SDI Review Form 1.6

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Title of the Manuscript:	**About Euclidean Codes**
Type of the Article	**Original Research Article**

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PART 1: Review Comments

	Reviewer's comment	**Author's comment** *(if agreed with reviewer, correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)*
Compulsory REVISION comments	• In the second line of the proof of Proposition 2.1, replace "a in A such that" by "b in A such that". • Example 2.3 needs to be completely reworked. First of all, phi(z) = |z|^2 (cf. 3 of Example 2.1) does no satisfy Property 1 in general. According to your proof, the conclusion of Proposition 2.2 (which has used Proposition 2.1 for the construction of C_k) follows from the underlying assumptions stated in the paragraph right after the proof of Remark 2.3, so in view of relevancy, you should make sure the example satisfies Property 1. Another more serious problem is that the ideals in Example 2.3 do not satisfy the conditions you put down right before (2.1), namely they should be distinct prime ideals: the ideals defined by alpha_1, alpha_2, alpha_3, and alpha_4 are all the same. Similarly, the ideals defined by alpha_5, alpha_8, alpha_10 and alpha_11 are all the same, etc. • In middle paragraph of page 6, it appears that you should mean "Let n and k … such that n > = 2". • Without putting in the right context, the statement of Theorem 3.3 is false. One way to fix it is to delete the word "unique". Alternatively you can use the phrase "unique up to unit-migration" (see Conway and Smith: On quaternions and octonions, for an analogue of Hurwitz integers), but this works only for odd	

	quaternions, i.e. those of odd norms. Here is a counterexample: 1+i+j+k is primitive, but it has at least two factorizations, namely 1+i+j+k = (1+i)(1+j) = (1+j)(1+k) (these are not equivalent under unit-migration). • In view of relevancy, Example 3.4 requires modification. For example, 1+i is a prime quaternion of norm 2, which does not satisfy the underlying assumption right before (3.1), namely it should be one of the "prime quaternions of distinct norms strictly greater than 2". This shows that your example may be true but it is not a consequence of Proposition 3.2. Moreover, this is causing some problem due to the division algorithm you mentioned in Theorem 3.1, where beta is assumed to be odd.	

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Minor REVISION comments	• In Definition 2.1 and other sentences on page 2, the word “stathme” is not in common usage of English. • In Remark 2.1, it is not clear what the word “isomorph” means. • In the first statement of Theorem 2.2, replace “et” by “and”. In the second statement of Theorem 2.2, replace the word “vectorial” by “vector”. • Right before formula (2.1) on page 3, replace “prime distinct ideals” by “distinct prime ideals”. • In Definition 3.1, replace “said” by “said to be”. • In the first sentence of Conclusion on page 7, the comma “,” after “This note” is unnecessary. Also replace “follows” by “are as follows”.	
Optional/General comments	• It would be interesting to have an example for Proposition 2.3. • Based on Proposition 2.2 and Proposition 3.2, it would be interesting to have a systematic way to generate examples satisfying the required assumptions. • In Proposition 2.2 and Proposition 3.2, the bound for d can be strengthened to n+2-2k, by following the same argument and by noting that phi(x)<k and phi(y)<k imply phi(x)+phi(y)<2k-1.	

Note: Anonymous Reviewer