On Circulant Matrices and Graphs[1]

[2] October 4, 2010

Circulant matrices are square matrices in which one row is obtained from the one above by a right cyclic shift. They arise in several applications, for instance those involving Discrete Fourier Transforms, cyclic codes in error correction and statistical signal processing. A zero-one circulant matrix is the adjacency matrix of a circulant graph. This project aims to explore the regularity and spectral properties of circulant matrices and graphs.