

ATELIER « COMBINATOIRE, RANDOMISATION, ALGORITHMES ET PROBABILITÉS »  
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## Markov Chain Coupling for Stochastic Domination of Order Statistics

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For the order statistics  $(X(1 : n), X(2 : n), \dots, X(n : n))$  of a collection of independent, not necessarily identically distributed random variables and for any  $i \in [n]$ , the conditional distribution  $(X(i + 1 : n), \dots, X(n : n) \mid X(i : n) > s)$  is shown to be stochastically increasing in  $s$  using a coupling of Markov chains.