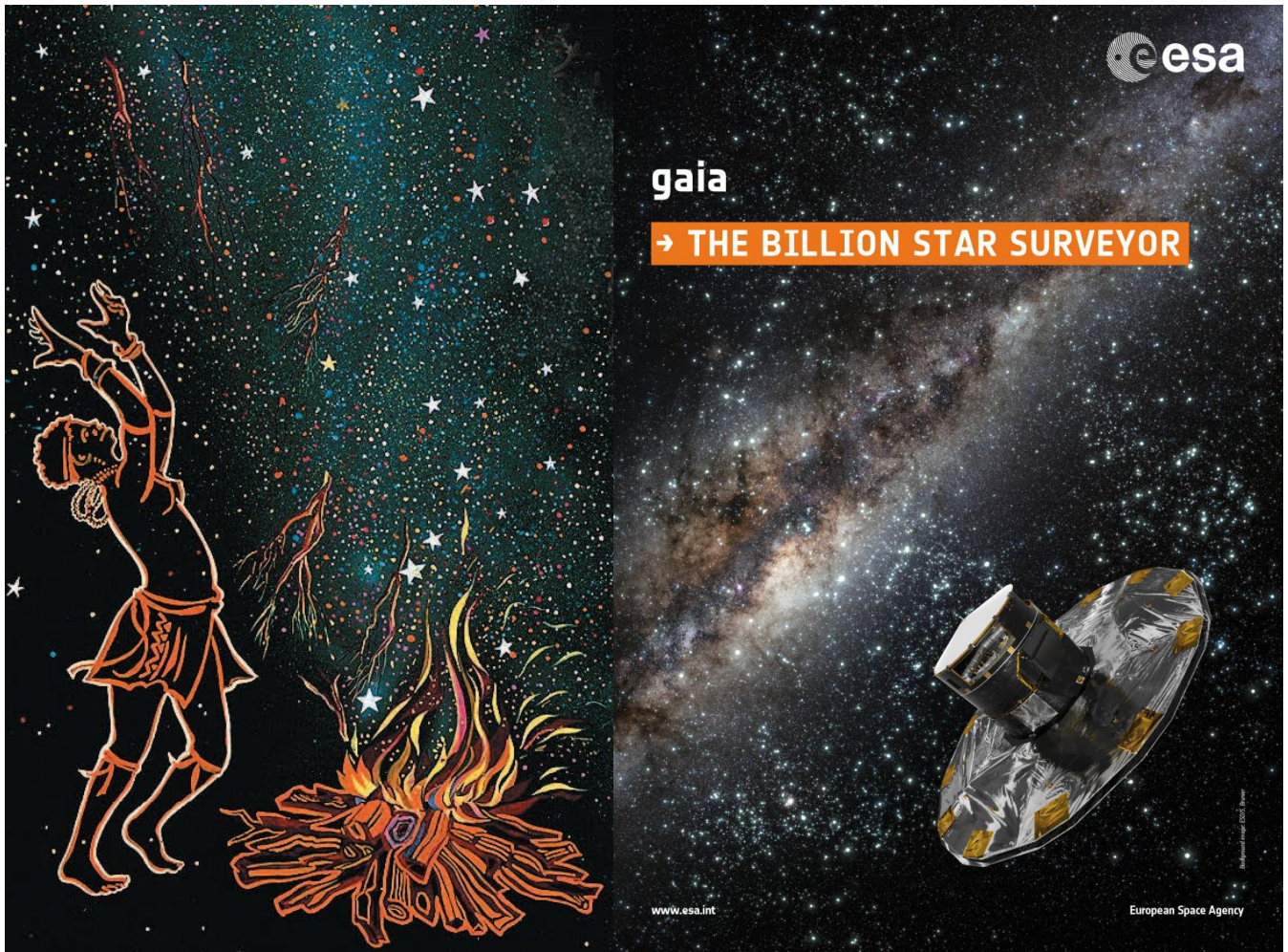
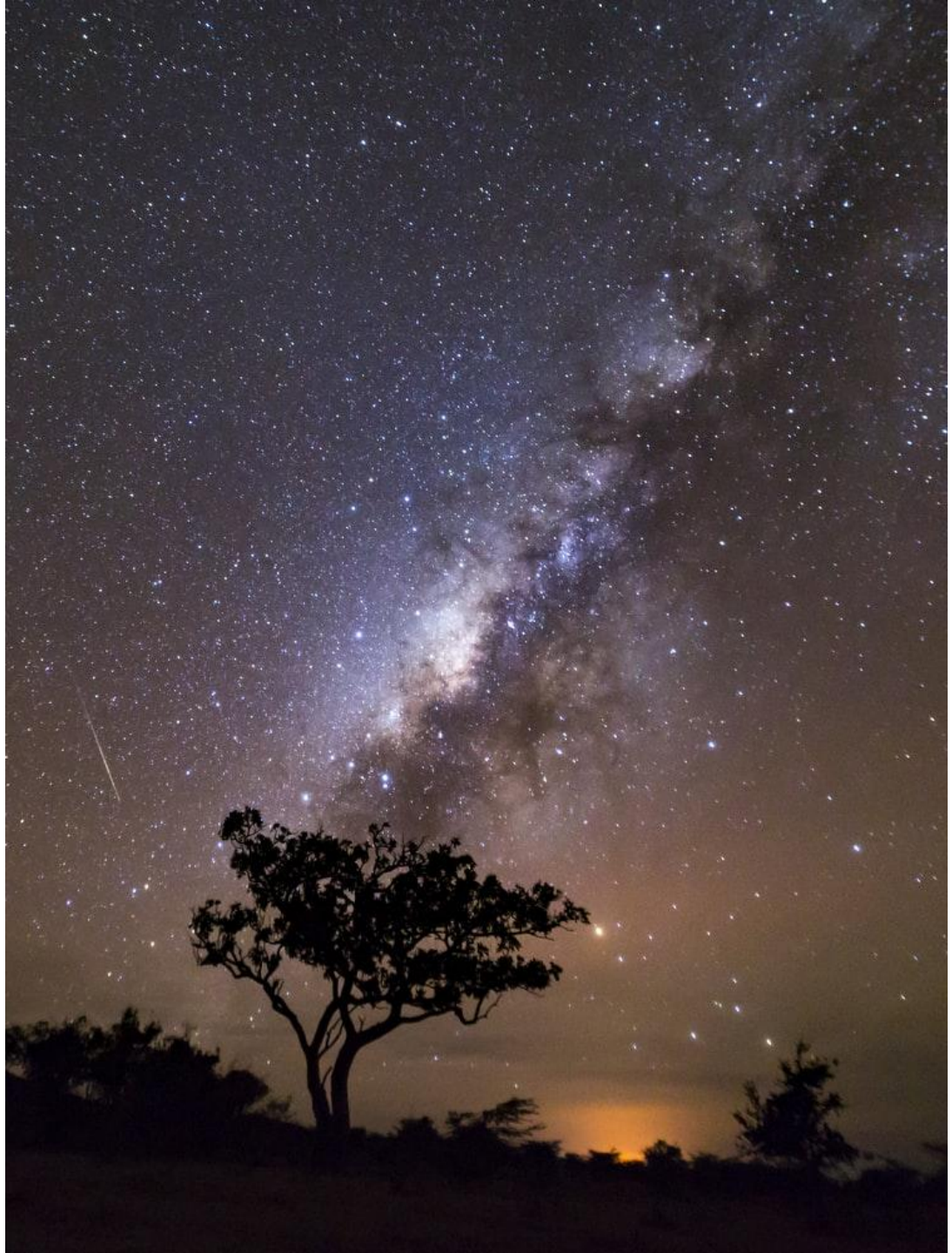
The Milky Way or Molagodimo in the Setswana Language of Southern Africa

By

Prof Lerothodi Leeuw (UWC)



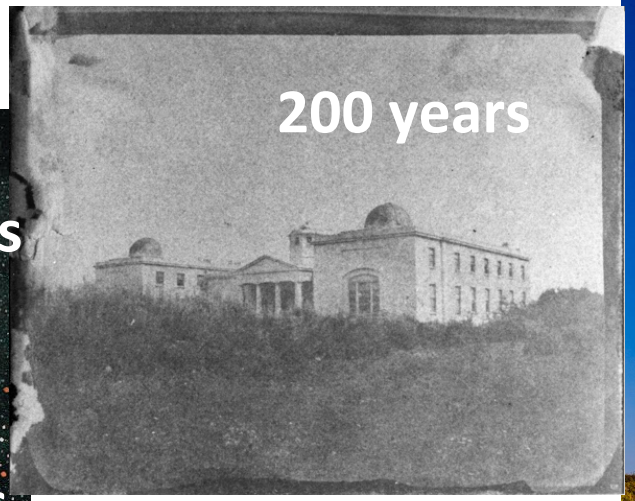


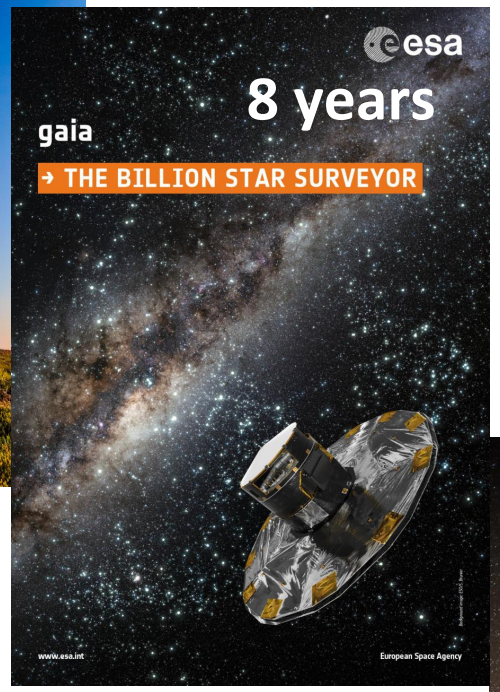
Interest in the night sky, or <u>astronomy, is a human instinct</u>, among all societies and countries of the world.

That the night sky changes, how it does that, and what it is made of, is also an inevitable human instinct, both ancient and present.

Identifying, naming and pondering conspicuous, unusual and usual **cosmic objects is also a human instinct**, school a key place for shaping this interest as science, art, humanities and more.

Pictorial Timeline of Astronomy in Southern Africa



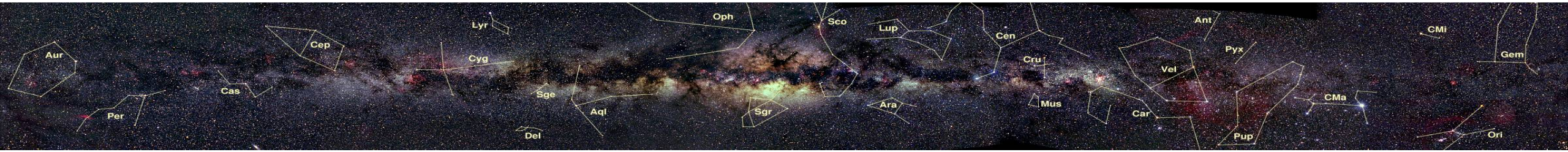


Our Galaxy, the Milky Way or *Molagodimo,* as seen by eye (or optical camera) is a myriad of patterns: a multitude of stars among dark patches of dust and gas, that astronomers now understand is forming new stars.

Indeed, for **the night sky and stars**, there is a riddle in the Setswana language of Southern African that says, *mosese ya ga mmakgathi, maranthatha* or "the dress of the painter is a myriad patterns."

This **Setswana** riddle demonstrates an old, though refreshing interest in the stars and night sky by the Batswana -- a fascination that is deeply woven in the language and culture of people of Southern Africa, riddled with idiom, poetry, indirect or evasive speech and educational potential.

Molagodimo or the Milky Way with Constellations



- Constellations are included to guide the eye to the Milky Way.
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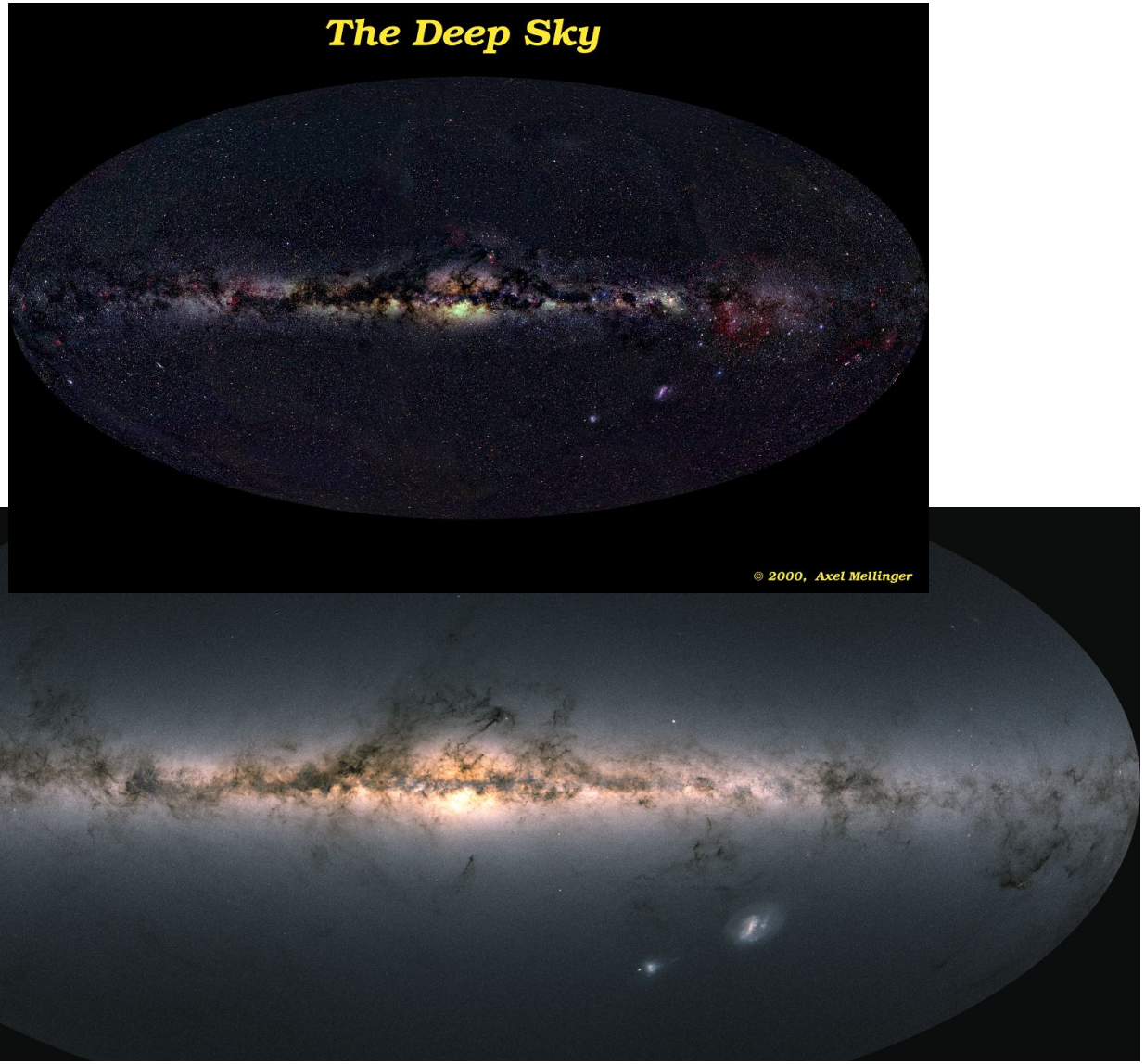
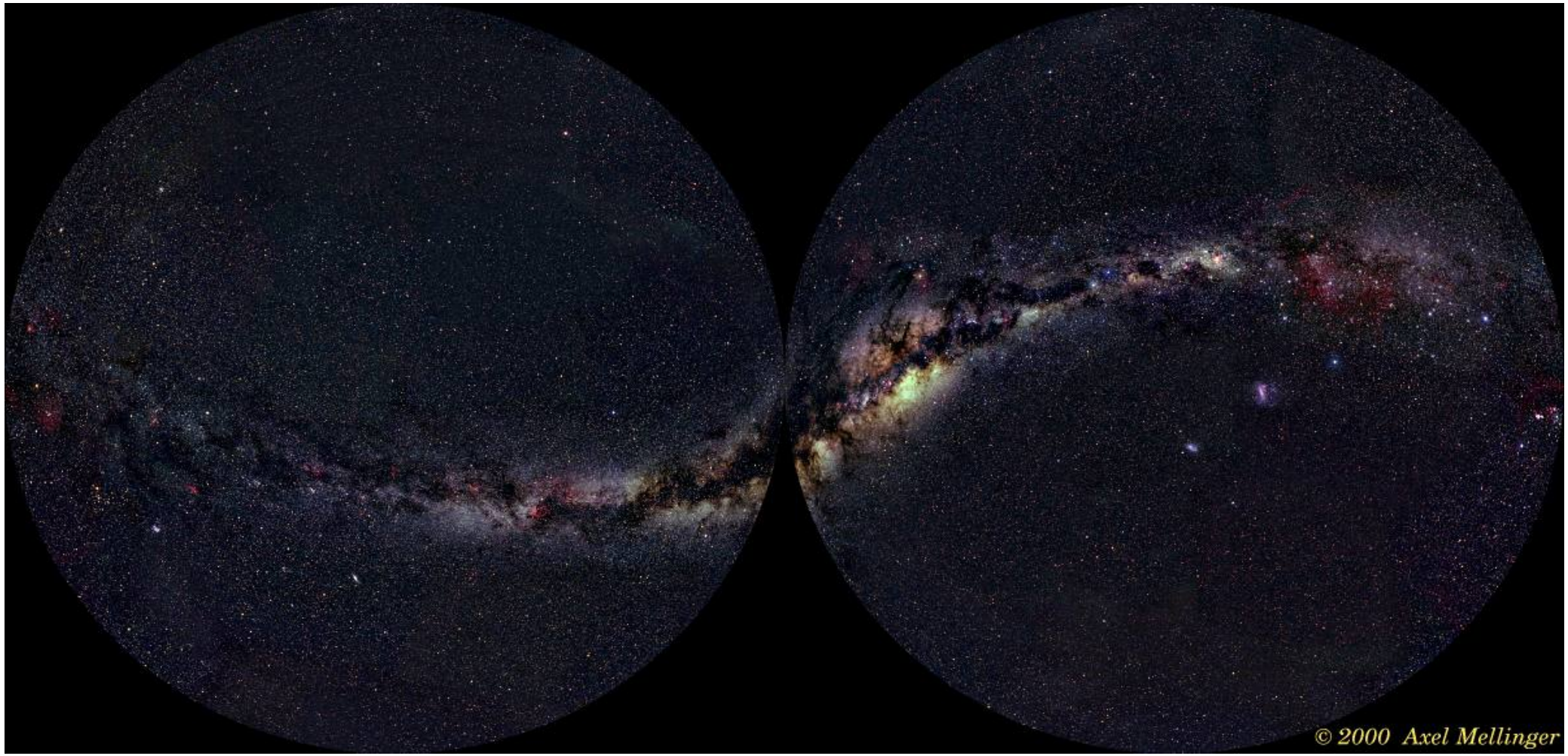
- The image was assembled by Axel Mellinger from fifty one, 28 mm wide-angle photographs (30 - 45 min each) taken over three years from sites as far a field as White Mountain Research Station, California, Cederberg and Sutherland Observatories, South Africa, and Altes Lager, Brandenburg, Germany.

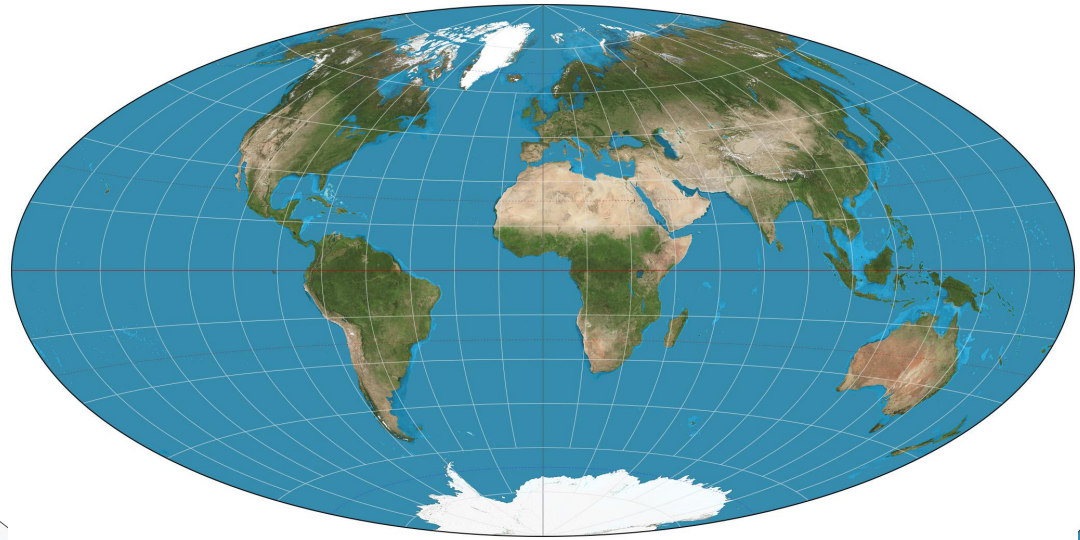
All-Sky (Hammer- Aitoff Projection)

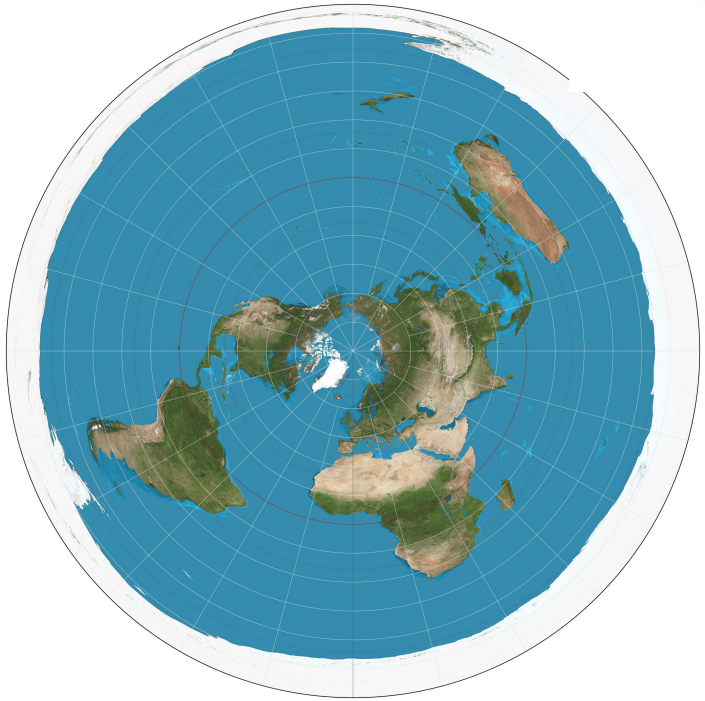


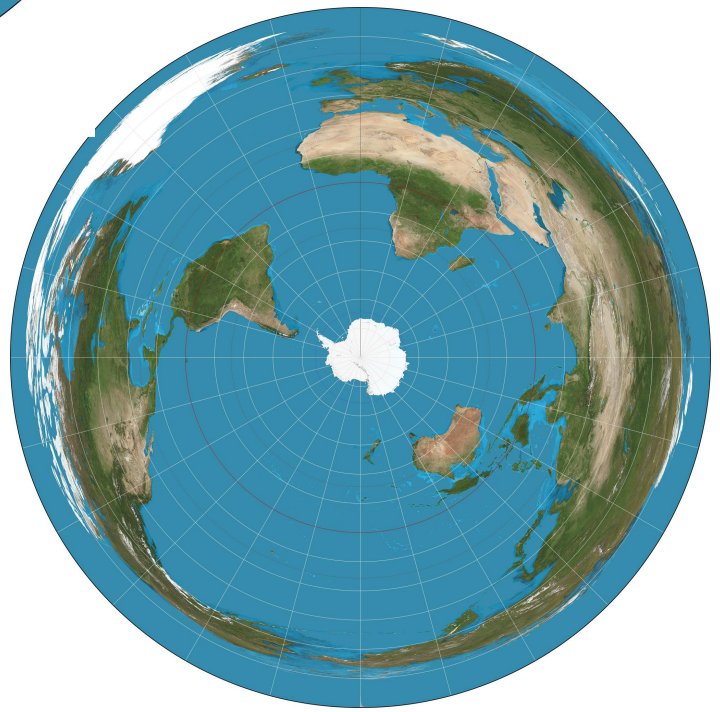
All-Sky (equidistant azimuthal projection)



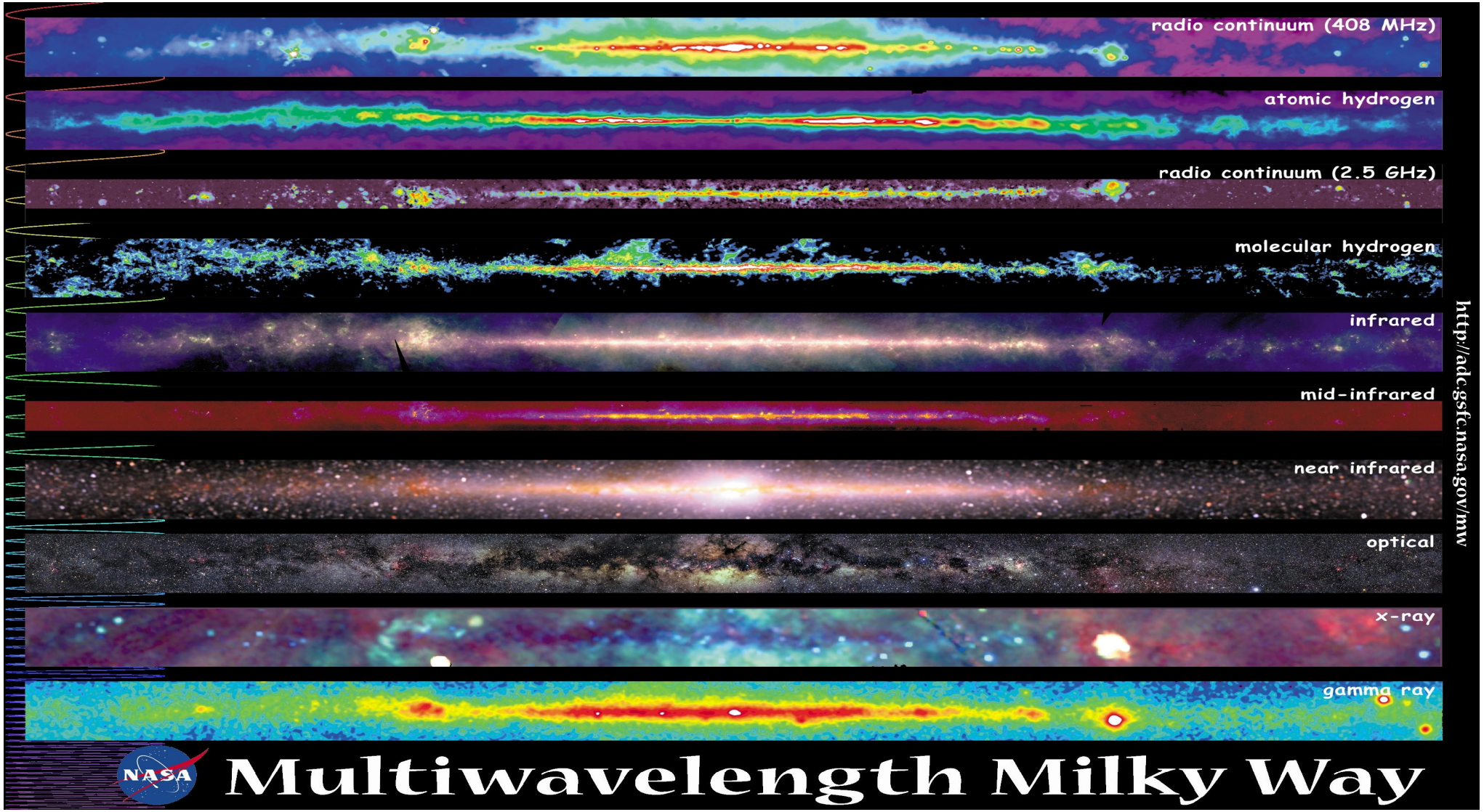
Earth in Aitoff and Equidistant Azimuthal Projections



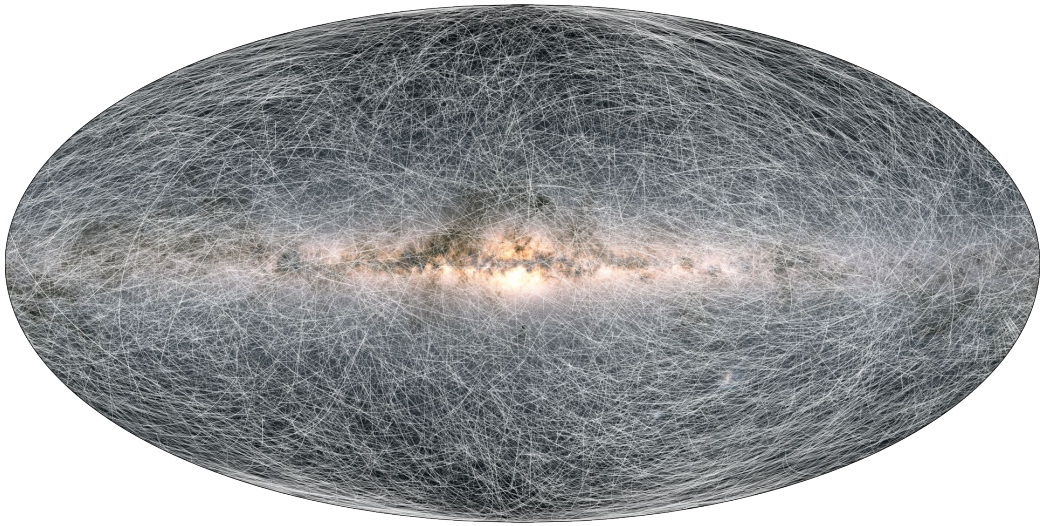


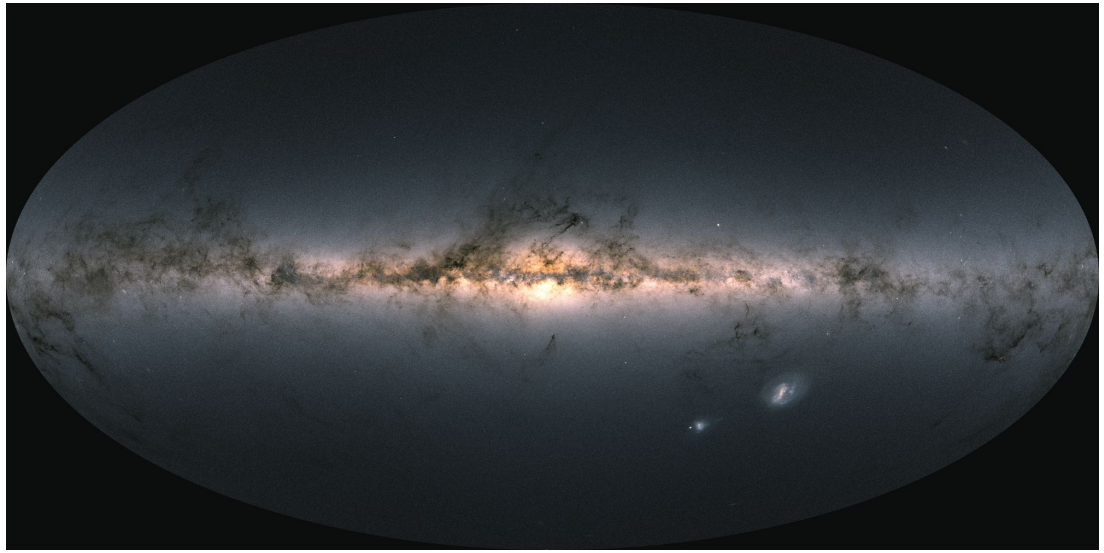


A Radio Galaxy? Molagodimo or Milky Way – a spiral, edge-on, interacting, star-forming, not-AGN?, radio, submm, infrared, x-ray, gamma-ray, HI, CO, local, distant or low-z … galaxy?



Our Milky Way Galaxy or Mosese ya Makgathi from GAIA





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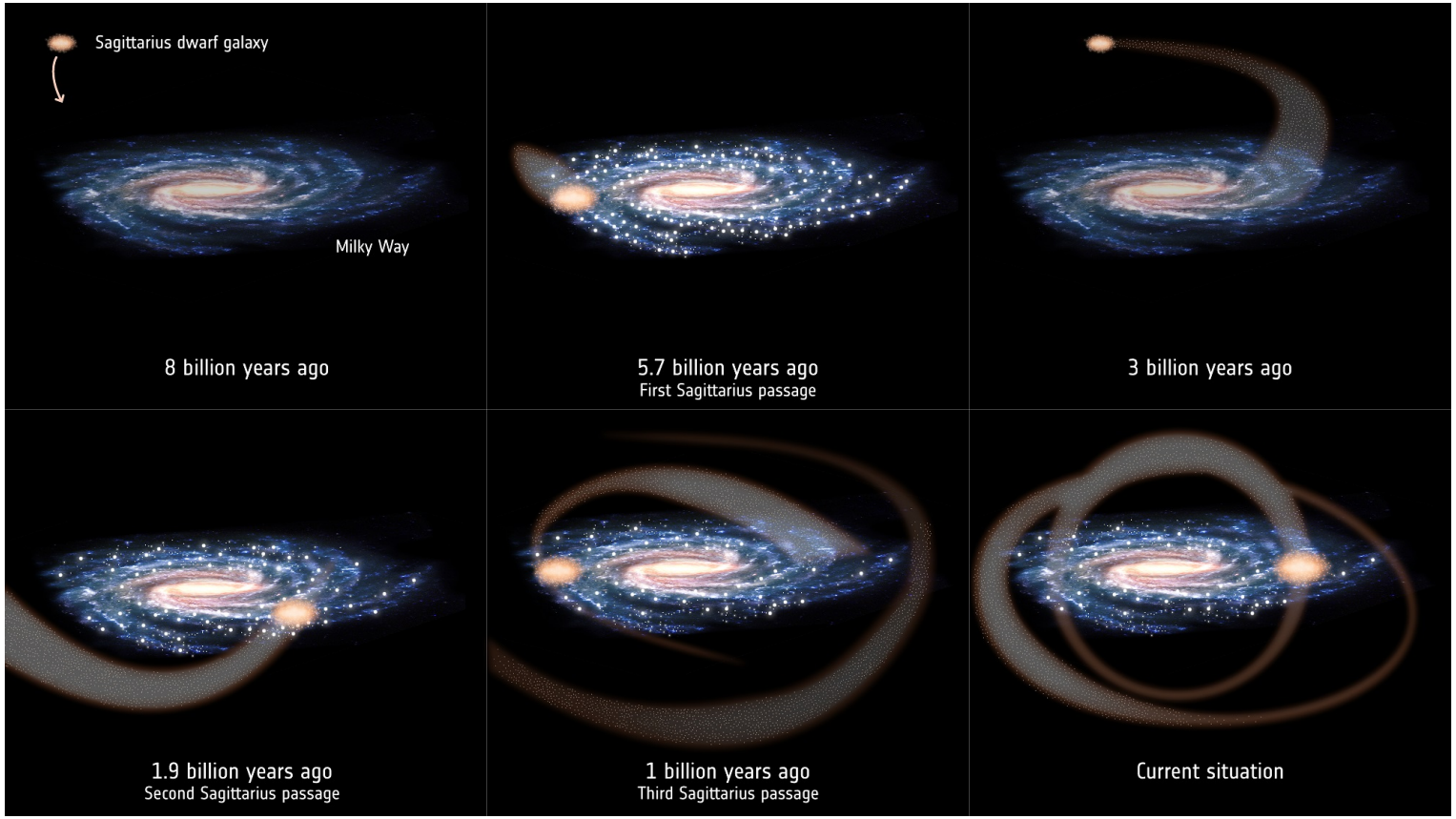
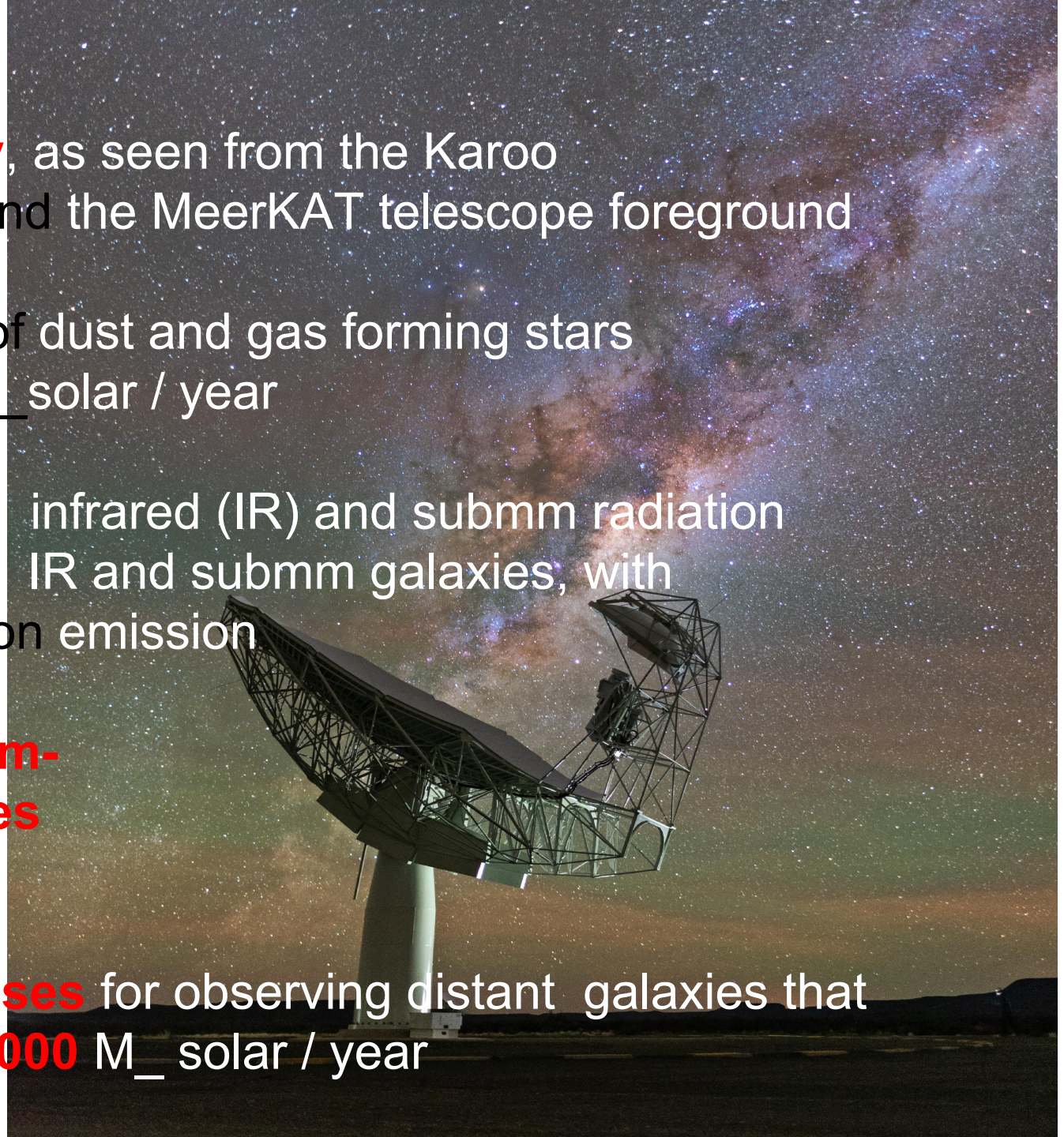


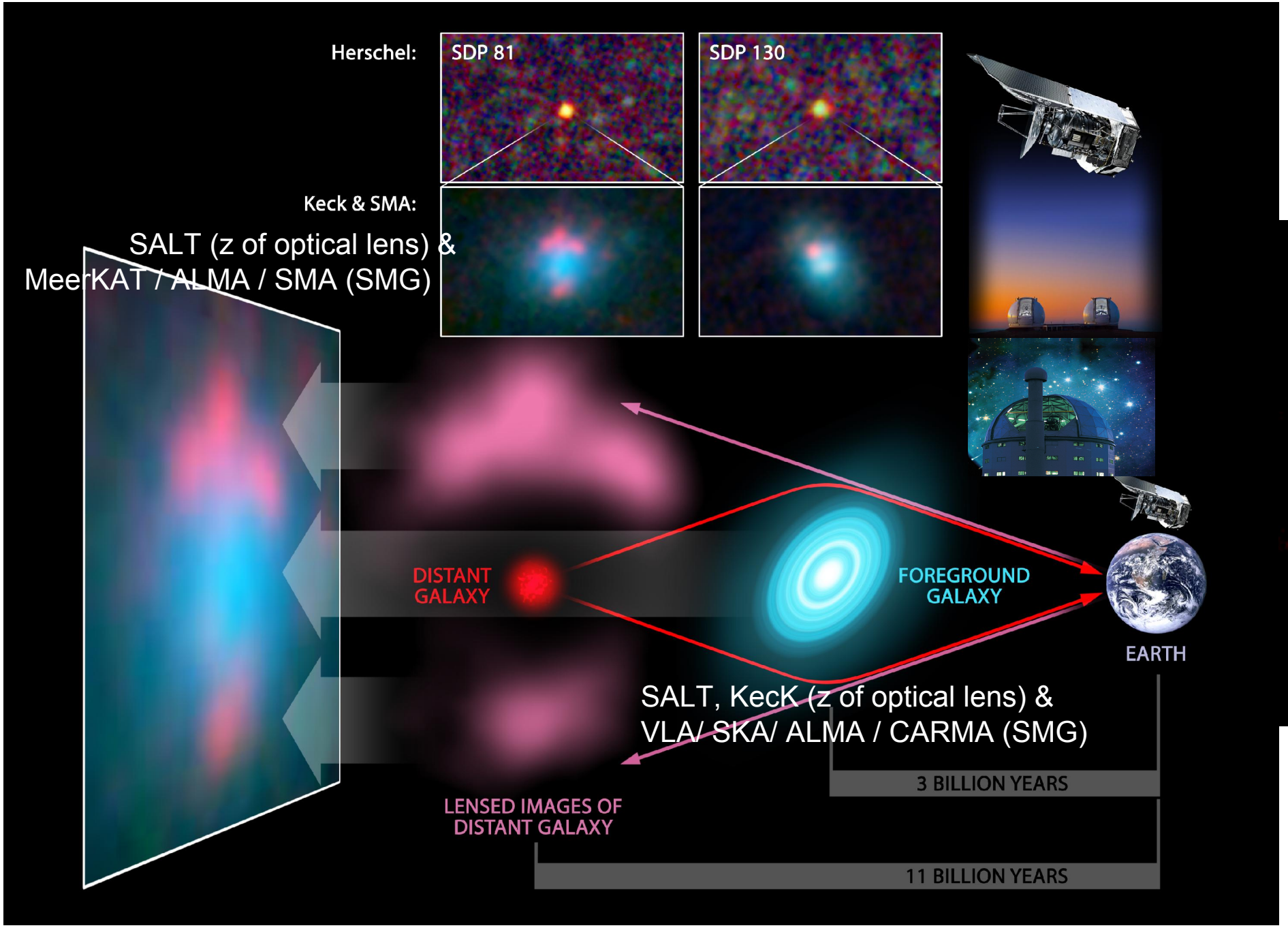


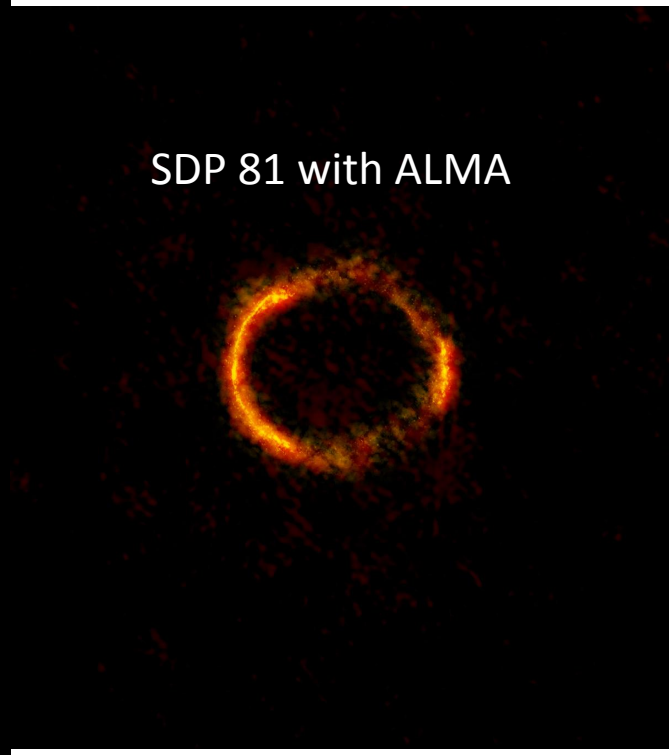
***Molagodimo*,**
the Milky Way, as seen from the Karoo
in the optical and the MeerKAT telescope foreground

Dark patches of dust and gas forming stars
At 0.5 to 10 M _solar / year

The dust emits infrared (IR) and submm radiation
seen by in the IR and submm galaxies, with
radio synchroton emission

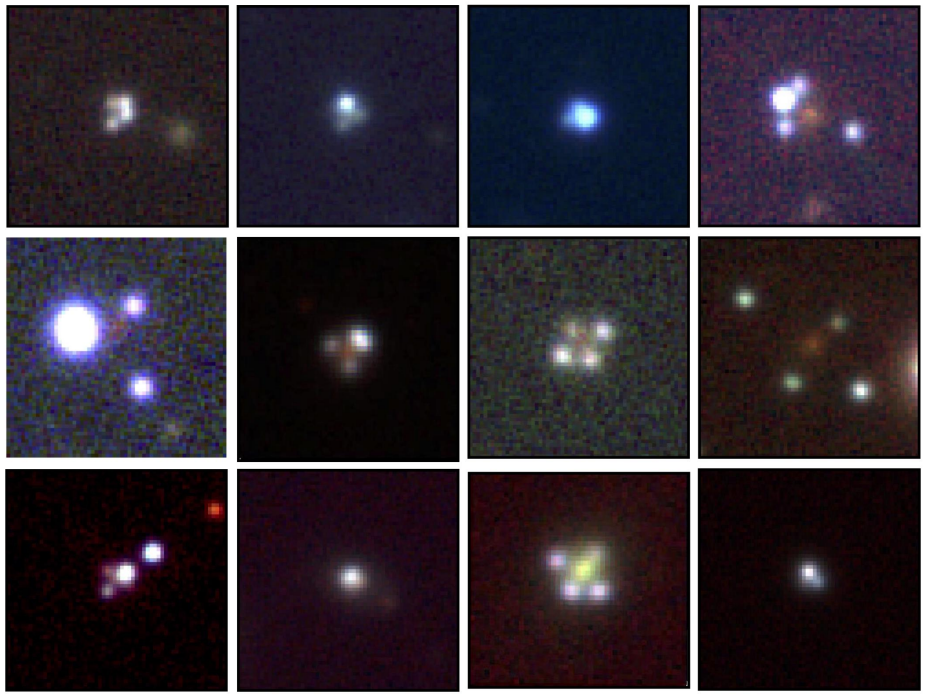
Distant Submm-Bright Galaxies (Milky Way Progenitors)
Exploiting lenses for observing distant galaxies that
have up to ~1000 M_ solar / year

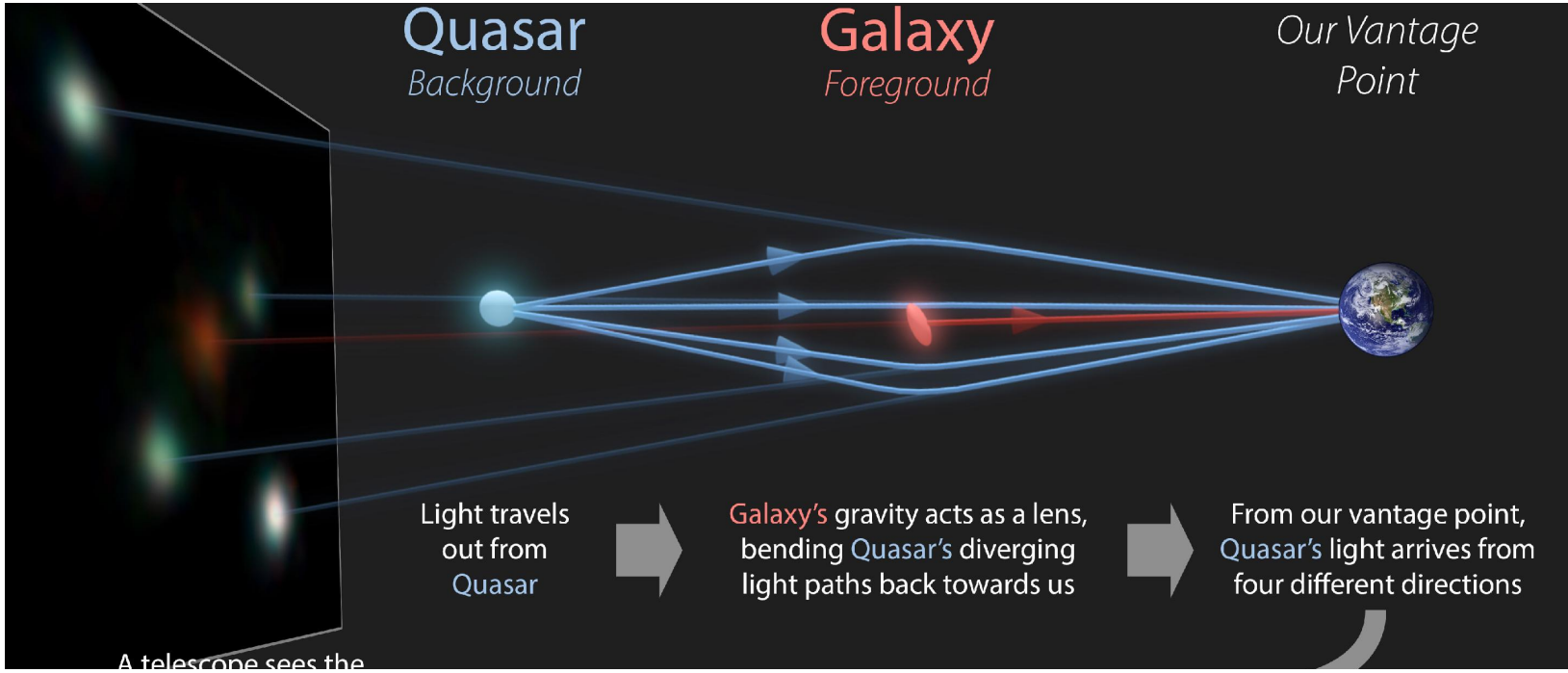




CREDITS: ESA/NASA/JPL---Caltech/Keck/SMA

Einstein Crosses of Gravitational Lenses Discovered with GAIA





Our Milky Way Galaxy or Molagodimo from GAIA and more