

Exposé court

114 **Division quaternion algebras over some cyclotomic fields**

Savin, Diana (Faculty of Mathematics and Computer Science, Transilvania University, Braşov, Romania)

Let p_1, p_2 be two distinct prime integers, let n be a positive integer, $n \geq 3$ and let ξ_n be a primitive root of order n of the unity. In this paper we obtain a complete characterization for a quaternion algebra $H(p_1, p_2)$ to be a division algebra over the n th cyclotomic field $\mathbb{Q}(\xi_n)$, when $n \in \{3, 4, 6, 7, 8, 9, 11, 12\}$ and also we obtain a characterization for a quaternion algebra $H(p_1, p_2)$ to be a division algebra over the n th cyclotomic field $\mathbb{Q}(\xi_n)$, when $n \in \{5, 10\}$. In the last section of this article we obtain a complete characterization for a quaternion algebra $H_{\mathbb{Q}(\xi_n)}(p_1, p_2)$ to be a division algebra, when $n = l^k$, with l a prime integer, $l \equiv 3 \pmod{4}$ and k a positive integer.