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Title:	Interacting Urn Models
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Abstract:	We study interacting two-color urn models. We consider N interacting two- colour P´olya and/or Friedman urns. Each urn i assigns a weight vector $\tilde{p}_i$ to all the other urns. At each time step, all the urns are updated simultane- ously according to the Friedman scheme (or the P´olya scheme) such that the reinforcement probabilities for a given color in urn i depend on the vector $\tilde{p}_i$ and the fraction of balls of that color across all the N urns. An interesting characteristic in study of the interacting urn models of these kinds is the possibility of synchronization (common limiting distribution of the fraction of balls of each color) of all the urns as $t \to \infty$. We obtain expressions for the rate of synchronization in our model. We also use stochastic approxima- tion and stable convergence techniques to further study our model and prove fluctuation results.
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