Literature Review Notes

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Sequential Monte Carlo

Gordon et al. (1993)
Original reference for SMC.

Kitagawa (1996)
Nice introduction to SMC. Review of other non-linear filtering techniques: extensions to Kalman filtering.

Del Moral (2013)
Loads of rigorous results about SMC e.g. convergence, rates, CLTs.

Doucet and Johansen (2011)
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Andrieu et al. (2010)
Introduces particle MCMC methods, including particle Gibbs with conditional SMC.

Resampling

Kitagawa (1996)
Comparison of multinomial, stratified & systematic resampling. And the effect of pre-sorting. [in appendix]

Douc et al. (2005)
Comparison of Monte Carlo variance between multinomial, res-mn, stratified, systematic. CLTs for resampled particles.

Lee et al. (2019)
Implementation of low-variance resampling within conditional SMC.

Murray et al. (2016)
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Whitley (1994)
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Gerber et al. (2019)
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Li et al. (2020)
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Del Moral et al. (2012)
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Backward Smoothing Methods

Kitagawa (1996)
Some solutions to ancestral degeneracy: fixed lag smoother, forward-backward-type algorithm.

Doucet and Johansen (2011)
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Lindsten et al. (2013)
A whole book on backward simulation. [Chapter 5] describes backward simulation and ancestor sampling in particle MCMC.

Andrieu et al. (2010)
Nick Whiteley describes (briefly!) the idea of ancestor sampling in particle MCMC [see Nick's comment in discussion].

Convergence of Genealogies

Möhle (1998)
Necessary & sufficient conditions for convergence of Cannings model to a coalescent process more general than Kingman. Allowing large mergers but not simultaneous mergers.

Möhle et al. (2001)
Even more general result than Möhle (1998), giving necessary & sufficient conditions for convergence to a process allowing large and simultaneous mergers. I hope to adapt this result to prove necessity of our Theorem 1 conditions.

Möhle (1999)
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SMC Genealogies

Jacob et al. (2015)
Description of ancestries as trunk+crown. Upper bound on storage cost via an approximate multinomial resampling scheme that is independent of weights. Numerical simulations suggesting similar results for stratified and systematic resampling (including an ordering on the schemes?).

Koskela et al. (2018)
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Variance Estimation

Chan et al. (2013)
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Lee and Whiteley (2018)
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Olsson et al. (2019)
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