
RON FERGUSON, Simon Fraser University
Search Algorithms for Low Autocorrelation Sequences

Low autocorrelation sequences have been studied both for their number theoretic properties and for applications in communications engineering. Such problems as the merit factor problem, the peak sidelobe problem and the existence of barker sequences are both computationally challenging and have deep theoretical implications. The problems may be discrete, as in the cases of binary or n -phase sequences, or continuous, where the sequences are unimodular. We will describe algorithms used to obtain computational results, combining both continuous and discrete approaches as well as both exhaustive and stochastic methods.