



A simple variance inequality for U-statistics of a Markov chain with applications

Gersende Fort (LTCI), Eric Moulines (LTCI), Pierre Priouret (LPMA), Pierre Vandekerkhove (LAMA)

(Submitted on 13 Jul 2011)

We establish a simple variance inequality for U-statistics whose underlying sequence of random variables is an ergodic Markov Chain. The constants in this inequality are explicit and depend on computable bounds on the mixing rate of the Markov Chain. We apply this result to derive the strong law of large number for U-statistics of a Markov Chain under conditions which are close from being optimal.

Subjects: **Statistics Theory (math.ST)**

Cite as: **arXiv:1107.2576 [math.ST]**

(or **arXiv:1107.2576v1 [math.ST]** for this version)

Submission history

From: Gersende Fort [[view email](#)]

[v1] Wed, 13 Jul 2011 15:21:55 GMT (20kb)

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

Download:

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

Current browse context:

math.ST

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

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

Change to browse by:

[math](#)

[stat](#)

References & Citations

- [NASA ADS](#)

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

