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# DPPs everywhere: repulsive point processes for Monte Carlo integration and machine learning

Rémi Bardenet\*<sup>1,2</sup>

<sup>1</sup>CNRS – CNRS, CNRS : UMR8568, CNRS, CNRS : UMR6074, CNRS, CNRS : UMR5593, CNRS : ERL3189, CNRS : UMR7104, CNRS : UMR5244, CNRS : UMR2205, CNRS : UPR8241, CNRS, CNRS : UMR5554, CNRS : UMR5274, CNRS : UMR5493, CNRS : UMR7199, CNRS : UMR8184, CNRS : UMR7141, CNRS : UMR5251, CNRS : UMRTemps8066, CNRS : FR550, CNRS : UMR5127, CNRS : UMRSETEMoulis, CNRS : UMR9189 – France

<sup>2</sup>Centre de Recherche en Informatique, Signal et Automatique de Lille (CRIStAL) - UMR 9189 – Ecole Centrale de Lille, Institut National de Recherche en Informatique et en Automatique, Institut Mines-Télécom [Paris], Université de Lille, Centre National de la Recherche Scientifique : UMR9189, CNRS : UMR9189 – France

## Résumé

Determinantal point processes (DPPs) are specific repulsive point processes, which were introduced in the 1970s by Macchi to model fermion beams in quantum optics. More recently, they have been studied as models and sampling tools by statisticians and machine learners. Important statistical quantities associated to DPPs have geometric and algebraic interpretations, which makes them a fun object to study and a powerful algorithmic building block. After a quick introduction to determinantal point processes, I will discuss some of our recent statistical applications of DPPs in statistical sampling tasks.

**Mots-Clés:** processus ponctuels

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\*Intervenant