4.6 COMPARISON OF TRACKERS

Q32. Compare the tracking techniques.

Ans:

Among the four continuous tracking radar techniques i.e., sequential lobing, conical scan, amplitude comparison monopulse and phase comparison monopulse, conical scan and amplitude comparison monopulse has more applications compare to the other two. So the comparison of conical scan amplitude and monopulse tracking radar techniques is given as follows.

Comparison of Tracking Techniques

	Lobe-Switching (Conical-Scan) Track		Simultaneous (Monopulse) Switching Track
1.	This technique uses the single antenna beam on a time shared basis.	1.	Here more than one beam is used to determine the angle of arrival of echo signal.
2.	Multiple pulses are required to derive the angle-error information.	2.	Angle-error information is derived on the basis of a single pulse.
3.	Low signal-to-noise ratio.	3.	High signal-to-noise ratio.
4.	Less accurate and also less costly.	4.	More accurate, hence can be used for precision tracking. The cost is high.
5.	Simple to design.	5.	Its design is complex. Since it require three separate receivers to drive the error signal in two orthogonal angular coordinates.
6.	Generally, Horn antennas are used.	6.	Generally, Cassegrain antennas are used.
7.	This radar first integrates a number of pulses and then extracts the angle measurement.	7.	This radar first makes angle measurement and then integrates a number of pulses to obtain the required SNR.

Table