Number system constructions in lattices with block diagonal bases

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Abstract

We consider number system constructions in lattices with block diagonal bases. Especially, we investigate bases containing two dimensional blocks in the diagonal. We show theoretical and computer verified achievements. As a special case, we analyze general simultaneous number system constructions. Simultaneous systems were introduced in [1]. Recently, they were considered in [2] for the Gaussian integers with canonical digit sets or in [3] for polynomial constructions.

References

