

general HMM for multi-parent populations

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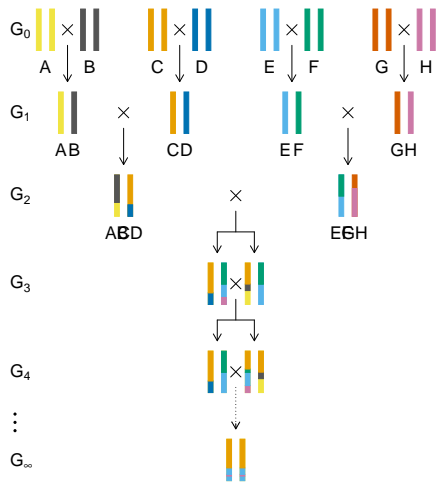
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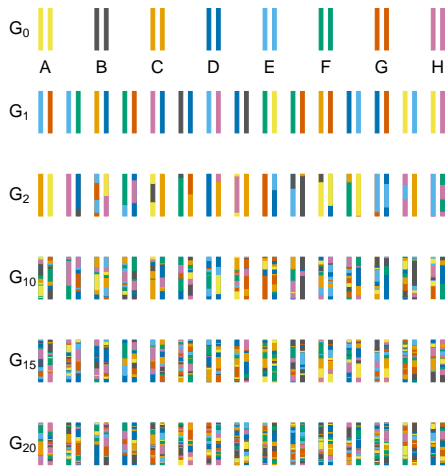
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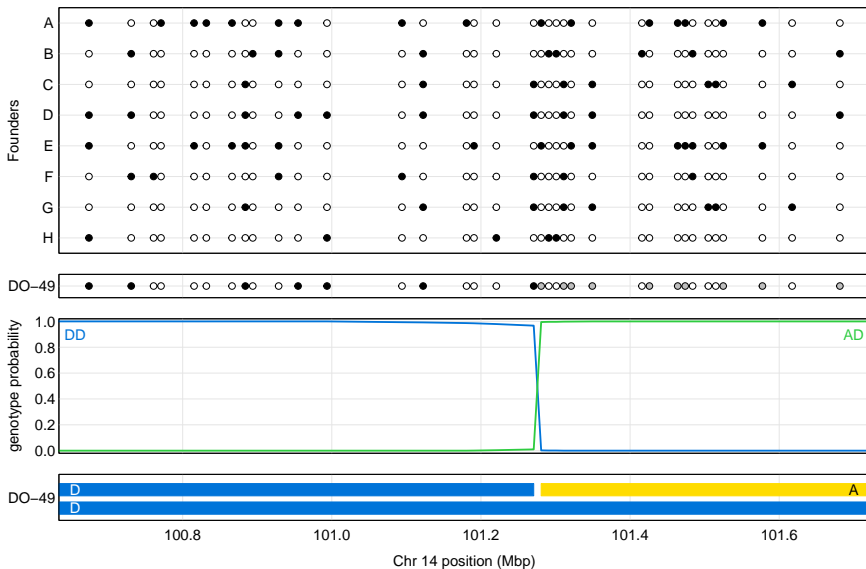
Recombinant Inbred Lines



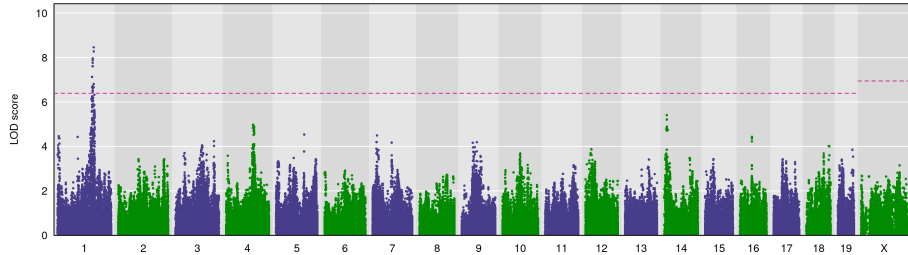
Advanced Intercross Population



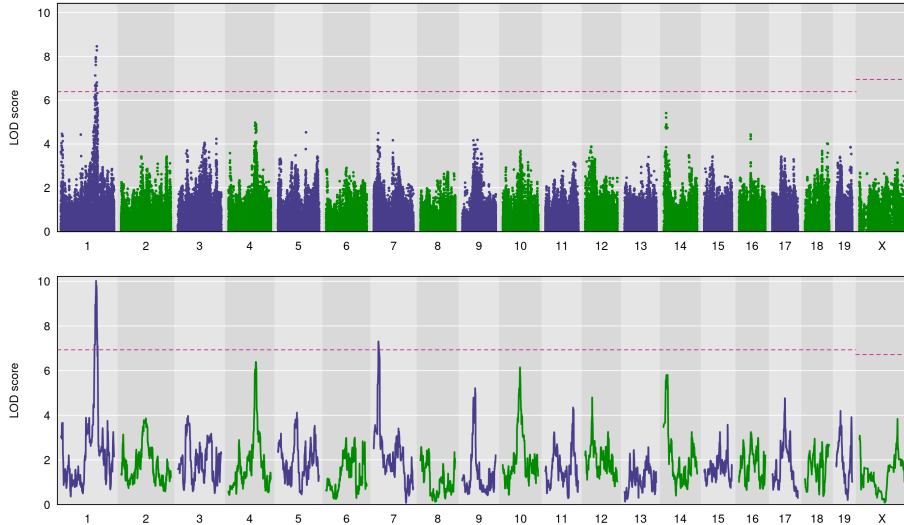
Genome reconstruction



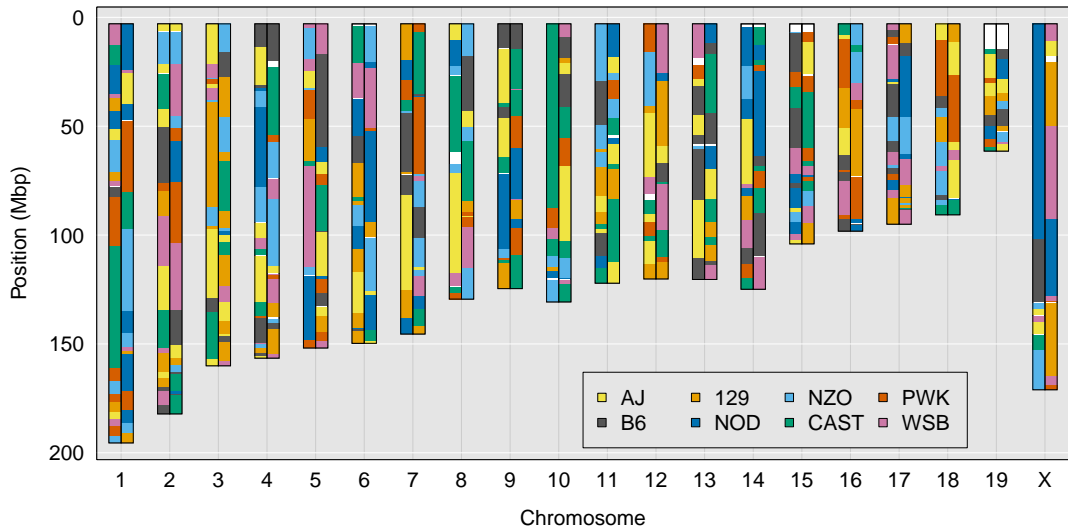
QTL genome scan



QTL genome scan



DO genome



Hidden Markov model

Exact probabilities

Generic model

Genome expansion

DO application

X chr in CC

X chr reconstruction

Summary

- ▶ Generic model for genome reconstruction in multi-parent populations
- ▶ Specific relative proportions of founders + effective number of generations of random mating
- ▶ Basic conclusion: **HAPPY is effective**
- ▶ bioRxiv manuscript: doi.org/gswx

Slides: kbroman.org/Talk_GeneralHMM



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