



LATTICE DECODING OF LAYERED VERTICAL SPACE-TIME CODES (WedAmOR8)

★ Author(s) :

Miguel Bazdresch

(Instituto Tecnológico y de Estudios Superiores de Occidente, Mexico)

Jorge

(Ecole Nationale Supérieure des Telecommunications, France)

Rodriguez-Guisantes

★ Abstract :

In this paper we study the use of lattice decoders in the reception of layered vertical space-time codes with square constellations. We rewrite the vertical code reception problem to make it amenable to lattice decoding. We compare the complexity and probability of error of lattice decoding with those of V-BLAST. Several properties of the behavior of lattice decoders that will have a definite impact on an efficient implementation are identified and characterized. Also, we evaluate the impact of performing the LLL lattice basis reduction on total receiver complexity.