Abstract

Beamforming is a signal processing technique by which an array of receivers sensitive to signals from all directions can be processed to form one larger more sensitive receiver that can identify which direction signals originate. In this paper the narrowband beamforming and wideband beamforming using Tapped delay line will be investigated. Some applications in wireless communication systems need to design beamformer with a specified response like a sidelobe level less than threshold level or forming a null response points in interference direction or jamming frequency. So we need to design optimal beamforming using optimization technique, to achieve a desired response. In this paper the common global optimization technique like Particle Swarm Optimization (PSO) will be discussed and will used to design a different examples on narrowband and wideband beamforming.

References

1. Godara, Lal C. "Applications of antenna arrays to mobile communications.I. Performance


Design of Optimal Beamforming using Particles Swarm Optimization


Index Terms

Computer Science

Signal Processing

Keywords

Wideband Beamforming, Tapped Delay Line Filter, Particle Swarm Optimization.