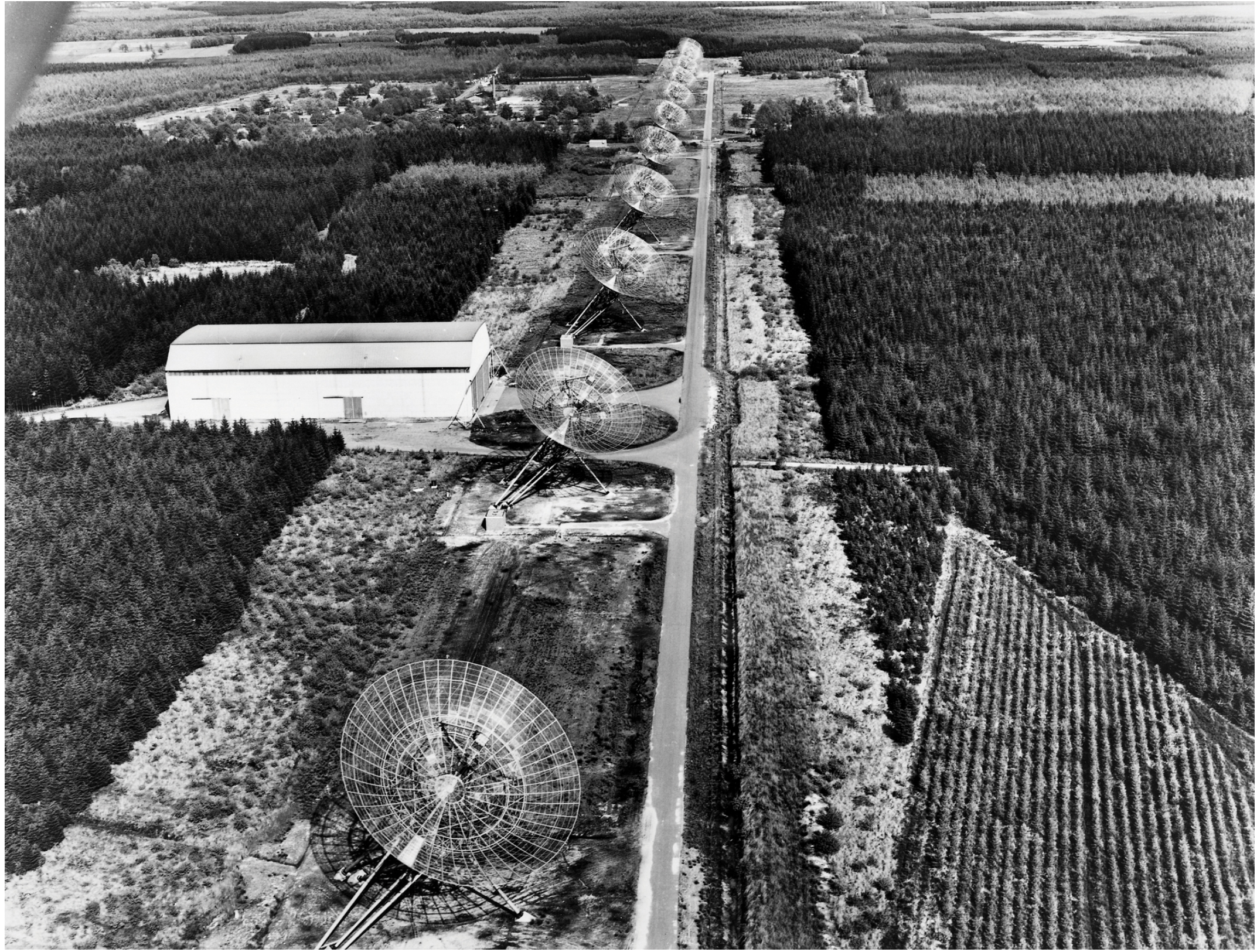


Interferometers

Can be done at any wavelength of light

- Alignment must always be small fraction of a wavelength
- Easier to do at radio (long wavelength)
- Historically started in radio and has slowly moved to visible light

Westerbork radio telescope (1970)



VLA (Very Large Array, 1980, recent upgrades)



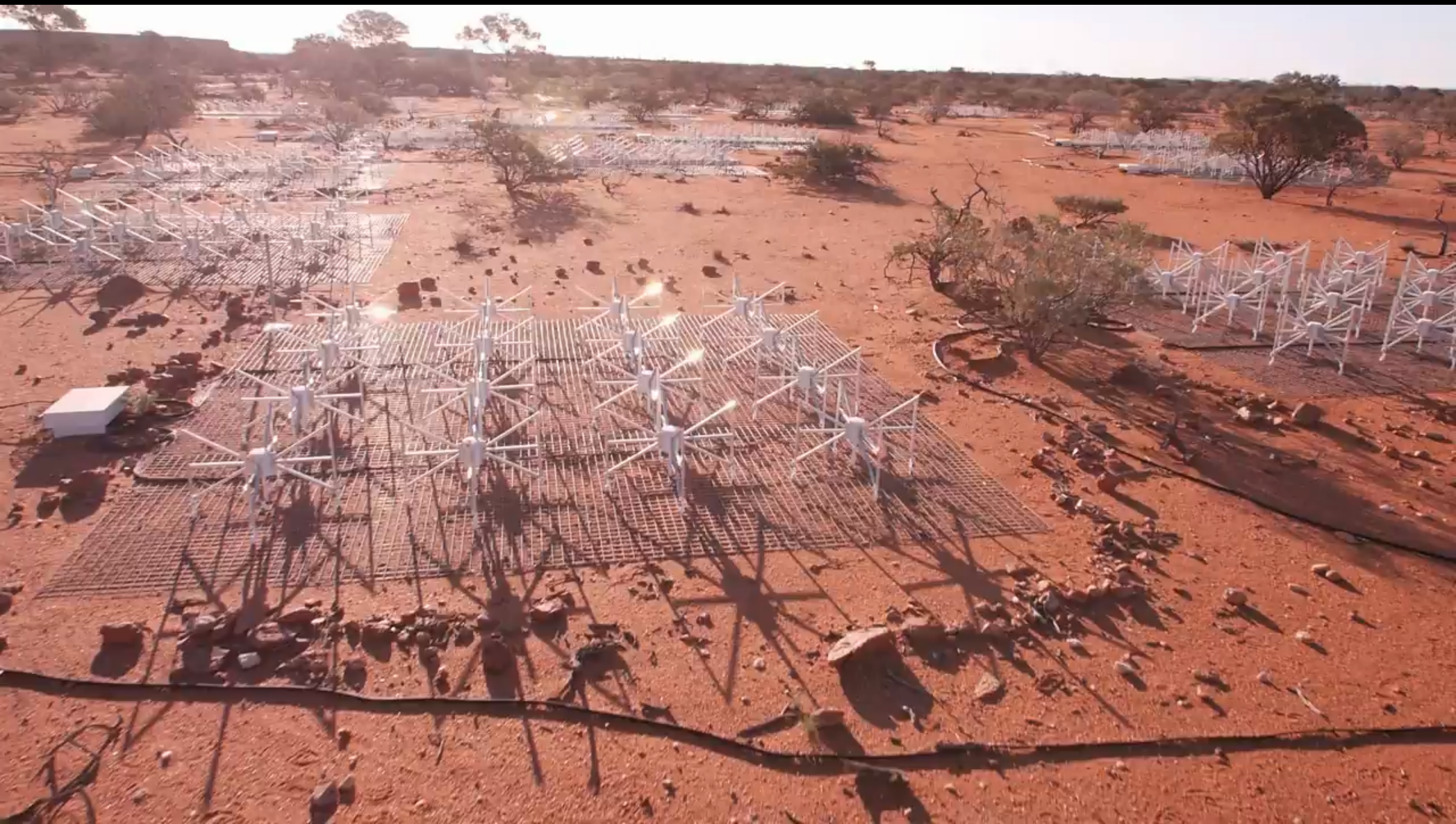


Murchison Widefield Array (MWA)





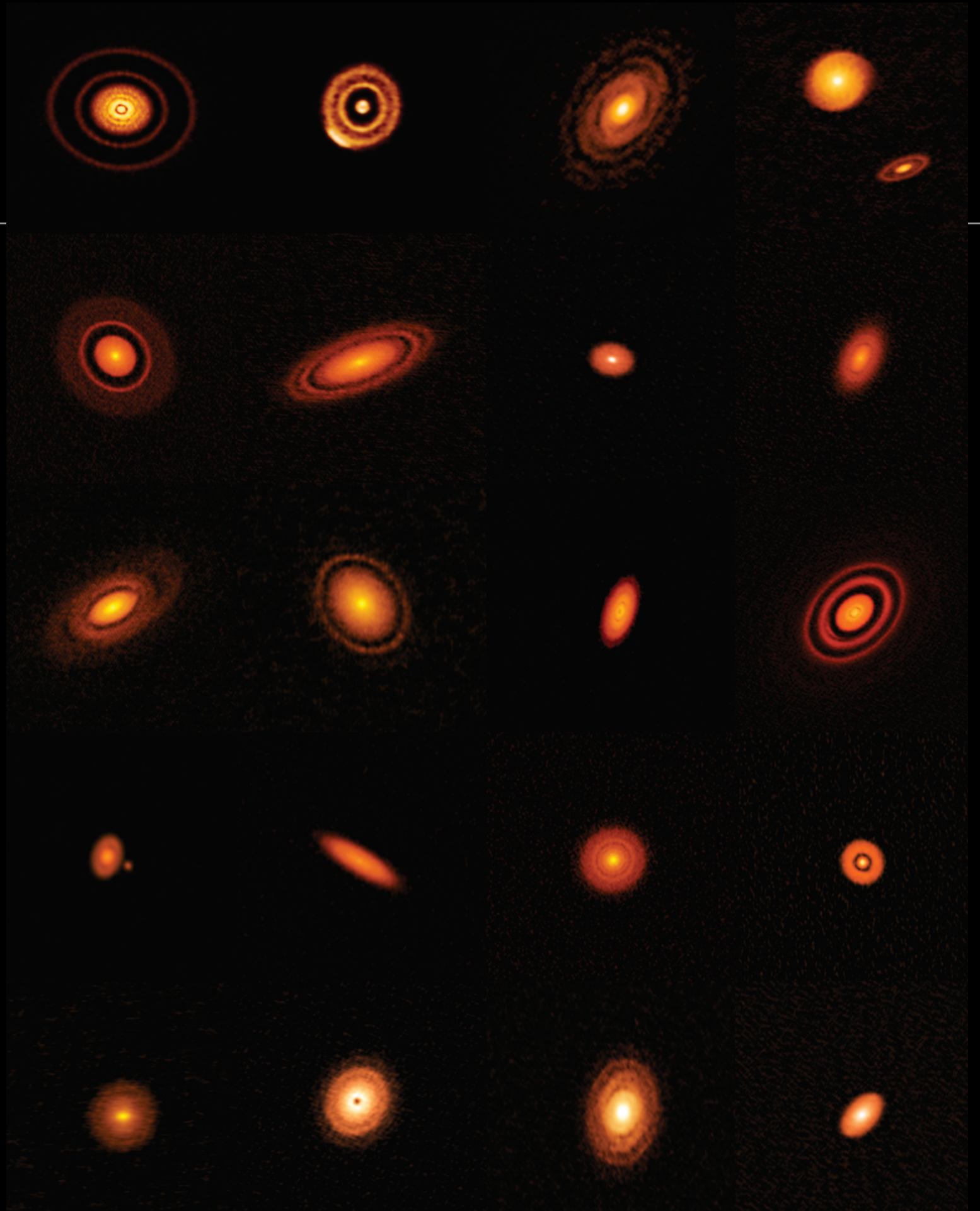






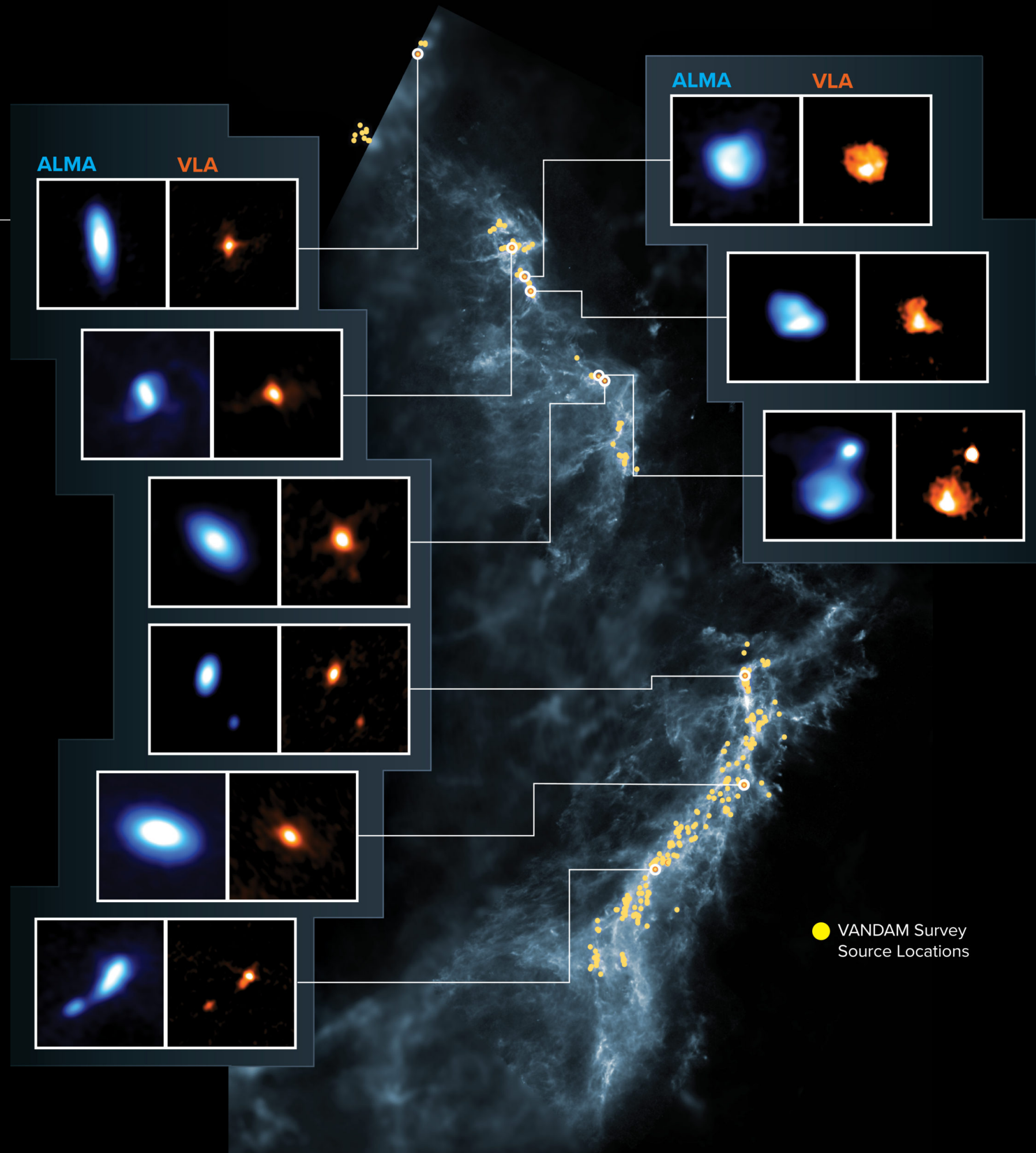
The Atacama Large Millimeter/submillimeter Array

Protoplanetary disks

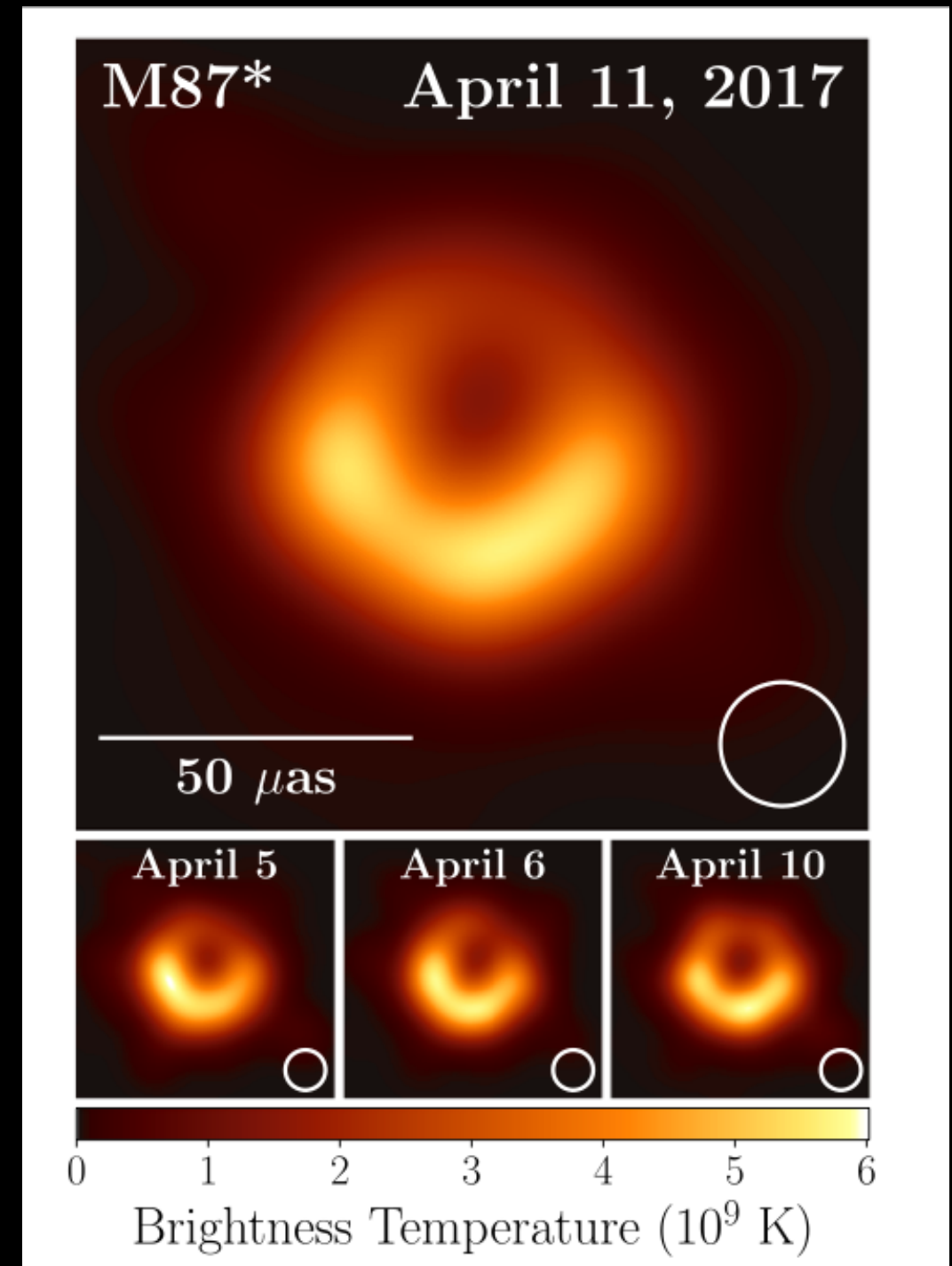
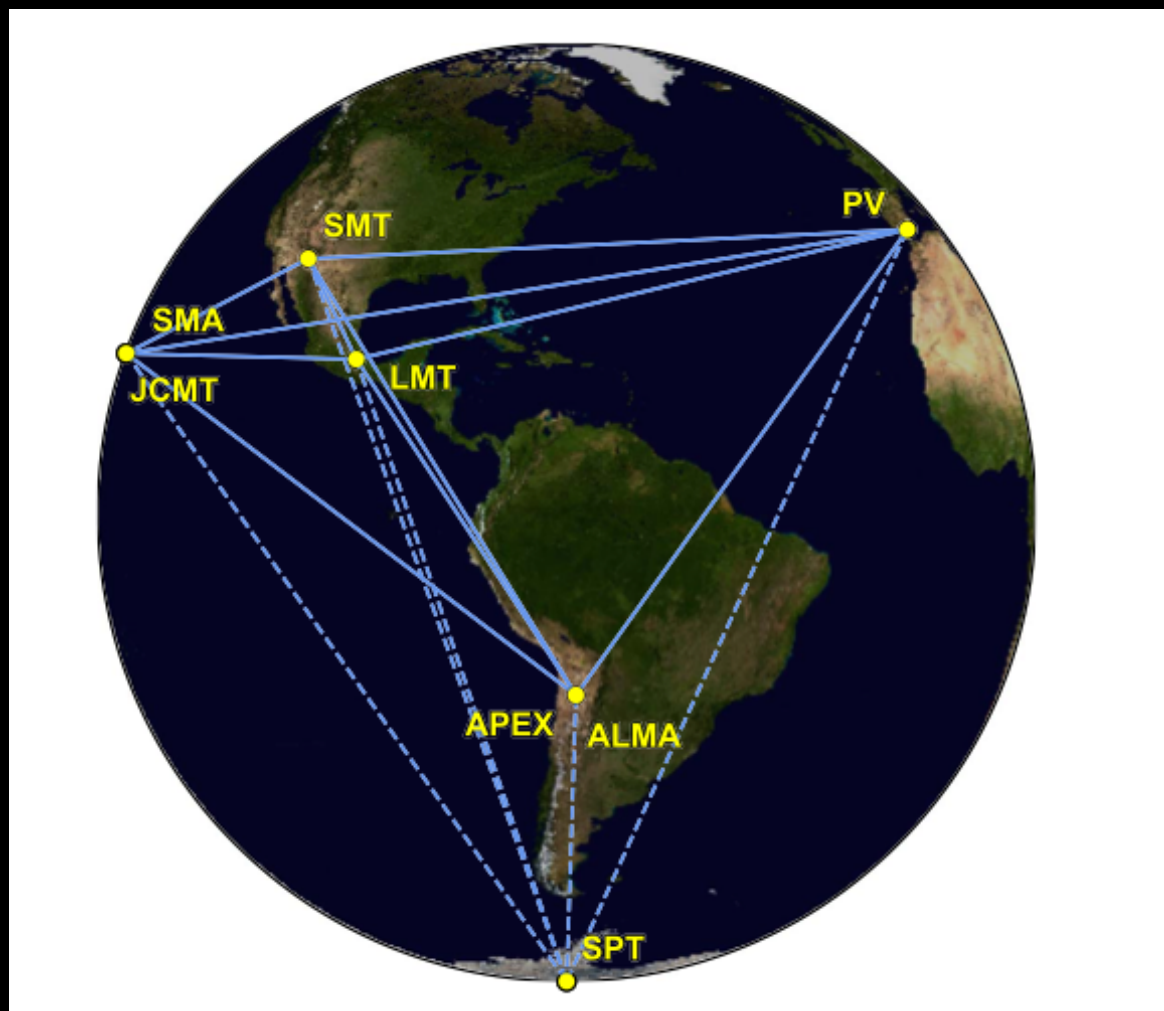




Birth of stars



Event Horizon Telescope





James Webb Space Telescope



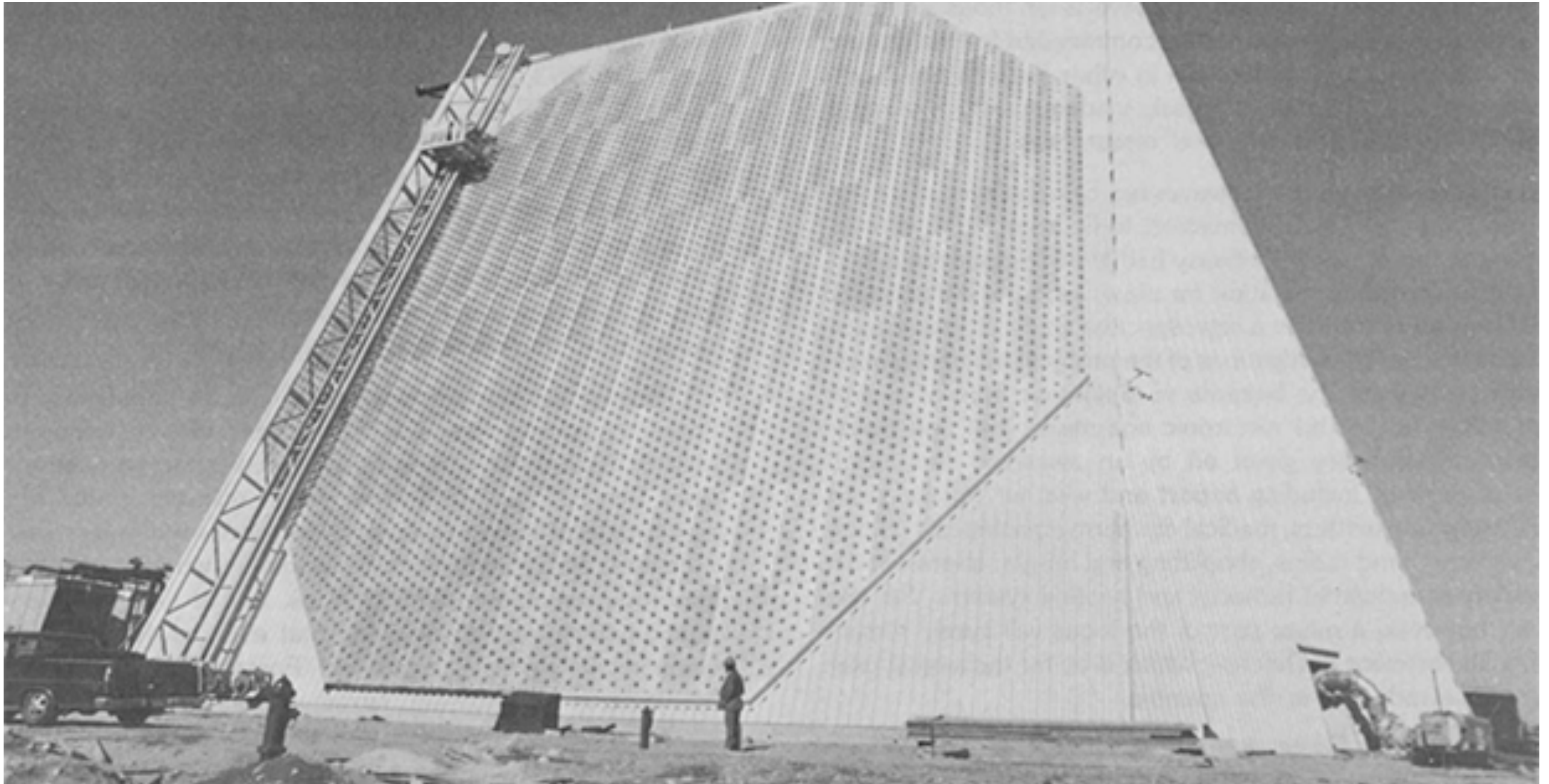
Interferometers in everyday life

Cell phone towers





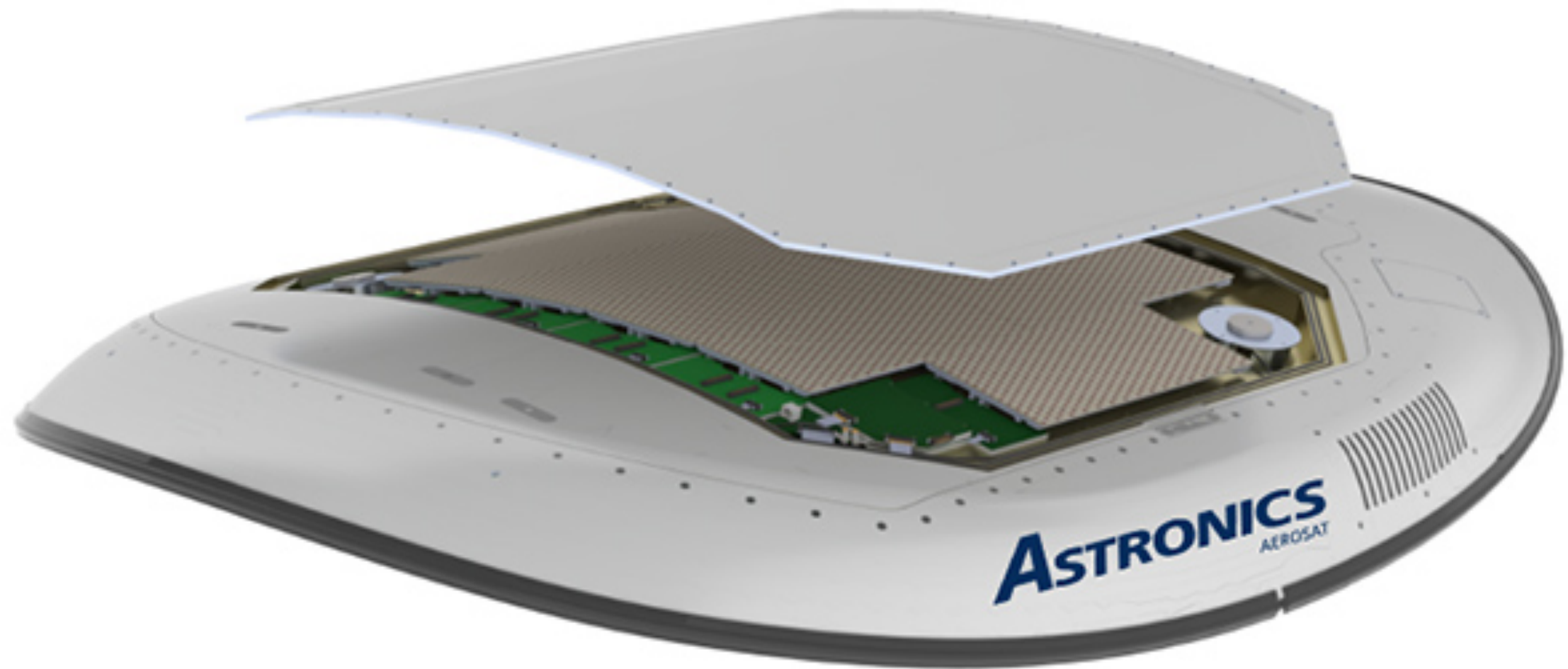
Military radar





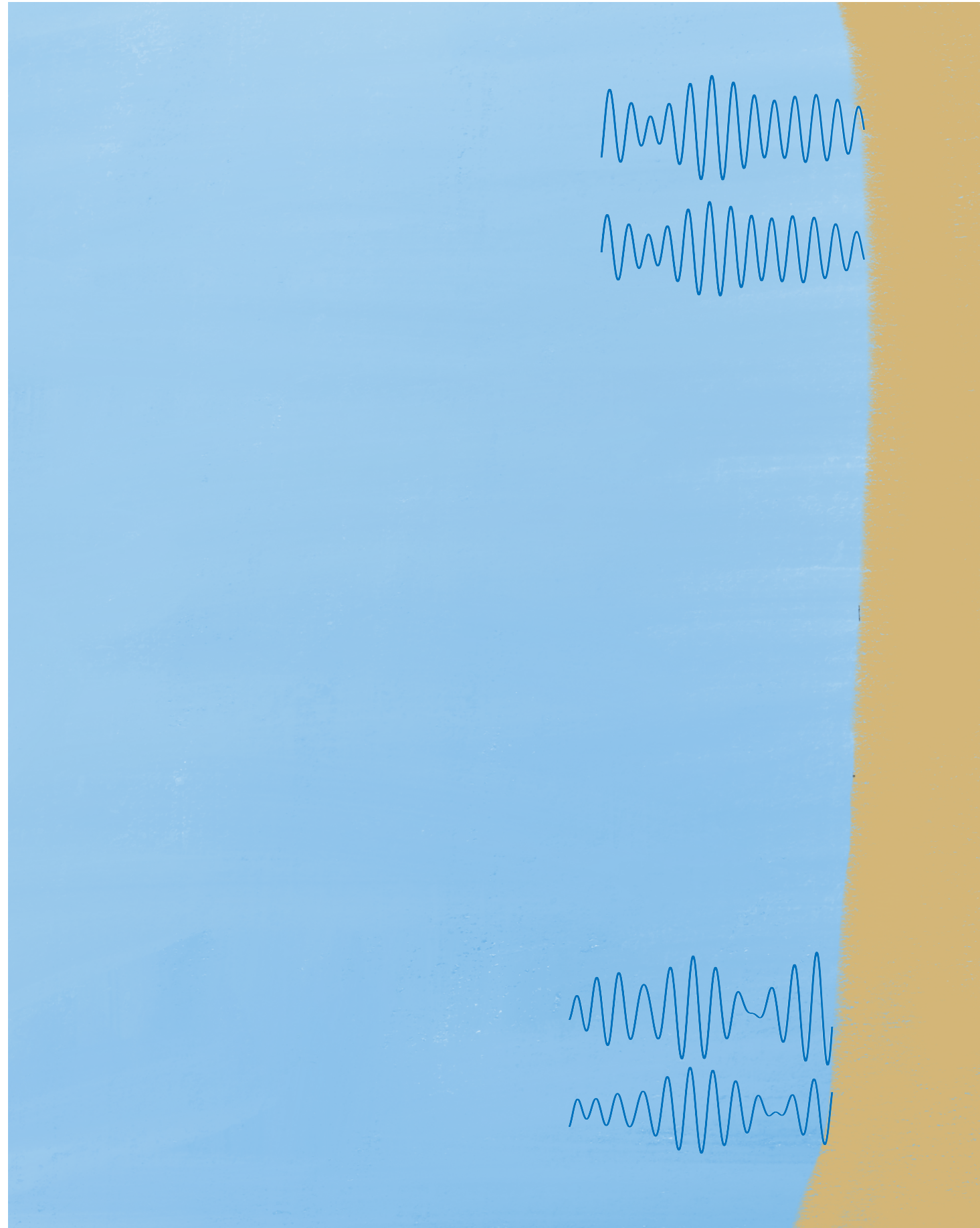


Aircraft antennas



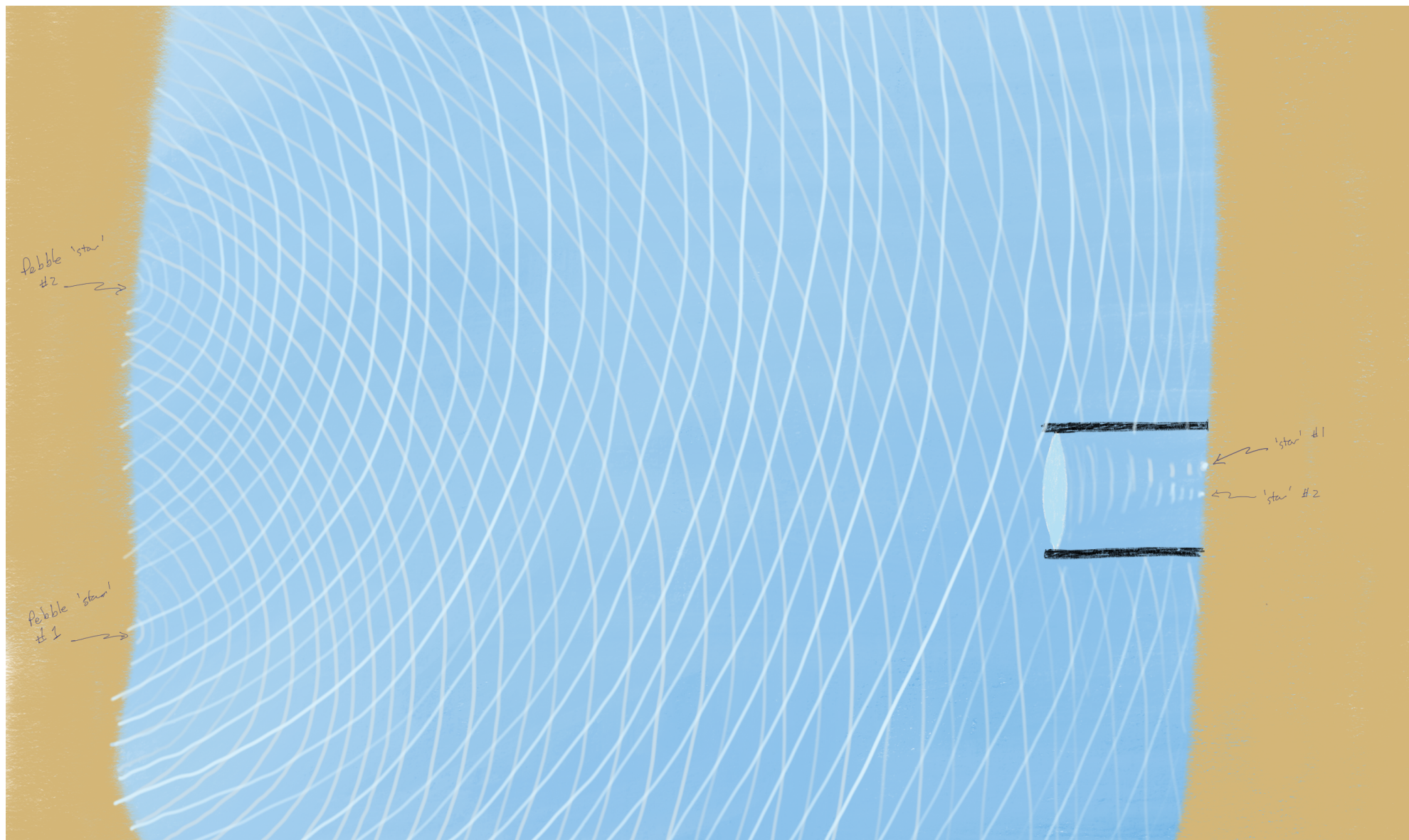
Combined ripple

- If sources are close together, we need to walk a long way for the combined ripples to look different
- If sources are far apart, we don't need to walk very far for the ripples to look different



Telescope resolution

- If waves look different at different edges of the telescope, it can sort the light
- Bigger the telescope, the better the resolution (ability to sort)



Interferometers

