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Professor Strain,

Thank you very much for the reports on our paper “Randomized polynomial lattice rules for multivariate integration and simulation” (SISC manuscript no. 039378). We carefully read these reports, and we firmly believe that the contribution of our paper is significant enough to deserve publication in SISC. So, we are not giving up and we intend to submit a revised version that goes along the lines described below. We would appreciate getting your feedback on this plan, especially if you think this could suffice for making the paper publishable or not, before we go on.

Before giving you an outline of our revision plan, we would like to stress the following important fact: we read the two technical reports cited by one of the anonymous referees (Referee #2) to support his claim that our polynomial lattice rule construction has been introduced ten years ago. These two reports *do not* contain our general definition of polynomial lattice rule, but only a special case of it. Professor Harald Niederreiter is the author of one of these two reports and he explicitly acknowledged this fact to us. We would be more than happy if you would like to verify this claim with him. We believe that by pointing out very explicitly in the introduction of our paper how our construction generalizes those studied in these reports (and later work by Professor Niederreiter), any future confusion on this important point will be avoided. Please also note that in addition to this general definition, our paper introduces various properties of polynomial lattice rules not studied in these two technical reports, not even for the special case that was considered there.

We agree that the paper can significantly be shortened, in particular by following the suggestions of Referee #1. But we do not think that the length of the paper can be halved without removing important material. Moreover, the length will probably not be shortened at all if all the definitions, proofs, and numerical experiments suggested by Referee #1 are added. Also, to respond to some of the criticisms of Referee #1, we would like to mention that our decision of removing most of the proofs from the paper had been motivated by an email communication with the SISC Editor-in-Chief, Professor Howard Elman, who asked us to cut down the length of our paper before it could be considered for publication, and said that removing the proofs from the published version could be appropriate (see the attached copy of our e-mail exchange).

We now give the main points of our revision plan:

- Make most of the revisions suggested by Referee # 1.

- In particular, significantly shorten the introduction, but as discussed above, clearly explain in it how our construction generalizes previous constructions.
- Reorganize and shorten Section 4; in particular, remove Section 4.2 on direct sums and replace it by a short discussion.
- Discuss only in one place how polynomial lattice rules can be implemented by using Tausworthe generators.
- Include all important proofs; less important proofs can be included if there is enough space, and a detailed version of the paper with all the proofs will be published as a technical report.

With best regards,

Christiane Lemieux