



Mathematics > Probability

# Fluctuation bounds in the exponential bricklayers process

Márton Balázs (1), Júlia Komjáthy (1), Timo Seppäläinen (2) ((1) Budapest Univ. of Techn. and Econ., (2) University of Wisconsin-Madison)

(Submitted on 24 Jul 2011 (v1), last revised 7 Apr 2012 (this version, v2))

This paper is the continuation of our earlier paper, where we proved  $t^{1/3}$ -order of current fluctuations across the characteristics in a class of one dimensional interacting systems with one conserved quantity. We also claimed two models with concave hydrodynamic flux which satisfied the assumptions which made our proof work. In the present note we show that the totally asymmetric exponential bricklayers process also satisfies these assumptions. Hence this is the first example with convex hydrodynamics of a model with  $t^{1/3}$ -order current fluctuations across the characteristics. As such, it further supports the idea of universality regarding this scaling.

Comments: 34 pages, revised version after referees comments, accepted at JSP. A few explanations added, some proofs shortened in the Appendix

Subjects: **Probability (math.PR)**

MSC classes: 60K35, 82C22

Journal reference: Journal of Statistical Physics; Volume 147, Number 1 (2012), 35-62

DOI: [10.1007/s10955-012-0470-5](https://doi.org/10.1007/s10955-012-0470-5)

Cite as: [arXiv:1107.4752](https://arxiv.org/abs/1107.4752) [math.PR]  
(or [arXiv:1107.4752v2](https://arxiv.org/abs/1107.4752v2) [math.PR] for this version)

## Submission history

From: Marton Balazs [[view email](#)]

[v1] Sun, 24 Jul 2011 12:38:18 GMT (28kb)

[v2] Sat, 7 Apr 2012 07:37:55 GMT (28kb)

[Which authors of this paper are endorsers?](#)

## Download:

- [PDF](#)
- [PostScript](#)
- [Other formats](#)

Current browse context:

math.PR

[< prev](#) | [next >](#)

[new](#) | [recent](#) | [1107](#)

Change to browse by:

[math](#)

## References & Citations

- [NASA ADS](#)

Bookmark([what is this?](#))

