



SDI FINAL EVALUATION FORM 1.1

PART 1:

Journal Name:	British Journal of Mathematics & Computer Science
Manuscript Number:	2013_BJMCS_7434
Title of the Manuscript:	Generalizing the Asymmetric Run-length-limited Systems

PART 2:

FINAL EVALUATOR'S comments on revised paper (if any)	Authors' response to final evaluator's comments
The in-splits introduced in p.102 and in p.103 make the readers confused as the author seems to have mixed the vertices v and I. The words αu_1 and αu_2 end at I. The author had better state, at least in brief, what properties we desire from G_p and why it makes no problem if every vertex has a unique inner edge and we cannot choose two words u_1 and u_2. In Remark 3.1.(2), the author needs to include a reference to β-shifts. A paper of Thomsen published in 2005 was referenced to in the original draft. The more serious problem is that X_β does not seem to be of finite type for this $1_\beta=1101$. It is known that X_β is of finite type if and only if 1_β is periodic. If it is not periodic but just eventually periodic, then X_β is strictly sofic. The result is also stated in Thomesen, 2005. The reviewer regards the proof Theorem 3.2. as insufficient: First, $w_2`w_2$ has to exclude not only α but also β. The words containing the latter changes, too, when the graphs are intertwined. Second, we need to be careful when we assume that α is a subword of neither w_1 nor w_2. It is $F_z(w_1)\neq F_z(w_2)$ that we want to show, given that $F_x(w_1)\neq F_x(w_2)$. If either of the latter w_1, w_2 contains α, then for the assumption to hold we have to change the former, so they are not exactly the same w_1, w_2 that $F_x(w_1)\neq F_x(w_2)$. We'd better give them different names, say v_1, v_2. The problem arises if different pairs w_1, w_2 and $w_1`, w_2`$ of words in X with $F_x(w_1)\neq F_x(w_2)$ and $F_x(w_1`) \neq F_x(w_2`)$ correspond to the same v_1, v_2 with $F_z(v_1)\neq F_z(v_2)$. Then cardinality of the followers sets of Z may be less than that of X and cannot be excluded from being possibly finite. While the reviewer considers the flaw avoidable, the paper is required to explain more in detail why and how it can be done. The proof of Theorem 3.5. as well as the paragraph right above Lemma 3.7. has an inconsistent citation style, different from the one used previously. The term 'magic' used in the proof of Theorem 3.5. is not defined in the paper. The reviewer	A rearrangement has been given (page 103). Lemma 3.1 has been added and then we fully explain why when all vertices along a synchronized path have a unique inner edge, one does not need any in-splitting. No! It is of finite type! Parry [On the β-expansion of real numbers, Acta Math. Acad. Sci. Hungar. 11 (1960) 401-416] shows that if 1_β is finite, and then X_β is SFT. For our example, a direct argument also shows that 1_β is SFT. Because for $1_\beta = 1101$, all words of length 3 are synchronizing. So it is SFT [Lind and Marcus (1995), Theorem 3.4.17]. In any case, this is not a serious problem. For in the remark we are claiming that intertwined system depends on the choice of synchronizing words and surely it is more interesting when they are SFT. Now Theorem 3.3. In fact our goal is to show that if $F_X(w_1)$ is fixed and there are infinitely many w_2 such that $F_X(w_1) \neq F_X(w_2)$, then there are infinitely many w'_1 and w'_2 such that $F_Z(w'_1) \neq F_Z(w'_2)$. In this new proof, a more detailed presentation has been given. Now Theorem 3.6 and the paragraph right above Lemma 3.8. Done!



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recommends defining it if to be used. Theorem 3.9. also has to be polished. In the second paragraph of the proof, $\beta v \alpha$ eeds to be out of not only p but also every other conjugate of p, in the reviewer’s opinion. That is, $\beta v \alpha$ must not occur in the periodic point generated by p. The condition 1. Stated in the last of p.109 is not precise, since $P_{n+m}(X)$ is a set of points while $L(e_{-m}...e_{-n})$ is a word. The paper still has some typos and grammatical errors, such as ‘Language’ in the first line of the fourth paragraph of Section 2, p.101, the first ‘is’ of the second last sentence in p.101, the omission of the length sign when defining k and l in the end of p.106, and in the first sentence of the last paragraph of p.110, the numbers of the derived shift spaces of X and Y have to be less than the infinity, not than the empty set. The reviewer believes that the labeled graph G_p defined above Theorem 3.1. in p.103 should be not (G_p, L_{p-1}) but (G_p, L_p) as well. Also, in the statement of Lemma 3.7, the author needs to write the ‘right’ Fischer cover, not just the Fischer cover.	Now Theorem 3.10. Done! Done and tried!
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