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Topics in mathematical and applied statistics

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List of papers

The first five chapters of this thesis consist of the papers listed below, with minor changes to the references.

Chapter 1:
van der Pas, S.L., Kleijn, B.J.K. and van der Vaart, A.W. (2014), The horseshoe estimator: posterior concentration around nearly black vectors, *Electronic Journal of Statistics* **8**, 2585–2618.

Chapter 2:
van der Pas, S.L., Salomond, J.-B. and Schmidt-Hieber, J. (2016), Conditions for posterior contraction in the sparse normal means problem, *Electronic Journal of Statistics* **10**, 976–1000.

Chapter 3:
van der Pas, S., Szabó B. and van der Vaart, A., How many needles in the haystack? Adaptive inference and uncertainty quantification for the horseshoe. *Submitted.*

Chapter 4:
van der Pas, S.L. and van der Vaart, A.W., Bayesian community detection. *Submitted.*

Chapter 5:
van der Pas, S. and Grünwald, P., Almost the best of three worlds: risk, consistency and optional stopping for the switch criterion in nested model selection. To appear in *Statistica Sinica.*

The sixth chapter is based on material from the following two unpublished papers.

Chapter 6:
van der Pas, S.L., Nelissen, R.G.H.H. and Fiocco, M., Staged bilateral total joint arthroplasty patients in registries. Immortal time bias and methodological options. *Submitted.*

van der Pas, S.L., Nelissen, R.G.H.H., Schreurs, B.W. and Fiocco, M., Risk factors for early revision after unilateral and staged bilateral total hip replacement in the Dutch Arthroplasty Register. *In preparation.*