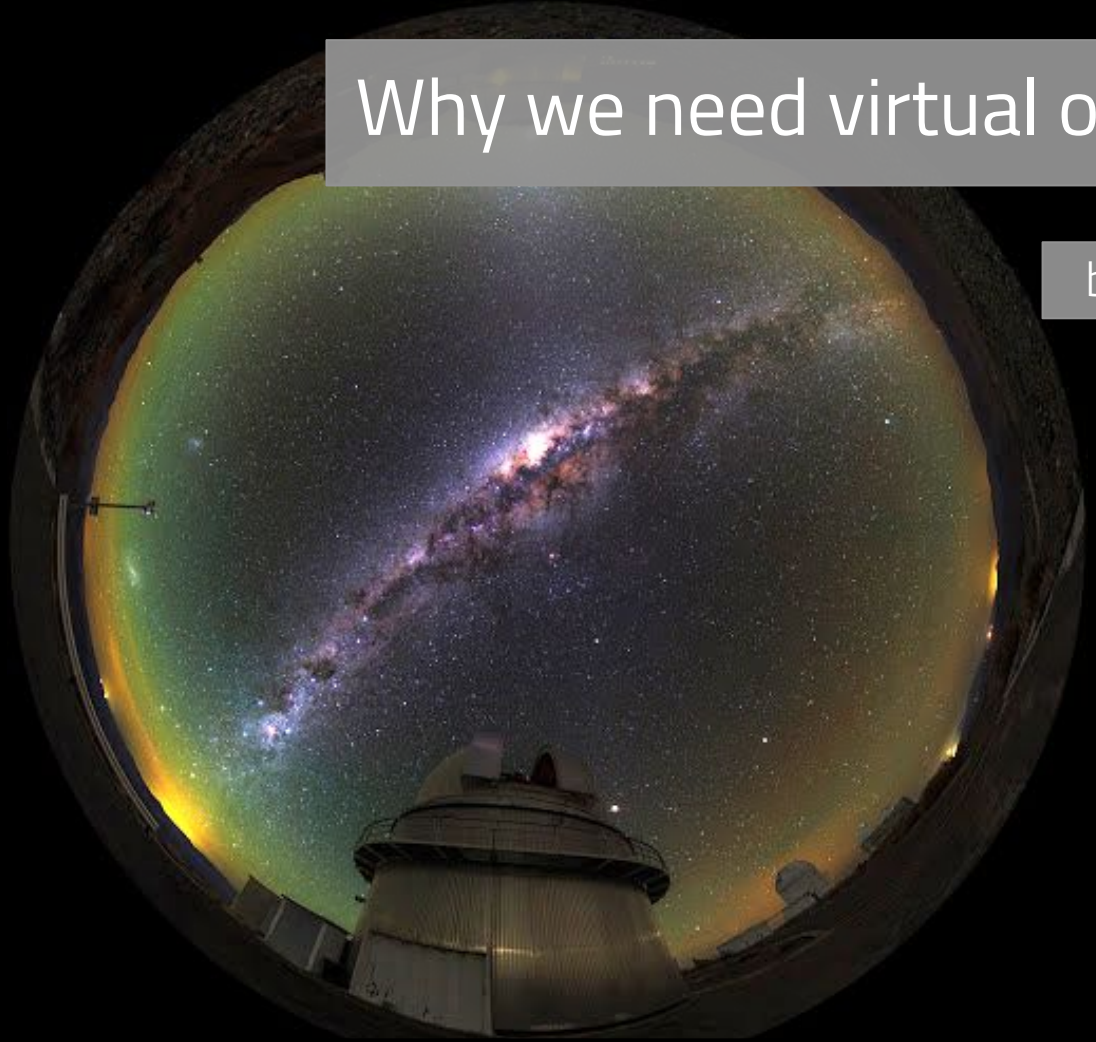
SPACE::LAB

Why we need virtual observatory?

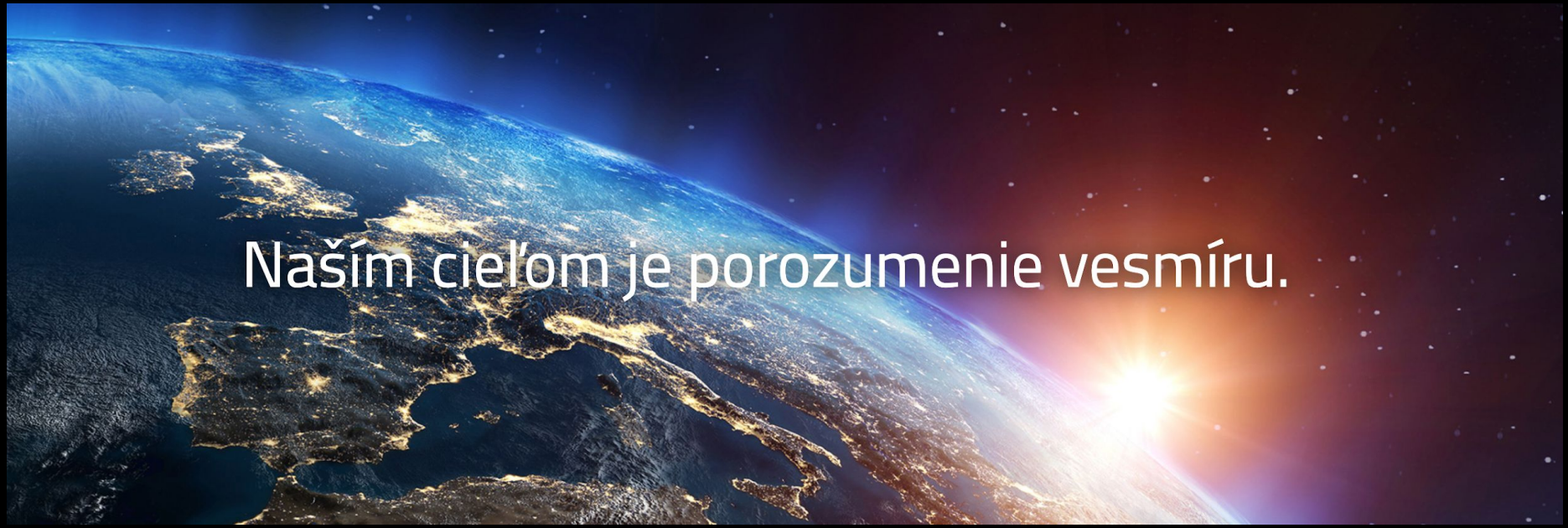
by Simon Mackovjak



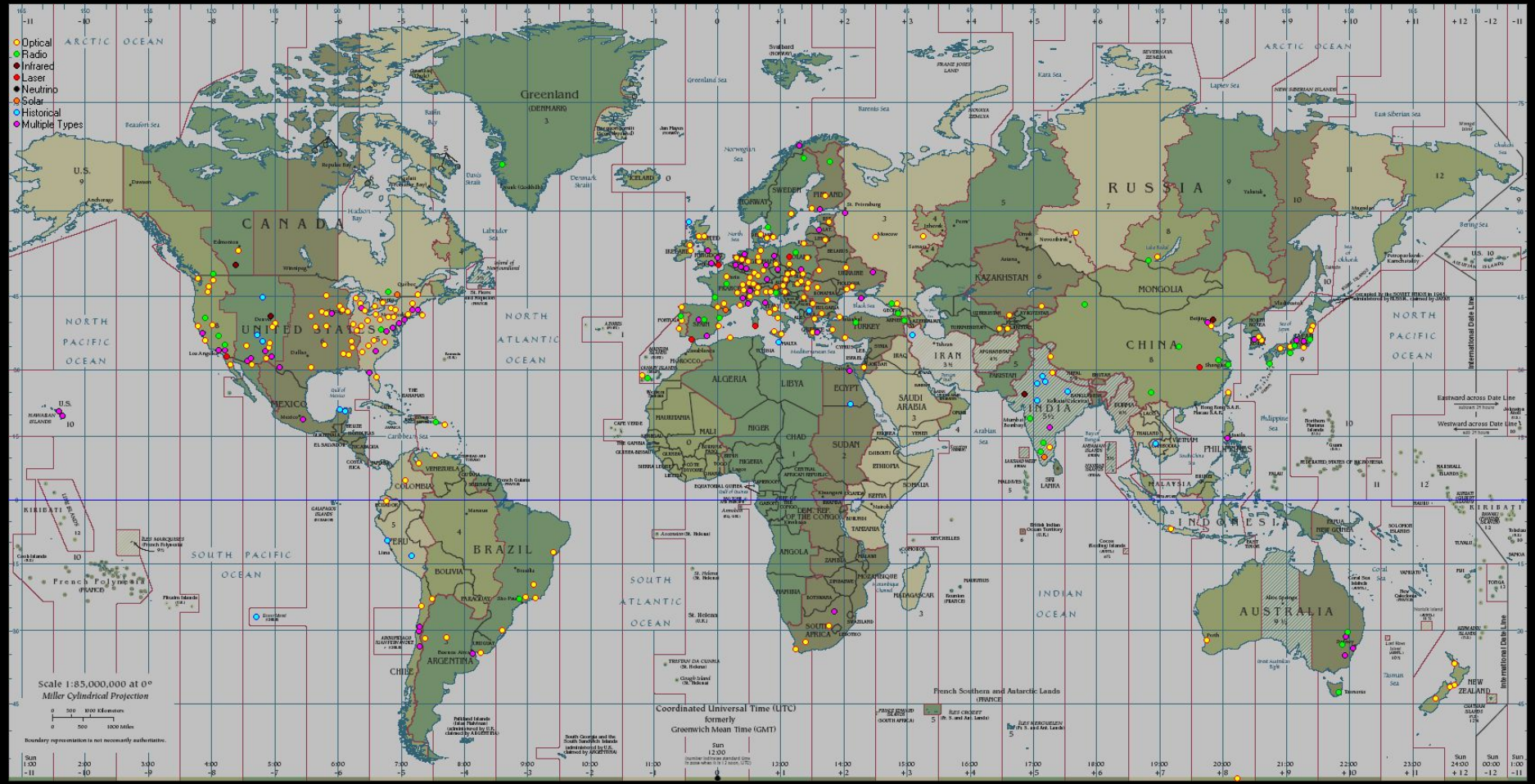
Credit: Babak Tafreshi

Why we need observatory?

Why we need observatory?



http://www.planetarium.sk/ab/



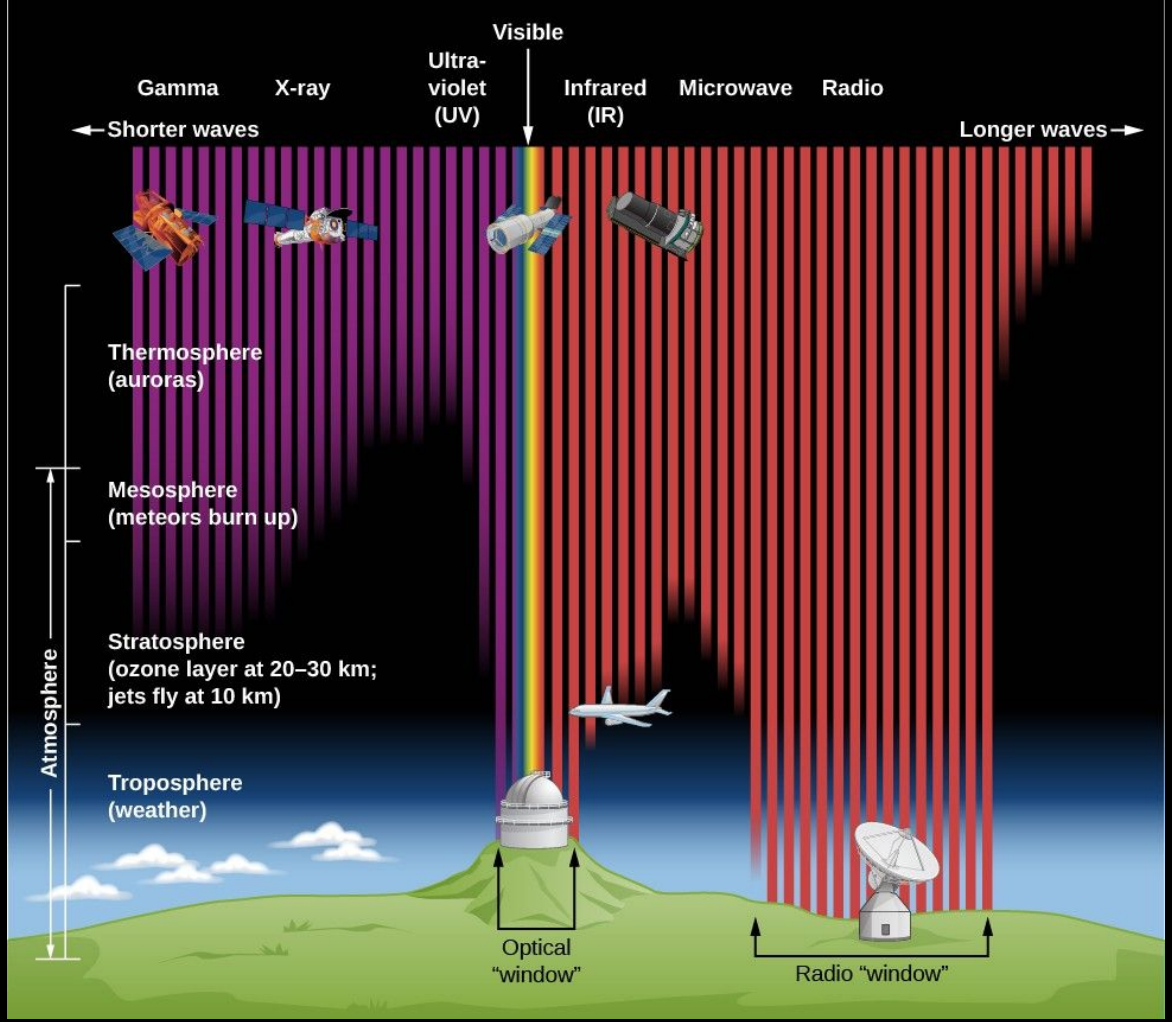
https://calgary.rasc.ca/world_observatory_map/world_observatories_large.htm


Mauna Kea, Hawaii

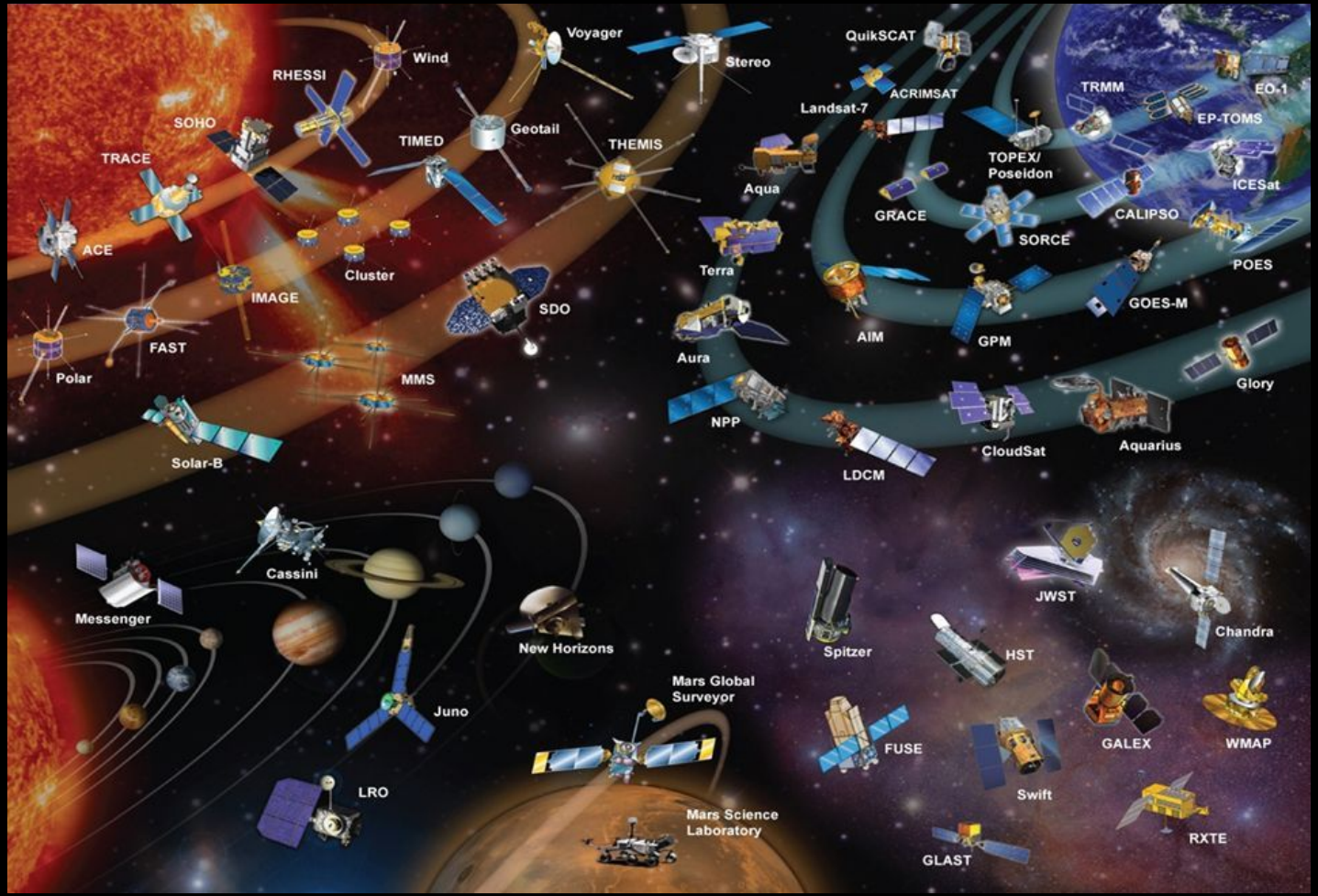

Roque de los Muchachos, La Palma


La Silla, Chille


ALMA, Chile



courses.lumenlearning.com


Voyager
Wind
RHESSI
Stereo
QuikSCAT
ACRIMSAT
Landsat-7
TRMM
EO-1
EP-TOMS
SOHO
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TIMED
THEMIS
TRACE
TOPEX/
Poseidon
ICESat
Aqua
GRACE
CALIPSO
SORCE
ACE
Terra
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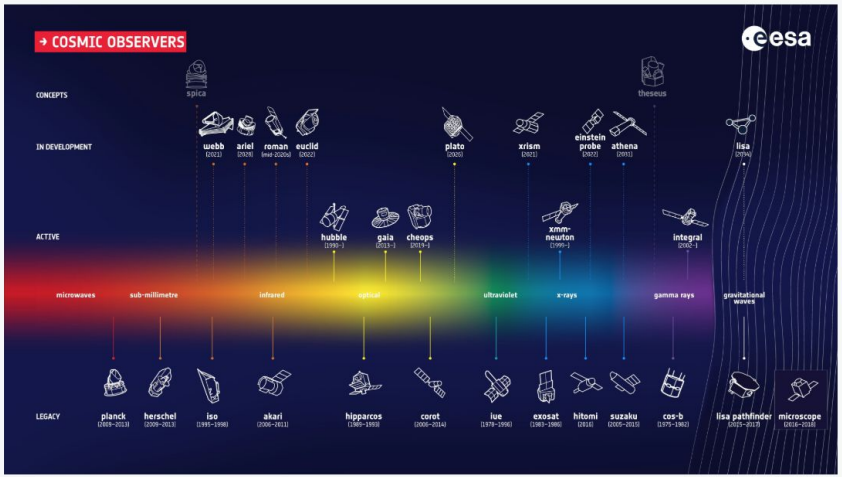
Start a new group

Thursday, September 3, 2020

SPACE::TALK #11 - Veda a vesmír, resp. veda vo vesmíre

Hosted by
Šimon M.

Share



SPACE::TALK
Public group

Thursday, September 3, 2020
6:00 PM to 9:00 PM GMT+2

Bulharská 557/4
Bulharská 557/4 · Košice

How to find us
Najbližšie zastávky MHD: -> Stará nemocnica: 3, 4, 7 (elek.); 12, 15, 16, 54 (bus). -> Ryba: 3, 4, 7 (elek.); 24, 30 (bus). Počas SPACE::TALK meetupov je

https://www.meetup.com/SPACE-TALK/events/272334346/

Observatories in 21. century

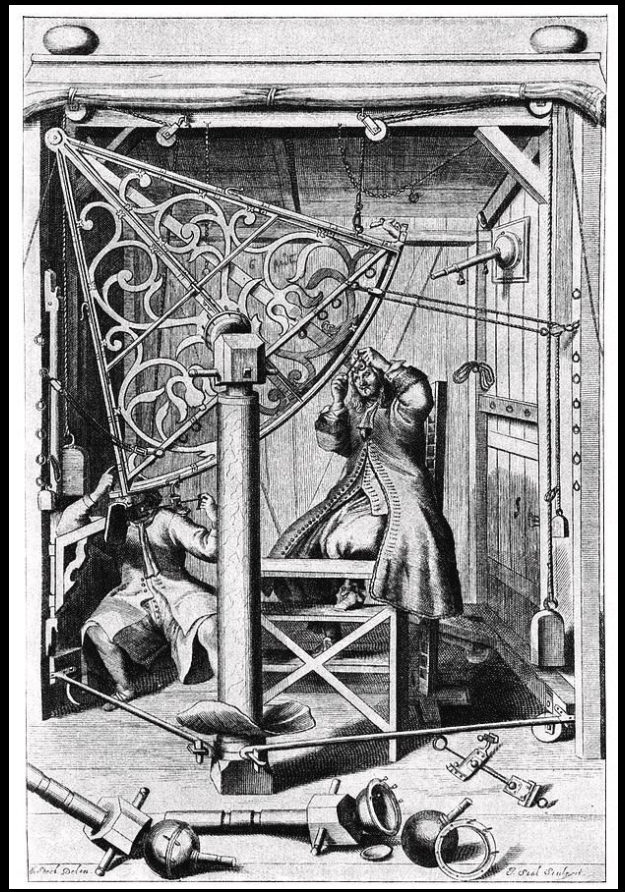
- locations with best observational conditions
- large collaborations ~ 100 - 1000 persons
- expensive instruments ~ 10^9 eur
- available data for scientific community

What is virtual observatory?

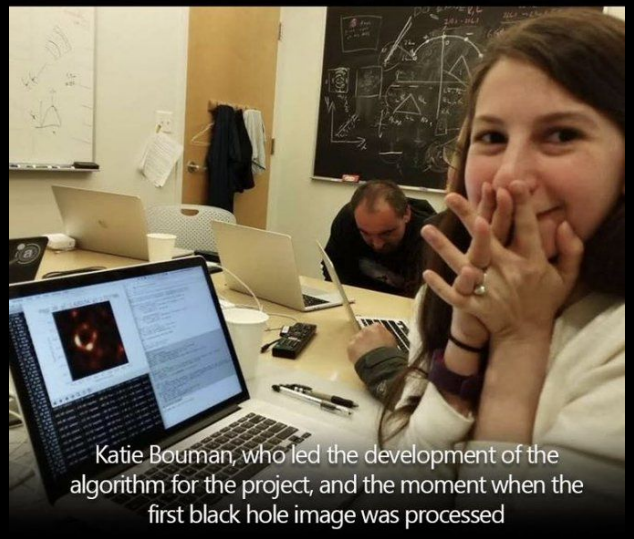
- A virtual observatory (VO) is a collection of **interoperating data archives** and **software tools** which utilize the internet **to form a scientific research environment** in which astronomical research programs can be conducted
- **The main goal** is to allow transparent and distributed **access to data** available worldwide

https://en.wikipedia.org/wiki/Virtual_observatory

17th century



21st century



pixels.com

twitter.com

Why we need virtual observatory?

- More effective usage of:
    - location
    - expenses
    - staff
- Automatic data acquisition needs to be followed by automatic data processing and presentation

Home | Astronomers | Deployers | Members | About

INTERNATIONAL VIRTUAL OBSERVATORY ALLIANCE

The Virtual Observatory (VO) is the vision that astronomical datasets and other resources should work as a seamless whole. Many projects and data centres worldwide are working towards this goal. The International Virtual Observatory Alliance (IVOA) is an organisation that debates and agrees the technical standards that are needed to make the VO possible. It also acts as a focus for VO aspirations, a framework for discussing and sharing VO ideas and technology, and body for promoting and publicising the VO.

To learn more about the IVOA as an organisation, read the "About" section.

To learn more about the VO from a user's point of view, including how to find VO tools and services, read the "Astronomers" section. There is also a page about the VO for students and the public.

To learn how to publish VO services, or write VO-compatible software, start by reading the "Deployers/Developers" section.

Internal IVOA discussions are publicly viewable in the "Members" section.

IVOA NEWS

July 2020 Issue of the IVOA Newsletter

UPCOMING MEETINGS

Virtual ADASS XXX, 2020 Nov 8-12
Virtual IVOA Interop, 2020 Nov 16-20

For Astronomers

Getting Started / Using the VO
VO Glossary / VO Applications
IVOA newsletter / VO for Students & Public

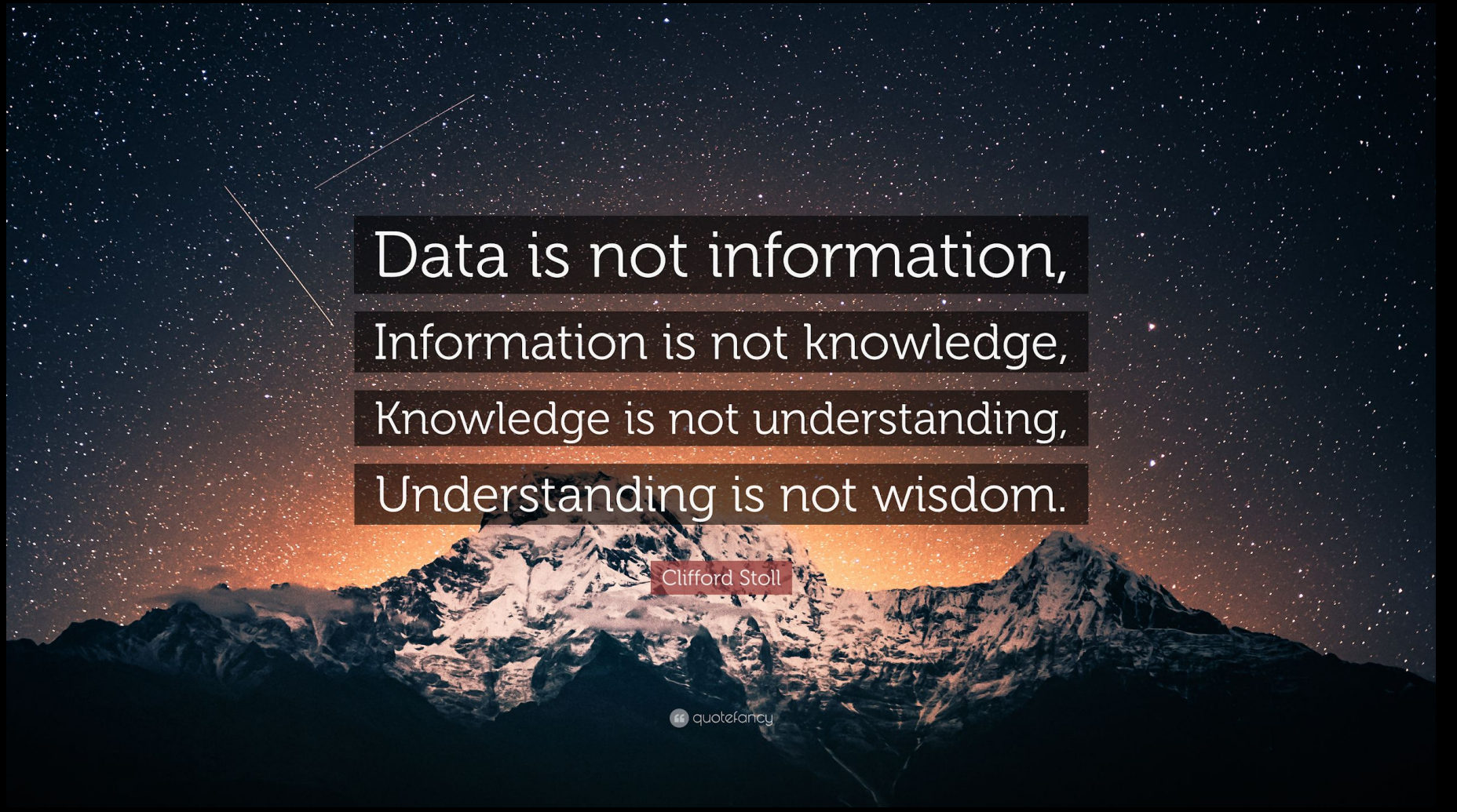
For Deployers/Developers

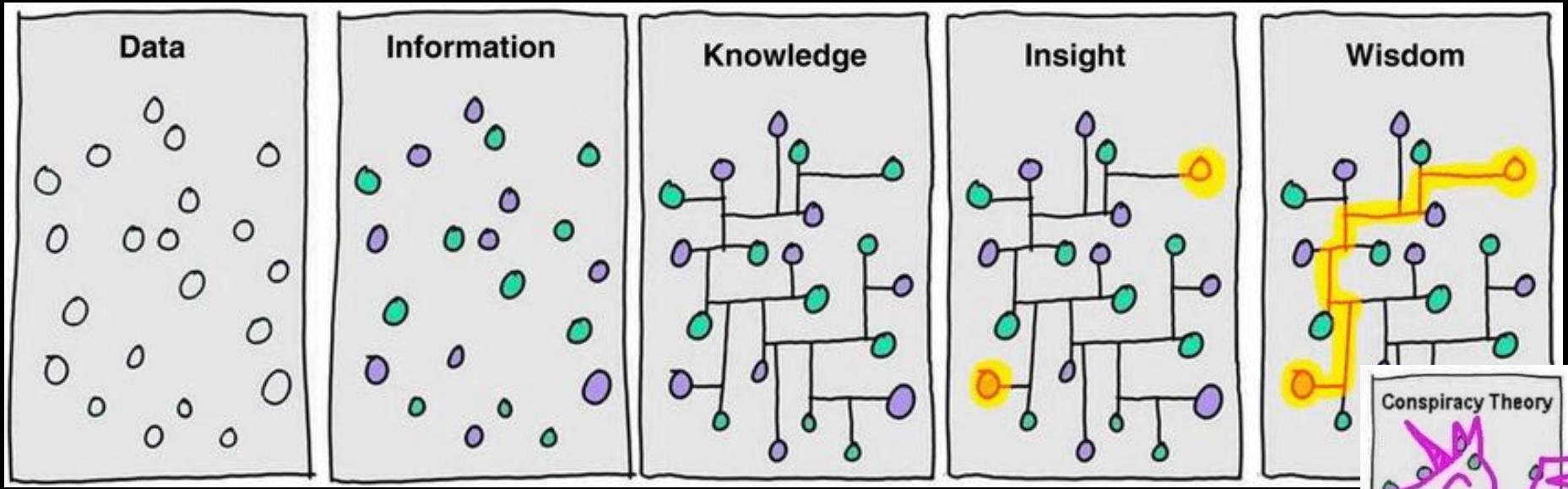
Intro to VO Concepts /
IVOA Standards / Guide to Publishing in the VO / Technical Glossary

For Members

IVOA Calendar / Working Groups/ Twiki / Documents in Progress / Mailing Lists / IVOA Roadmap

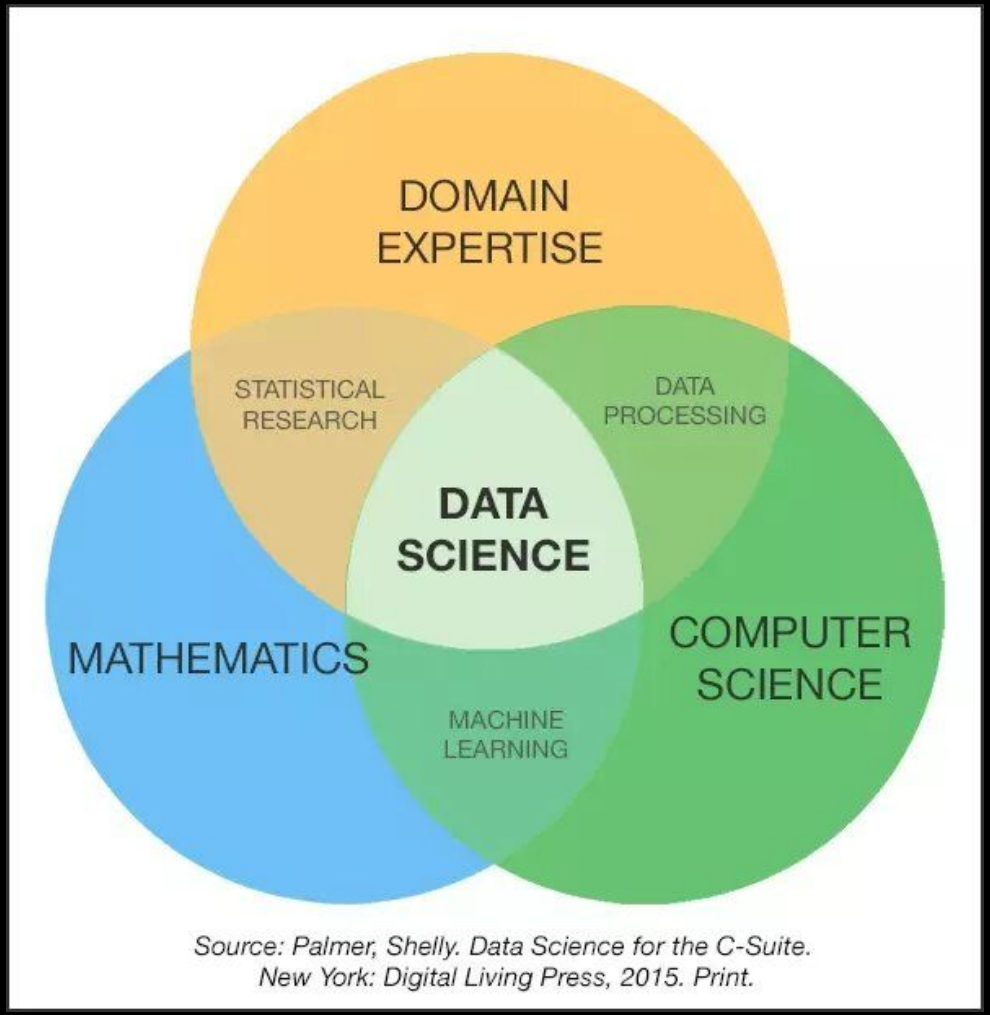
http://ivoa.net/


Data is not information,
Information is not knowledge,
Knowledge is not understanding,
Understanding is not wisdom.
Clifford Stoll
quotefancy



Credit: Hugh McLeod

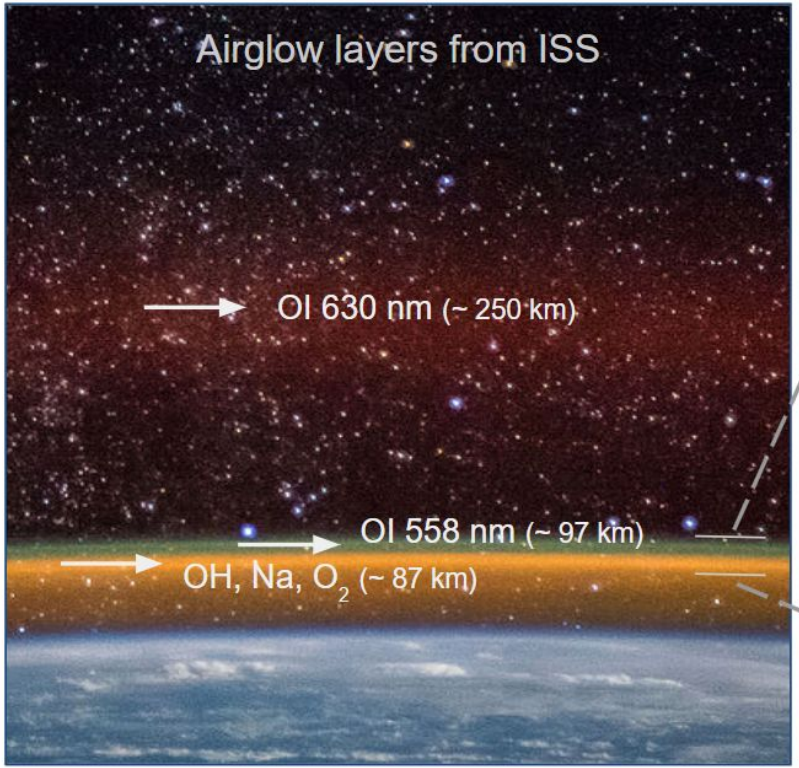
Domain selection is key



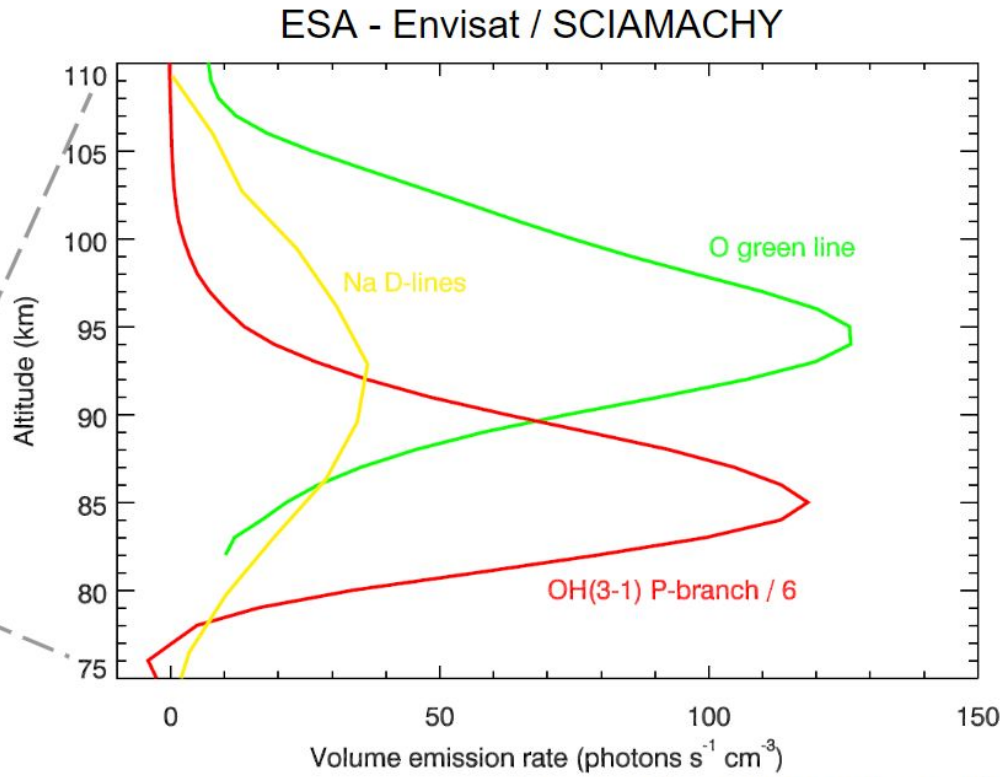
Source: Palmer, Shelly. Data Science for the C-Suite. New York: Digital Living Press, 2015. Print.

http://www.esa.int/About_Us/ESA_Publications/Behind_the_scenes_This_is_ESA_poster

The airglow can be used as indicator of upper atmospheric dynamics



(S. Christoforetti from ISS, ESA)



(Envisat / SCIAMACHY, ESA)

Conclusions

- Space science has changed (as everything)
- Virtual observatory is a natural step
- Data are not enough by them self, the intelligence needs to be employed