

Simple families of Thue inequalities

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There are so-called simple families of Thue inequalities with degree 3, 4, and 6. Lettl–Pethő–Voutier solved these families in the case where each of these is parameterized by one parameter. We solve these families in the case where these are parameterized by two parameters. We use essentially the same upper bound for the solutions obtained by Lettl–Pethő–Voutier. Then, in order to determine solutions, we use continued fractions with rational partial quotients and a generalization of Legendre’s theorem.