

RCP = right circular polarization

LCP = left circular polarization

It is well known that waves are completely polarized in communication. The waves from celestial sources are partially polarized in radio astronomy. The waves are completely un-polarized in many cases.

TWO MARK QUESTION

1. Define lens antenna?

An antenna which collimates the incident divergent energy to prevent it from spreading in undesired directions is called as lens antenna.

2. What are the different types of lens antenna?

Lens antenna can be divided into two types.

- 1) Dielectric lens H-plane metal plate lens
- 2) E-plane metal plate lens antenna

3. State the merits and demerits of lens antenna?

Merits:

1. Flexible in design
2. Feed and feed support do not obstruct the aperture.
3. Used for wide frequency range.
4. It has greater design tolerance , larger amount of wrapping and twisting is possible in lens antenna as wave enters from one side and emerges at the other side maintaining the electrical path length.
5. It can be used to feed at off the optical axis and hence useful in applications where beam is required to be moved angularly with respect to axis.

Demerits:

1. Lenses are heavy and provide design complication
2. High cost.

4. What is the difference between planar and conical spiral antenna ?

The difference between the planar and conical spiral antenna is that conical spiral provide a unidirectional radiation single lobe towards the apex of the cone with maximum along the axis.

5.What are the applications of microstrip (or) patch antennas?

In spacecraft (or) aircraft applications, where size, weight, cost, performance, ease of installation and aerodynamic profile are constraints, low profile antennas are required. In order to meet these specifications, microstrip or patch antennas are used.

6.What is the limitation of microstrip patch antenna and how it can be controlled?

The limitation of the microstrip antenna is its narrow frequency BW, and it is controlled by the characteristics of the parallel plate transmission line.