the Use of Astronomy: Predicting the Doom of Humankind

***Very Important
Letter to the Editor***

On the Use of Astronomy: II. The secret of the elixir of youth of blue straggler stars

***Very Important
Letter to the Editor***

DO WE GRASP THE PHYSICS OF BINARY STARS?

*Bridging science
and the
humanities*

**Astronomical
Farces**



*Very Important
Letter to the Editor*

DO WE GRASP THE PHYSICS OF BINARY STARS?

Henri M.J. Boffin^{1,★}, A. Wake², and W.H.Y. Can't², I. Sleep²

¹ Extraterrestrial Institute for the Advancement of Earth (EIAE), Secret place, Planet Earth, Solar System

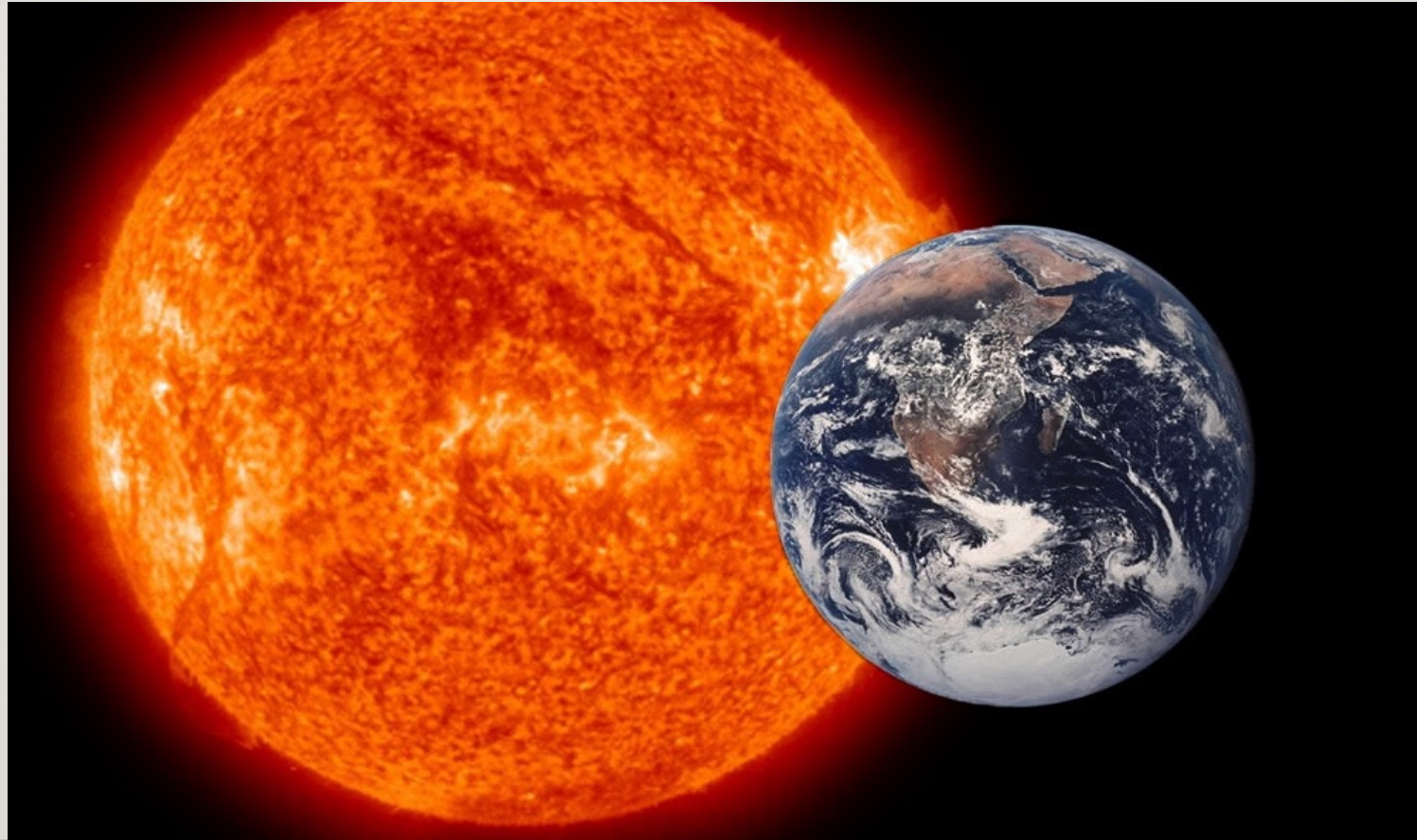
² The Improbable Institute, Flatland

ABSTRACT

No!

Key words. binary stars – planetary nebulae – common sense

THE SUN IS SINGLE...



Credit: NASA

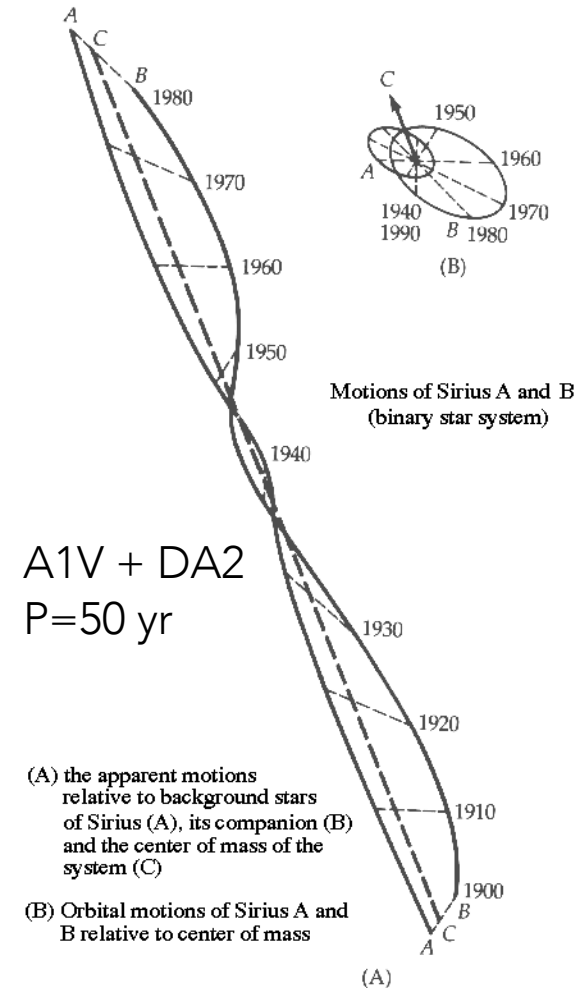
...BUT MOST STARS AREN'T

Star Wars Episode IV: A New Hope.

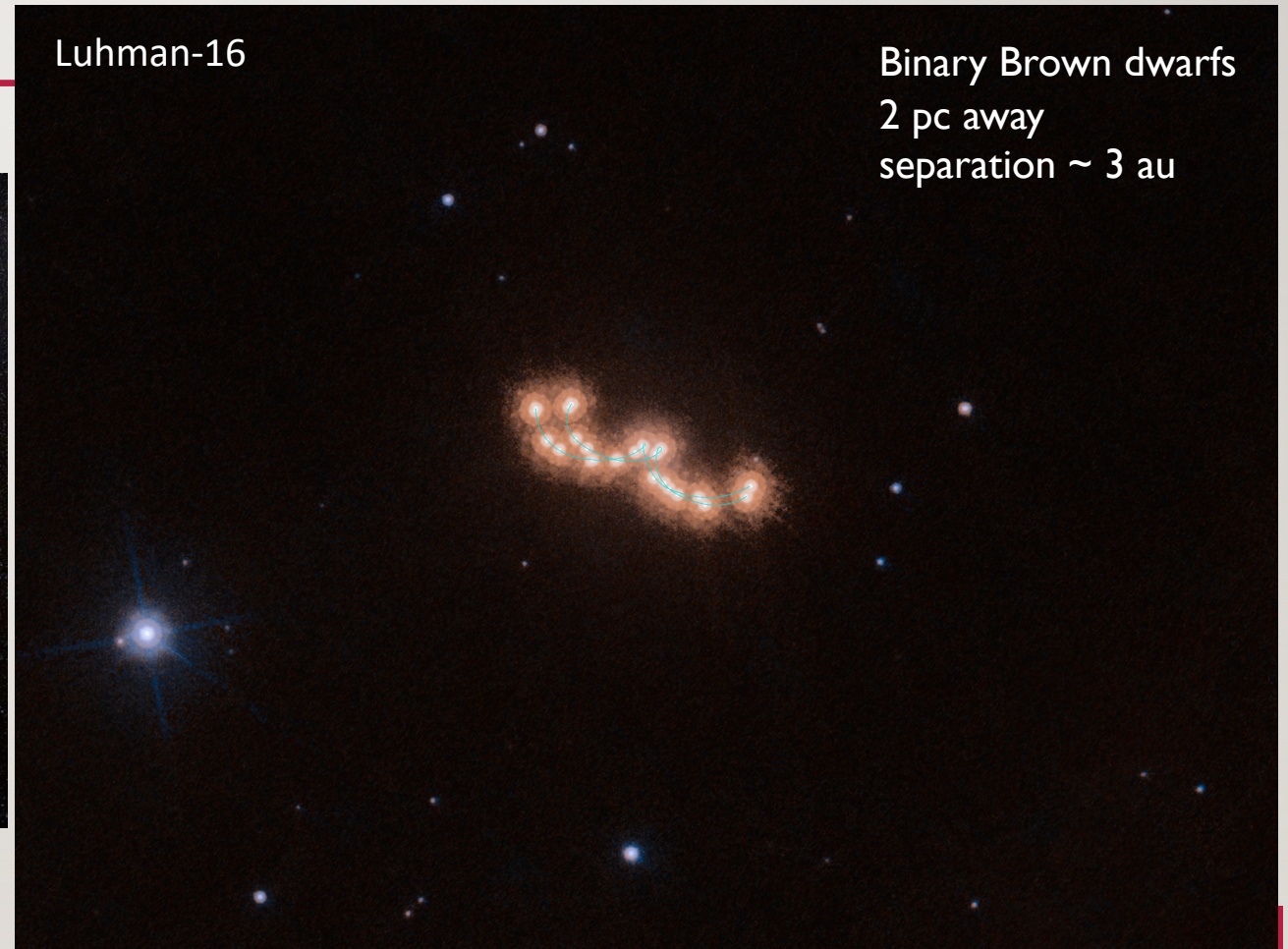
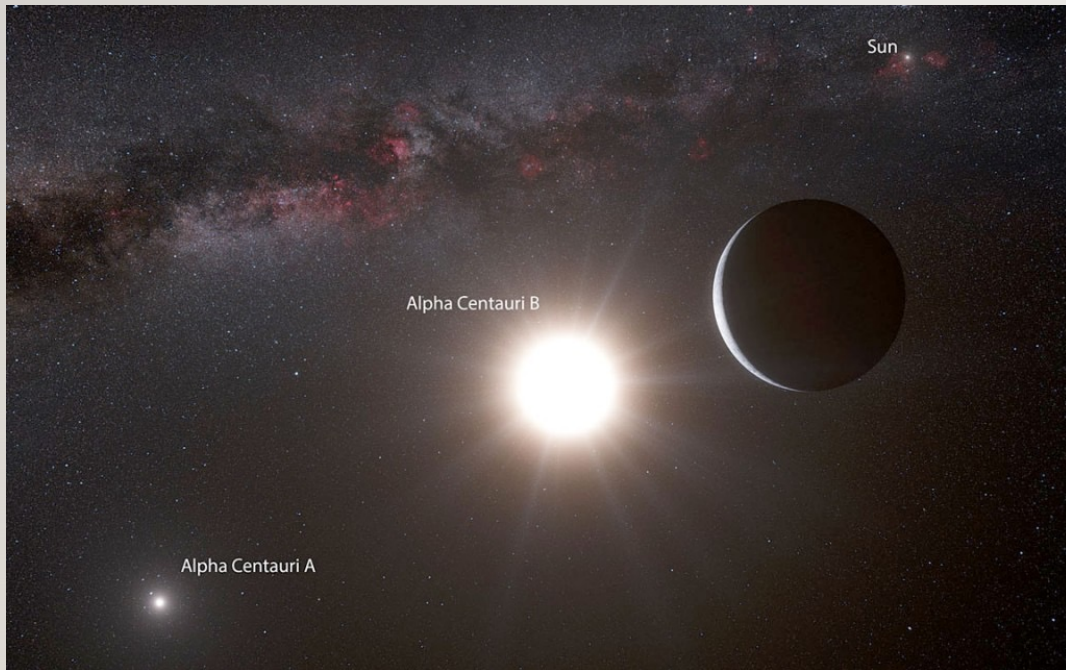


THE BRIGHTEST STAR IN THE NIGHT SKY IS A BINARY

The presence of Sirius B was first detected by observing the wobble in the motion of Sirius A ...an Astrometric Binary



SOME OF THE CLOSEST ALSO



PLANETARY NEBULA HEN 2-37



Credits: Movie image courtesy A.M.P.A.S.



NGC 936; Credit: ESO

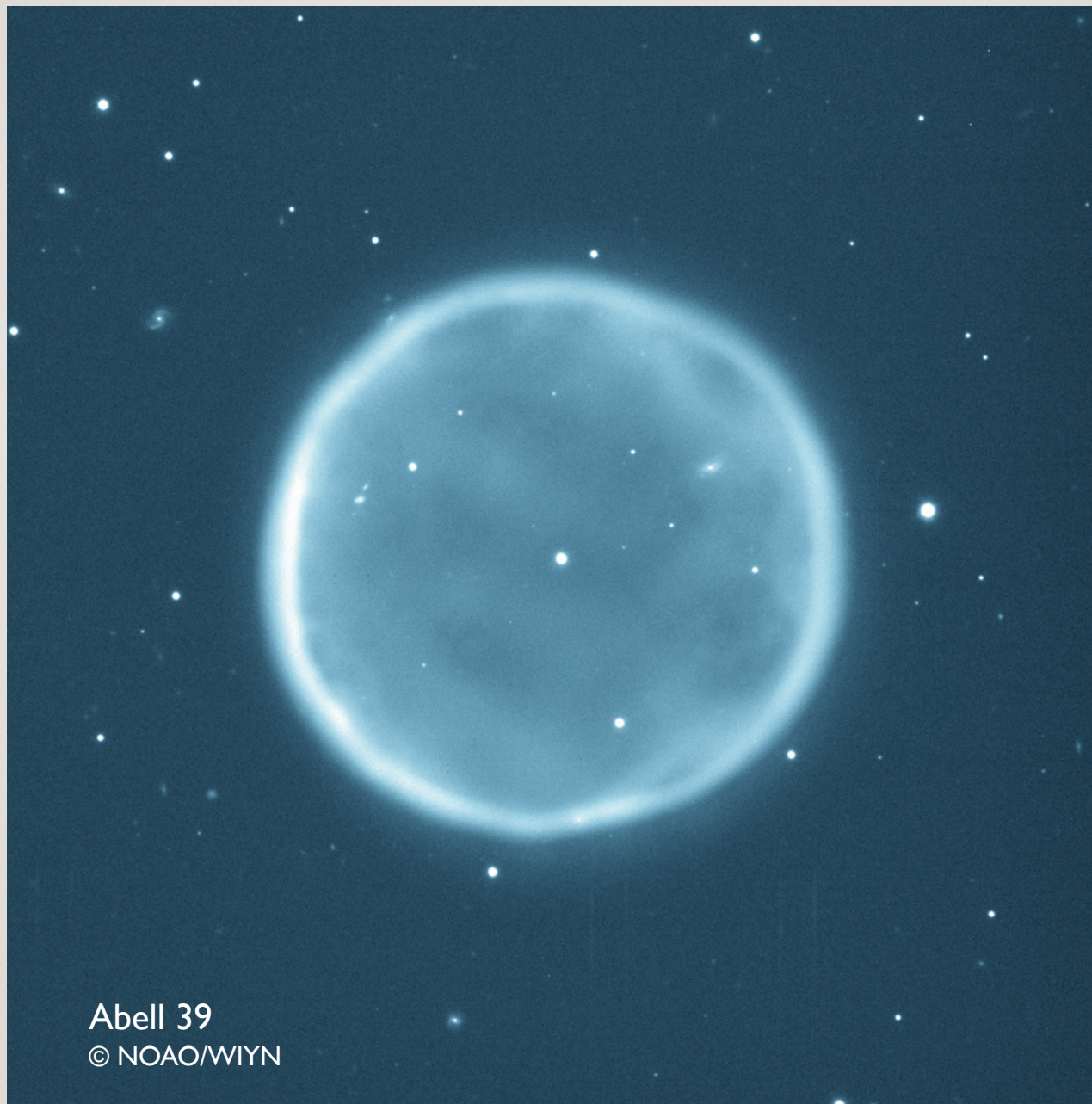
Star Wars Episode IV



PLANETARY NEBULA HEN 2-37



A textbook
planetary
nebula



Abell 39
© NOAO/WIYN





The Butterfly Hunter

Oct. 10, 2012



COOL FACT

Nearly all stars will eventually become planetary nebulae, including the Sun. Astronomers think that there are probably over 30,000 planetary nebulae just in our galaxy!



The Butterfly Hunter

Oct. 10, 2012



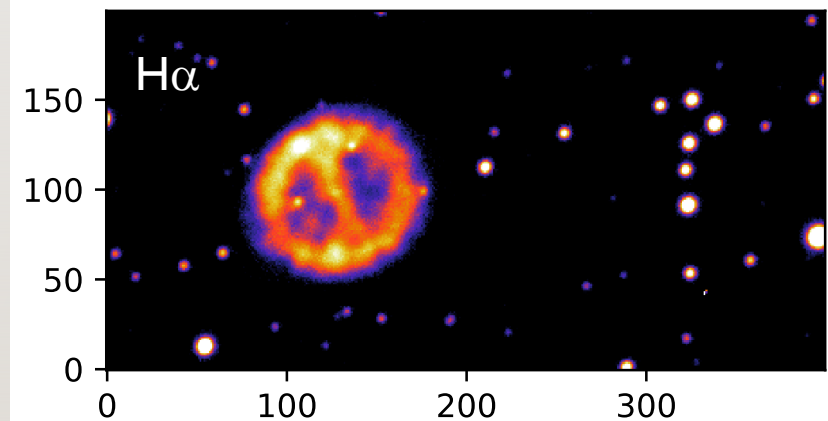
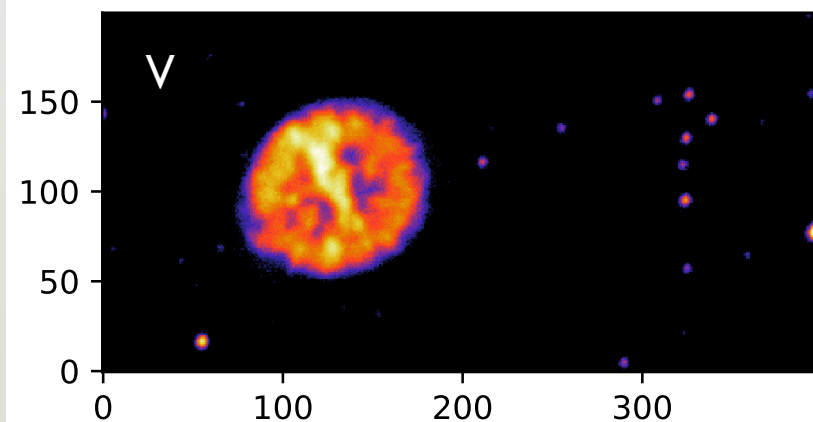
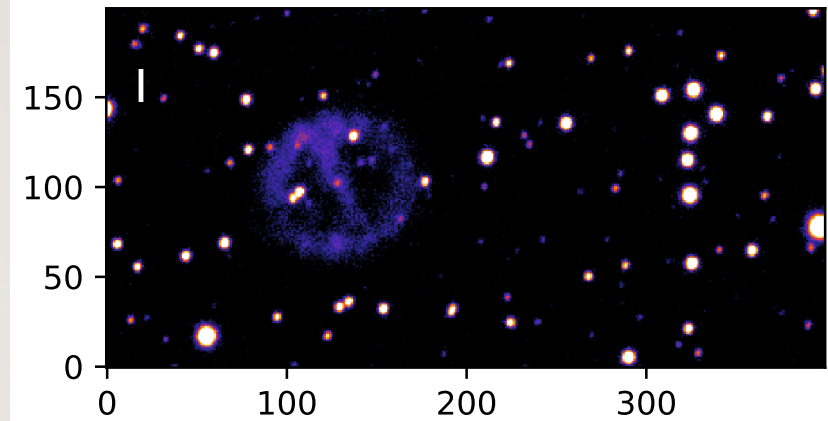
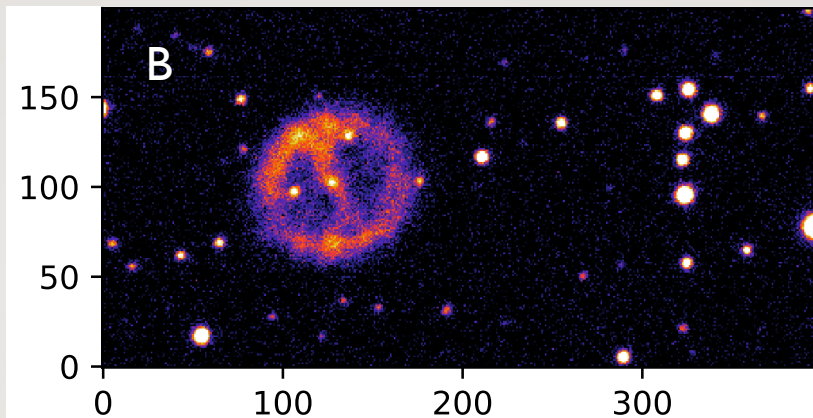
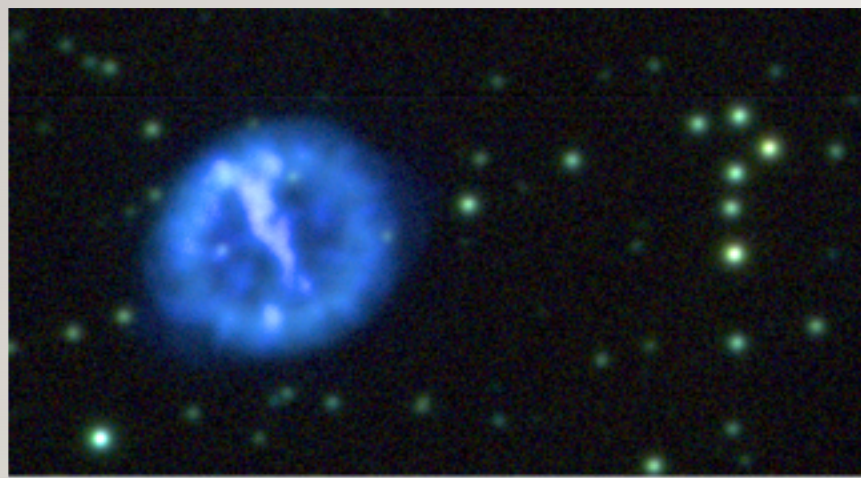
Textbooks need to be rewritten!

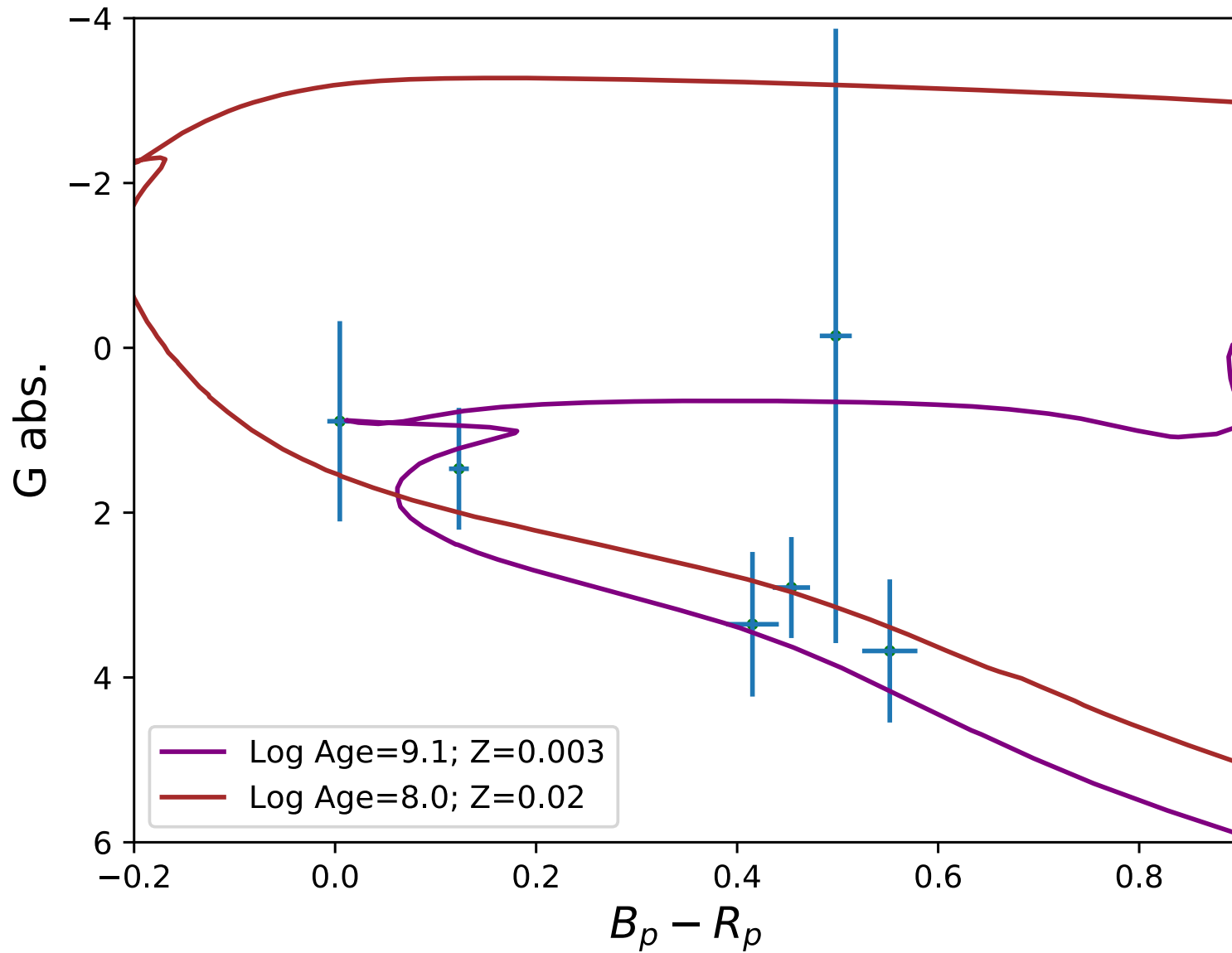
Astronomical community is very conservative →
Teaching and communication is unfortunately often
based on old knowledge

COOL FACT

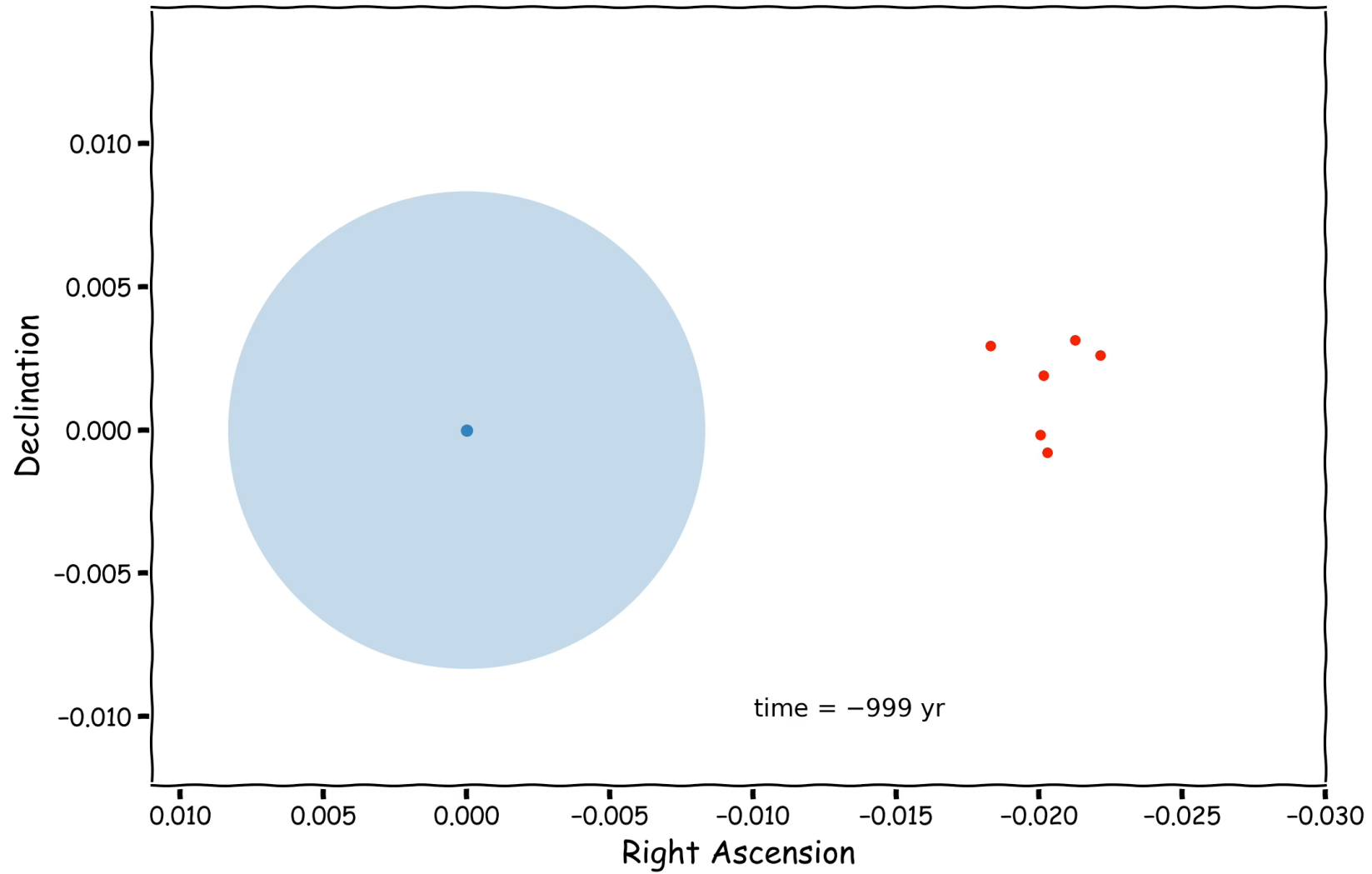
~~Nearly all stars will eventually become planetary nebulae, including the Sun. Astronomers think that there are probably over 30,000 planetary nebulae just in our galaxy!~~

Nature is telling
us something!

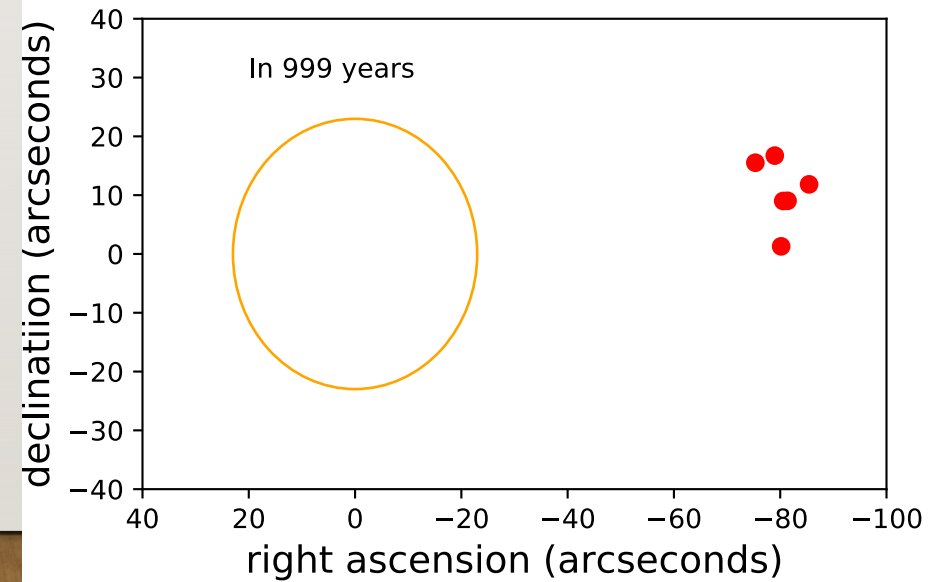
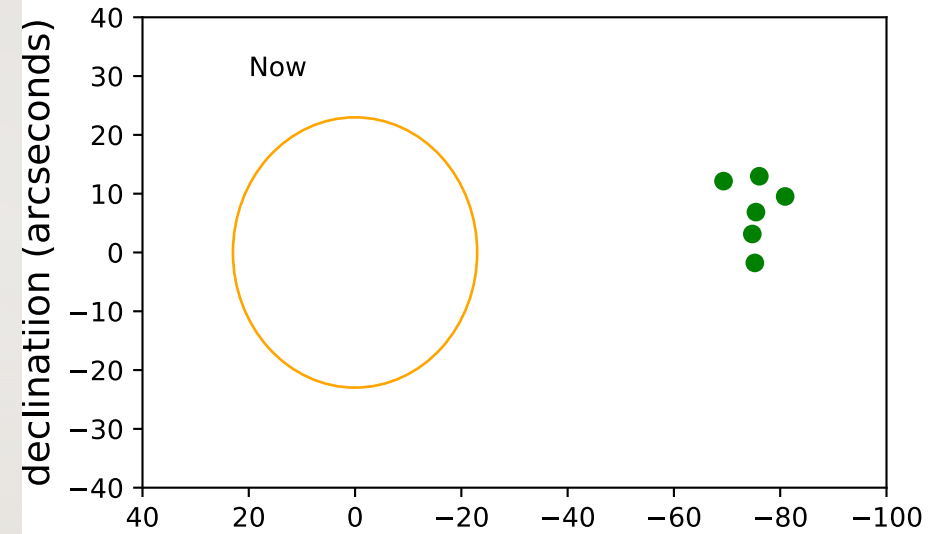
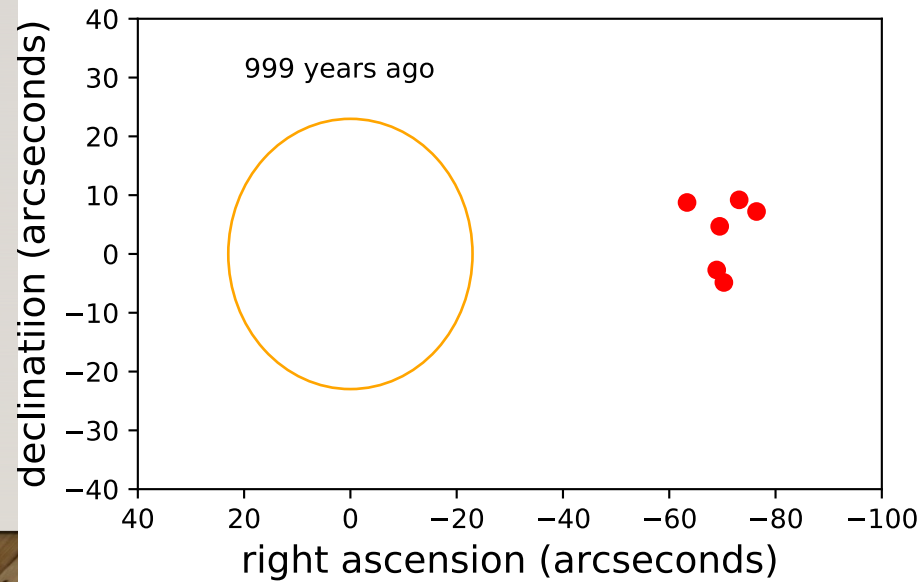
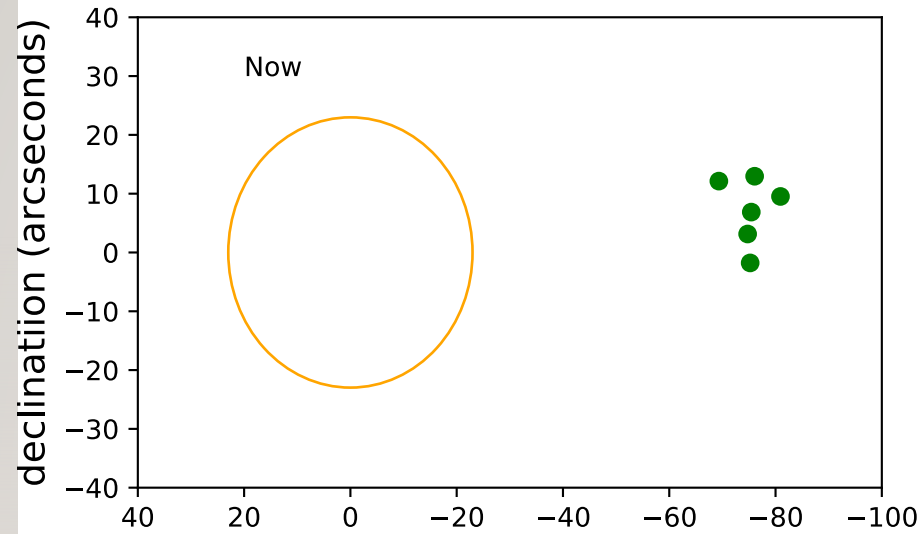




Now is the time!



Now is the time!



Very Important Letter to the Editor

On the Use of Astronomy: II. The secret of the elixir of youth of blue straggler stars

Henri M.J. Boffin^{1,*}, A. Wake², and W.H.Y. Can't², I. Sleep²

¹ Extraterrestrial Institute for the Advancement of Earth (EIAE), Secret place, Planet Earth, Solar System

² The Improbable Institute, Flatland

ABSTRACT

Using Gaia EDR3, we study the most spectacular and photogenic cluster of Ptolemy. After deriving its membership, we identify in its colour-magnitude diagram a star that definitively decided to straggle and dress in blue. Further analysis with the FARCE telescope allows us to discover in its light curve the secret of its rejuvenation, which we gladly share in this paper. This research is an important contribution to attain the ultimate goal of astronomy as professed by DJ Format.

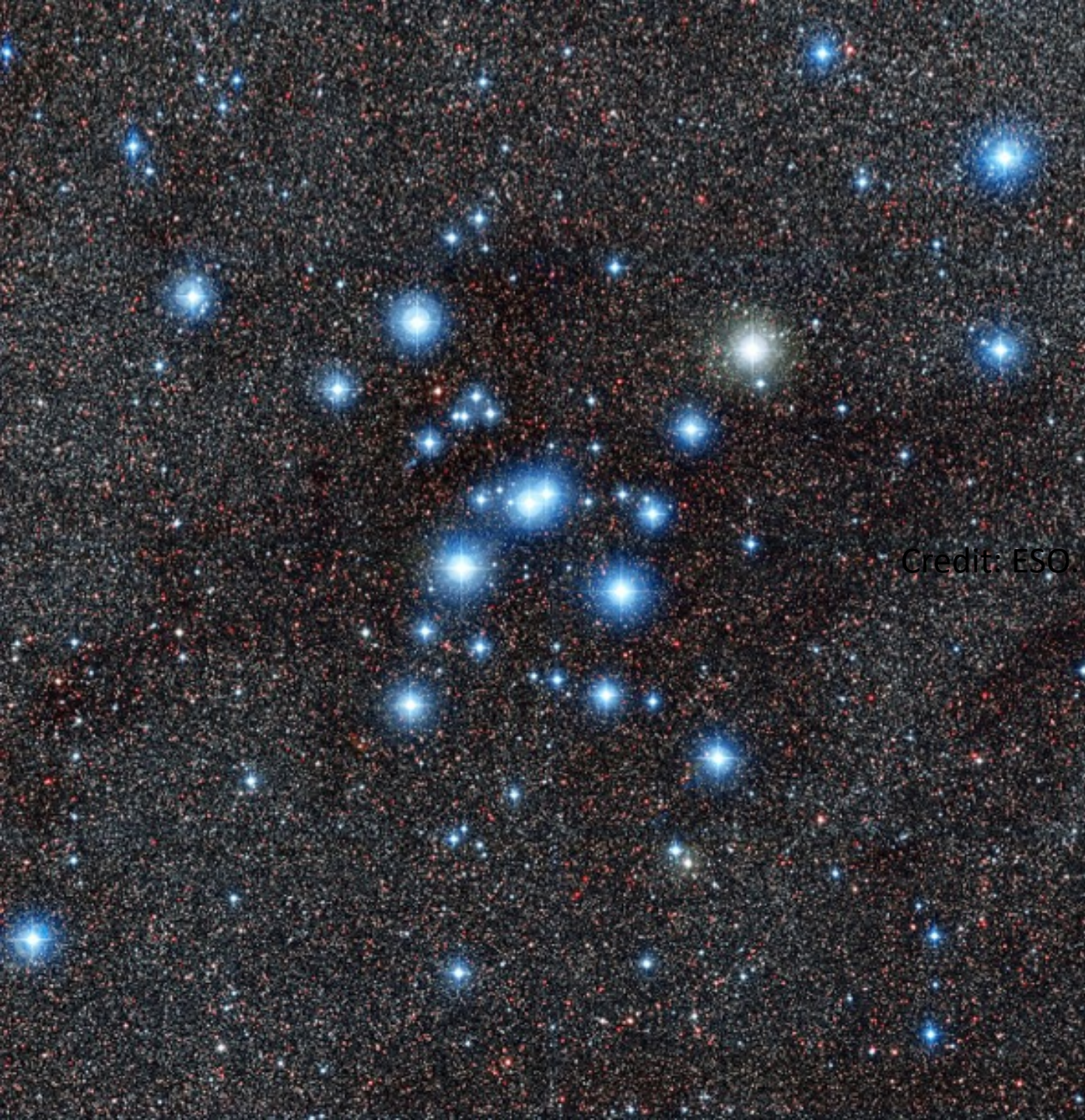
Key words. binary stars – blue stragglers – elixir of youth – common sense



The ultimate goal of astronomy

DJ Format : *“starting a colony deep in the galaxy must be the aim of astronomy”*,

A standpoint we can't agree with¹, as we are convinced that astronomy can serve other purposes, all very noble.



Credit: ESO.

*For the stars I feel pity!
Shining for so long,
For so long...
For them, I feel sorry*

Fernando Pessoa

Stars live and die

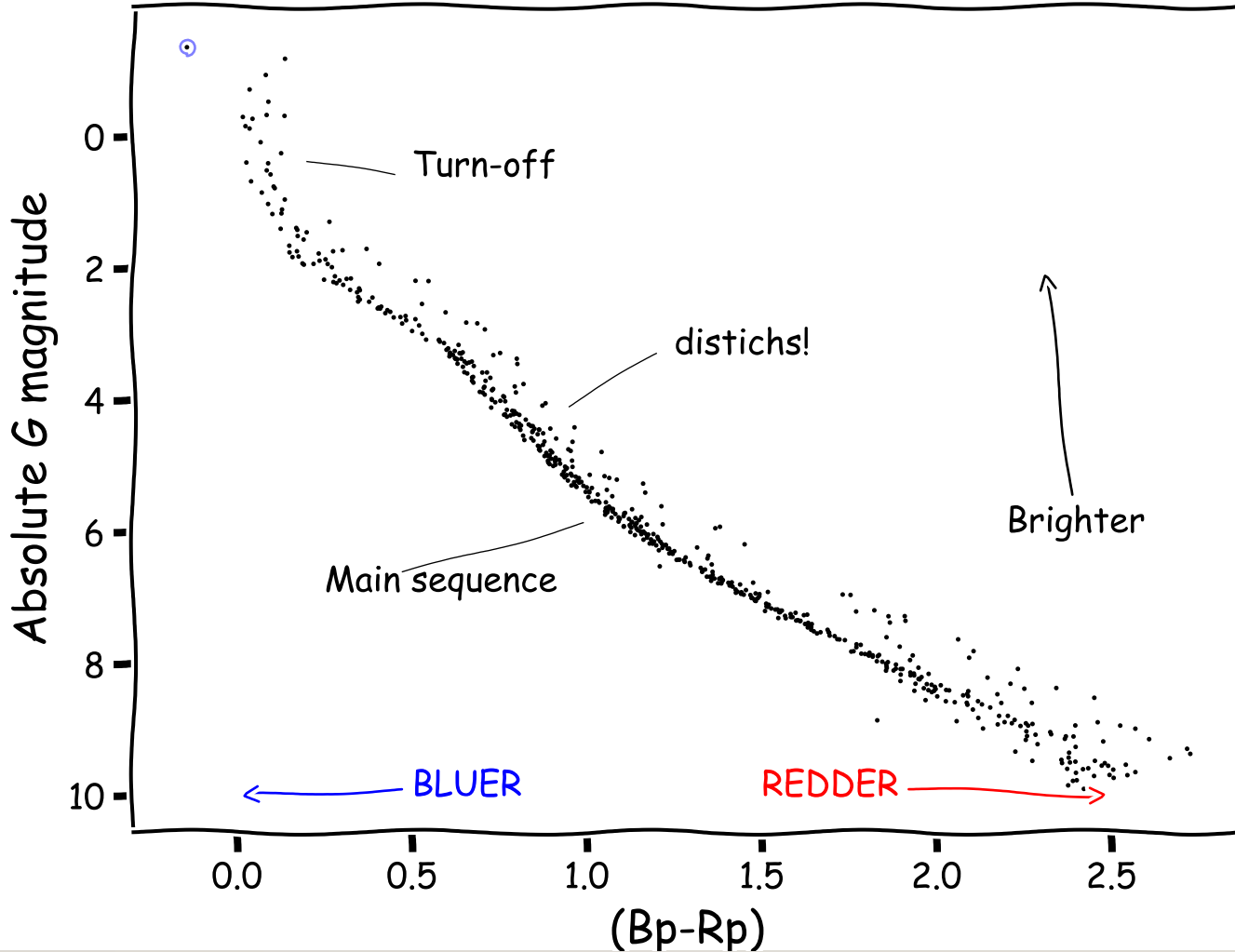
They are often born together in a cluster and have the same age and chemical composition

Most massive stars have shorter lives → they will disappear at a given age

How do we know which stars belong to a cluster?

Credit: ESO.

Messier 7

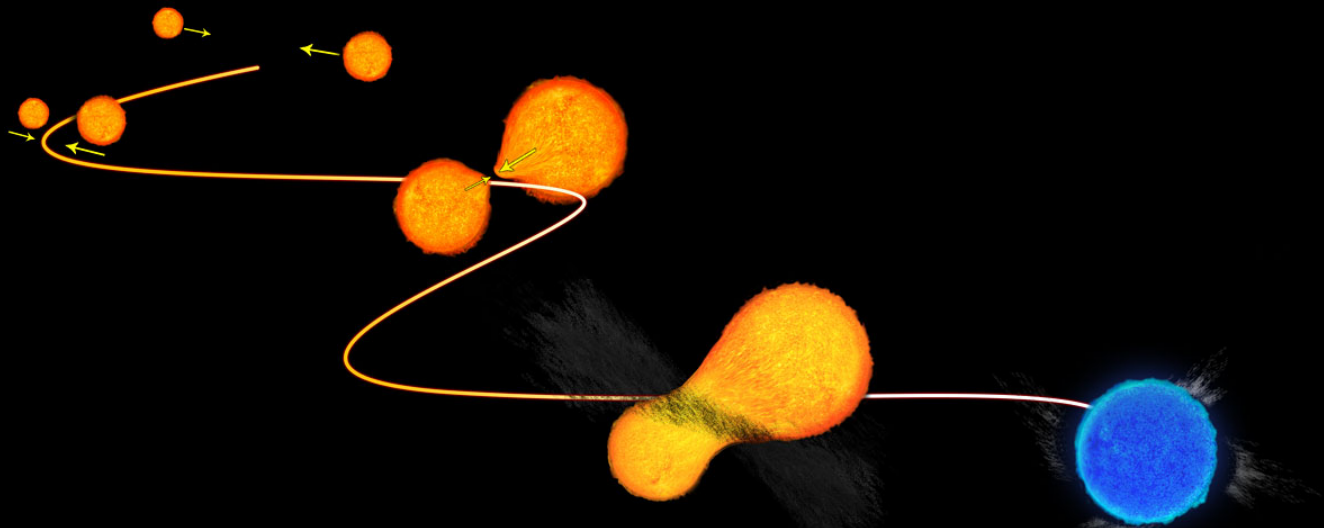


Can use Gaia data to put stars of a cluster in a colour-magnitude diagramme

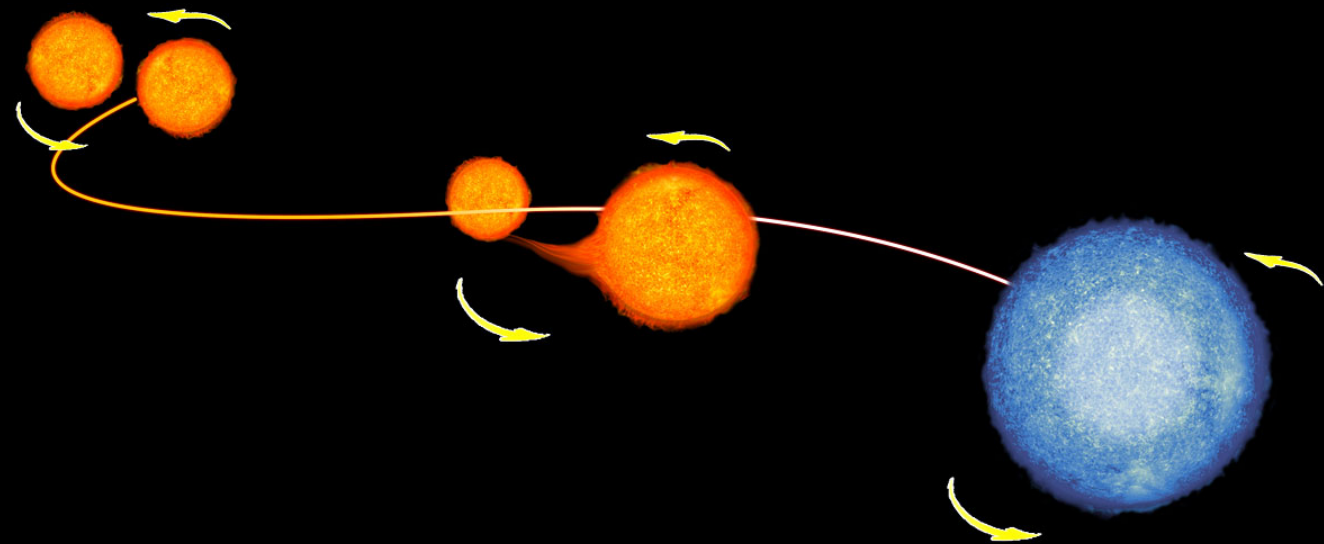
Colour is proxy for temperature

Brighter stars are more massive

Blue straggler! A star that shouldn't exist!



Blue Straggler Stars = Binaries!



Credit: ESA/Hubble

OTHER POSSIBLE DISCUSSIONS

- Stars are natural thermonuclear reactors that shine and often twinkle, twinkle when they are little
- Gaia EDR3 tells us, with an amazing level of detail that you shouldn't trust, that its parallax is $3.6061993706266136 \pm 0.06444364$ milli- arcseconds, and that it is thus located $277.300253598081 \pm 4.955575241028729$ parcsecs away
- the central star is much redder than it ought to be for such a hot star, even accounting for interstellar reddening. As we do not expect it to have only recently consumed all the alcohol that was present in the interstellar liquor cabinet that was the nascent cloud from which it formed,

TAKE HOME MESSAGE

- Binary stars are fun and ubiquitous
- Most planetary nebulae are likely the outcome of binary interactions and it is not sure if the Sun will become one.

TAKE HOME MESSAGE

- One can use “light” articles (short, funny) to address some key astrophysical topics

TAKE HOME MESSAGE

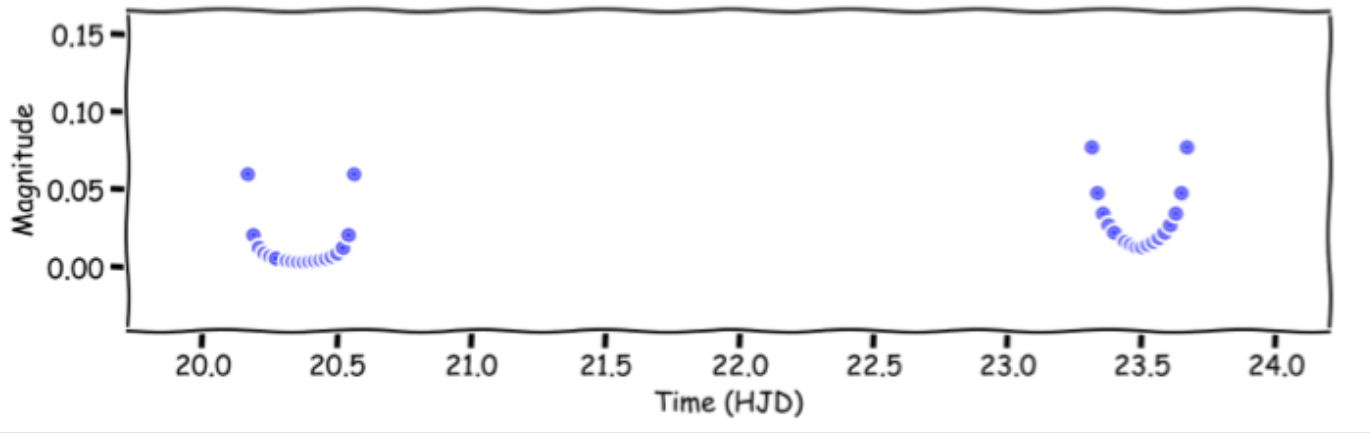
- One can use “light” articles (short, funny) to address some key astrophysical topics
- Real data, in particular from Gaia, can be used to analyse motions of stars and stellar evolution

TAKE HOME MESSAGE

- One can use “light” articles (short, funny) to address some key astrophysical topics
- Real data, in particular from Gaia, can be used to analyse motions of stars and stellar evolution
- Material exist and more is being prepared based on this for various levels of students.

hboffin@eso.org



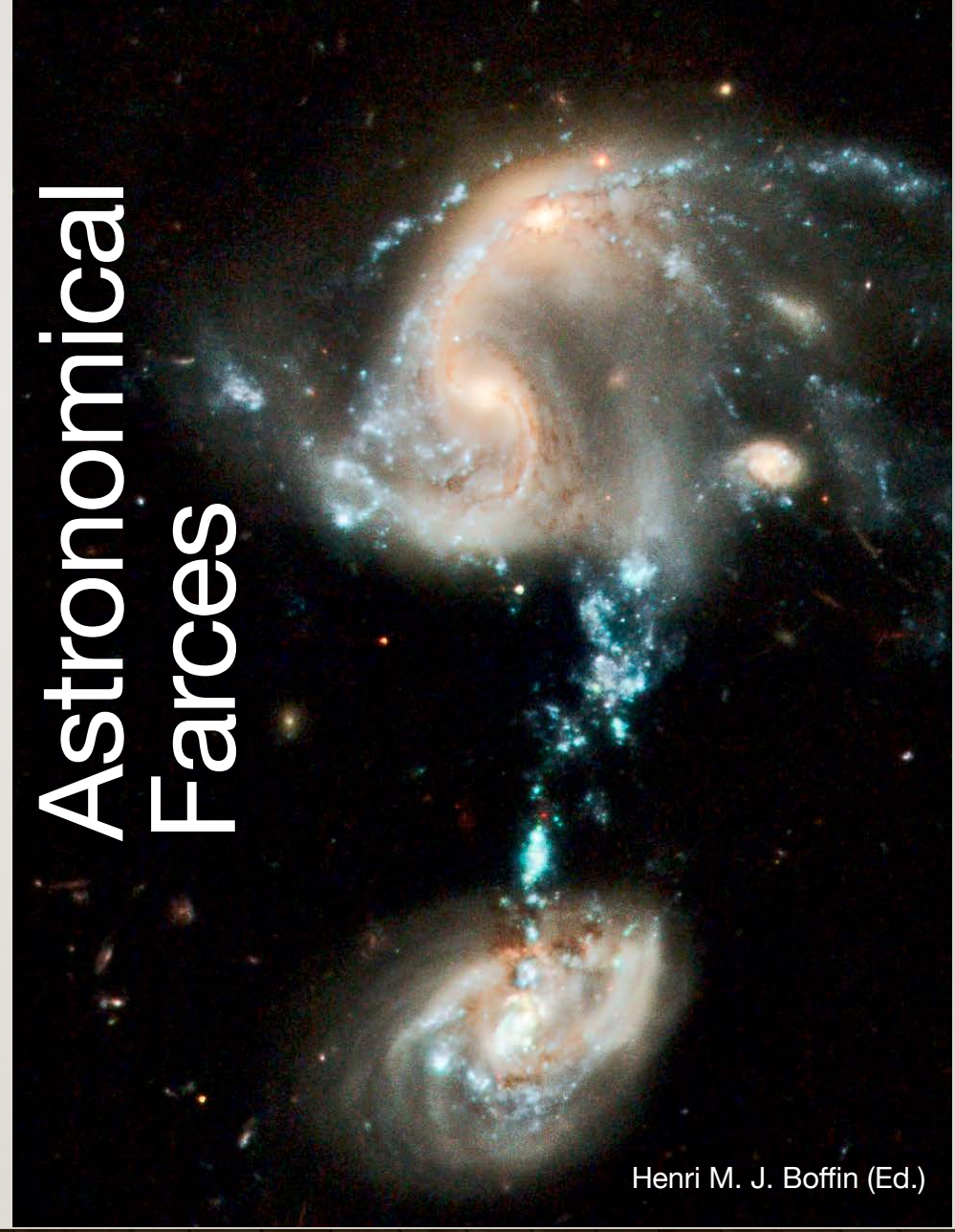


Thank you!

hboffin@eso.org

<http://eso.org/~hboffin/Attic.html>

Astronomical Farces



Henri M. J. Boffin (Ed.)



*Some more
whipped cream
in your coffee?*