An update on Fekete polynomials

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Extremal properties of Littlewood polynomials (with coefficients ± 1) have been extensively studied throughout the past century. Among special classes of Littlewood polynomials, particular attention has been given to so-called "Fekete polynomials" (with coefficients being Legendre symbols). Since their discovery by Dirichlet in the nineteenth century, Fekete polynomials and their extremal properties have attracted considerable attention, particularly due to their intimate connection with the putative Siegel zero and the small class number problem. The goal of this talk is to discuss a general approach to understanding the behaviour of such polynomials, resolving several open problems. This is based on joint work with Y. Lamzouri and M. Munsch.