Beamforming and Angle of Arrival (AoA)

① Omni-directional antennas: radiate signals in all directions.
Directional antennas: radiate signals in certain directions and not in others.

② Creating such non-circular radiation patterns ⇒ How?

③ Let’s consider an array of omni-directional antennas (or even an array of directional antennas).

④ Say, these antennas transmit am at the same time? What signals will you receive from different locations?

⑤ Consider first:
- The aggregate signals at these nearby locations vary based on the location.
- No pattern is visible as you move.
- This is called "".

⑥ Now, consider locations that are far from the antennas, then the signals paths almost become parallel. Let’s analyze far field effects.