

## Cryptography Over Sextic Extension with Cubic Subfield

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**Abstract :** In this paper we will give a method for encoding the elements of the ring of integers of sextic extension, namely  $L = \mathbb{Q}(a,b)$  which is a rational quadratic over cubic field  $K = \mathbb{Q}(a)$  where  $a^2$  is a rational square free integer and  $b$  is a root of irreducible polynomiale of degree 3.

**Keywords :** coding, integral bases, sextic, quadratic

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