



SDI Review Form 1.6

Journal Name:	British Journal of Mathematics & Computer Science
Manuscript Number:	2014_BJMCS_12020
Title of the Manuscript:	Model selection of stochastic simulation algorithm based on generalized divergence measures
Type of the Article	

General guideline for Peer Review process:

This journal's peer review policy states that **NO** manuscript should be rejected only on the basis of '**lack of Novelty**', provided the manuscript is scientifically robust and technically sound.

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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	This work proposes estimators of divergence measures to compare different simulation strategies. However, there are three major problems with this manuscript: (1) The author should accentuate his contributions on this manuscript because the strategy of constructing the estimators, as the author mentioned in Section 3.2, have already been proposed in previous works. (2) In Section 5, the author set the densities p_1^n from the IS strategy with proposal law $N(0,3)$, of which the mean is the same with that of the target distribution, while the other densities p_2^n with proposal law $N(-3,2)$. The author should explain the principles of selecting these densities, or the selection will not be general for other simulations. (3) In the application examples, most of the comparison of two simulation strategies are the comparison of RWMH with other methods, the	(1) Our paper proposes an extension of the work of Chauveau, D. and Vandekerckhove, P. (2007, 2012), from a generalization of the α-divergence measures ($R\alpha$, $T\alpha$, $D\alpha$) to compare stochastic simulation strategies (IS, RWMH, GS, AM, MWG). Our contribution does not lie on the construction of these α-divergence estimators. Rather we have used the estimators proposed by Poczos and Shneider (2011). (2) In this case we have used the IS strategy and $N(0,1)$ is the target law. We assume that we have two candidate proposal distributions: $N(0,3)$ and $N(-3,2)$. The principle is that, among these two proposal laws, we want to choose the most efficient. If p_{n1} and p_{n2} are respectively densities functions from IS with $N(0,3)$ and IS with $N(-3,2)$, now we compare divergence measures $D_2(p_{n1}, f)$ and $D_2(p_{n2}, f)$ with f the target density (more details in section 4.1.1) (3) The use of the RWMH strategy is choice among many others. The goal is to select, given two



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	author should also explain the validity of this comparison in detail. Overall, the novelty of the manuscript is poor unless the author makes some further work on the strategy of constructing the estimators, and the examples in the manuscript are not reasonable enough to show the performance of proposed estimators.	candidates strategies, what is the most efficient for a given problem The manuscript was substantially revised: the Abstract and the Introduction are rewritten and changed. The sections Estimators of divergence measure and Methodology (Section 2.2 and Section 2.3) have been modified with more explanations. The outline also has been slightly modified.
<u>Minor</u> REVISION comments		Outline also has been slightly modified.
<u>Optional/General</u> comments		