1163-40-1410 **Andrzej K Brodzik*** (andrzej.k.brodzik@gmail.com) and **Richard Tolimieri**. *On the Jacobi symbol and certain binary and binary-like sequences with good autocorrelation properties.*

Using the Chinese Remainder Theorem, it can be shown that the Jacobi symbol is an eigenvector of the $N \times N$ DFT matrix, where N is a product of distinct odd primes. This result facilitates the construction of a binary sequence, based on a simple modification of the Jacobi symbol, that has a two-level autocorrelation, provided $N = pq$, with $q = p + 2$. Further modification of the modified Jacobi sequence yields a binary-like complex-valued sequence with ideal autocorrelation, referred to as the Björck or the Golomb sequence. The modified Jacobi sequences are of interest in cryptography, due to their favorable sequence-theoretic properties, and, independently, in number theory, due to their close relationship with the Gauss sums. The Björck-Golomb sequences are of interest in radar. Apart from these special cases, a general setting of multiplicative characters for the design of sequences with good correlation properties is briefly considered. (Received September 15, 2020)