

FAMILIES OF ORTHOGONAL ARITHMETIC FUNCTIONS

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ABSTRACT: In this talk I will discuss various types of arithmetic functions which serve as harmonics for targeting specific sequences such as the primes in arithmetic progressions or the critical zeros of the Riemann zeta function. Typical examples are the Dirichlet characters, eigenvalues of Hecke operators, coefficients of elliptic curves L-functions. I will survey classical results and present a few new ones which are reminiscent of the large sieve estimates.