Abstract

Sequences with optimal correlation have important applications in radar, communication, and cryptography. They also have close connection with combinatorial objects such as cyclic difference sets. In this talk, we shall give an introduction to sequences with optimal correlation. Then we introduce our two recent constructions of sequences with optimal correlation. The first one generates sequences with global optimal correlation meeting the Welch bound, while the second one yields sequences with local optimal correlation meeting the Tang-Fan-Matsufuji bound.