Mollin, R. A.; **Williams, H. C.**

Prime producing quadratic polynomials and real quadratic fields of class number one.
(English) Zbl 0695.12002

Théorie des nombres, C. R. Conf. Int., Québec/Can. 1987, 654-663 (1989).

[For the entire collection see Zbl 0674.00008.]

The authors consider some deep connections between real quadratic fields of class number one and certain prime producing quadratic polynomials, and intend to determine all real quadratic fields of R-D type which have class number one under the GRH assumption.

As all such fields, they give in this paper 39 real quadratic fields $\mathbb{Q}(\sqrt{d})$, but $d = 413$ and 1133 should be excluded since they are not of R-D type by the same reason as 13, 69 and 93. Moreover we should notice: contrary to the Theorem 4, which asserts the Conjecture 3 holds under the GRH assumption, all d in the Table 4 (except for 413 and 1133) in addition to d in the Table 3 satisfy the conditions of the Conjecture 3.

Reviewer: H.Yokoi

MSC:

11R11 Quadratic extensions
11C08 Polynomials in number theory
11R23 Iwasawa theory

Keywords:

class number one problem; prime producing quadratic polynomials; real quadratic fields of R-D type