

Assignment

1. What do you mean by the beamforming? How would it help to the radar systems?
2. What are the advantages of adaptive beamforming over conventional beamforming? Explain.
3. Explain the synthetic aperture radar; operation and working and relevant terminologies.
4. What are the phased array antennas and explain their usage?
5. How can you design an electronically steered phased arrays?
6. What are the categories of phased array antennas? How they are useful in radar systems? Also compare them.
7. What do you mean by pulse compression? What are the techniques used for pulse compression?
8. Explain the working of polarimetric and interferometric SAR and its principle and applications.
9. How can a radar be utilized in remote sensing applications?
10. Write a short note on the following.
 - i. Cross range resolution in radar
 - ii. Synthetic aperture viewpoint
 - iii. Stripmap SAR geometry
 - iv. Stripmap SAR dataset
 - v. Stripmap SAR image formation algorithm