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)
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