

Title: The 2-divisability of h_p^+ .

Abstract: Let p be an odd prime. Computing the class number h_p^+ of the real sub-field of the cyclotomic number field $Q(\zeta_p)$ is notoriously difficult. However, the problem of determining the parity of h_p^+ is more accessible. In this paper, we construct archimedean and 2-adic sign codes over F_2 and use them to compute a non-trivial lower bound for the 2-part of h_p^+ for all $p < 1,000,000$. The reflection theorem of G. Gras and M. N. Gras is central to our algorithm. This work is a jointly authored with Benji Fisher of Boston College.