Discussion of 'Sparse graphs using exchangeable random measures' by F. Caron and E. B. Fox

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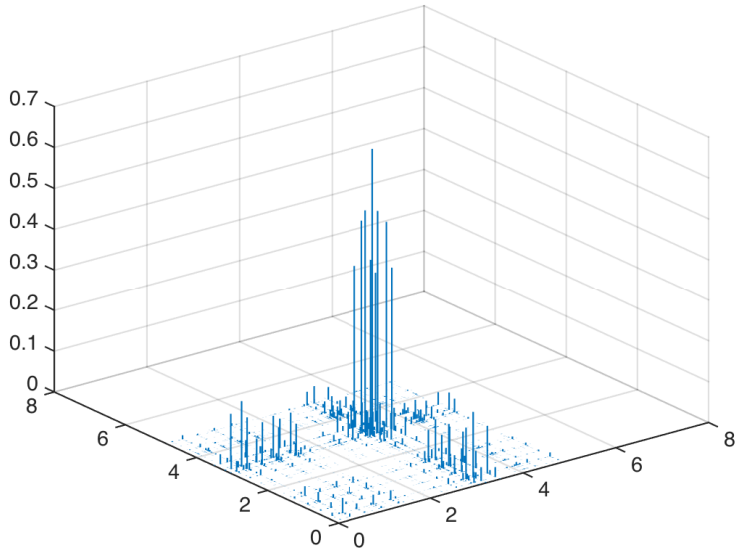
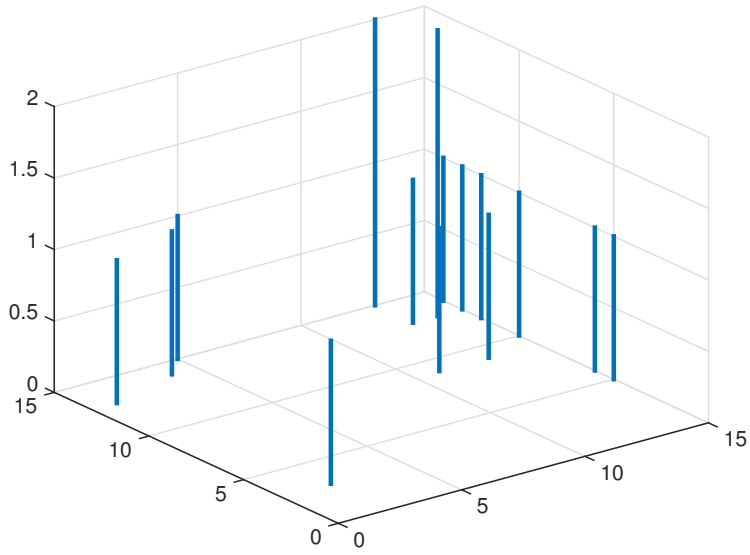
Exchangeable random measure

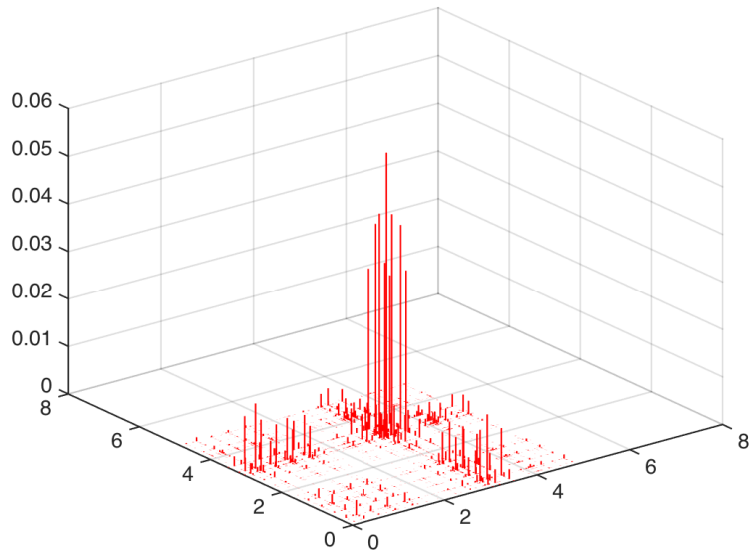
$D_\alpha \sim \mathrm{CRM}(\rho, \lambda_\alpha)$

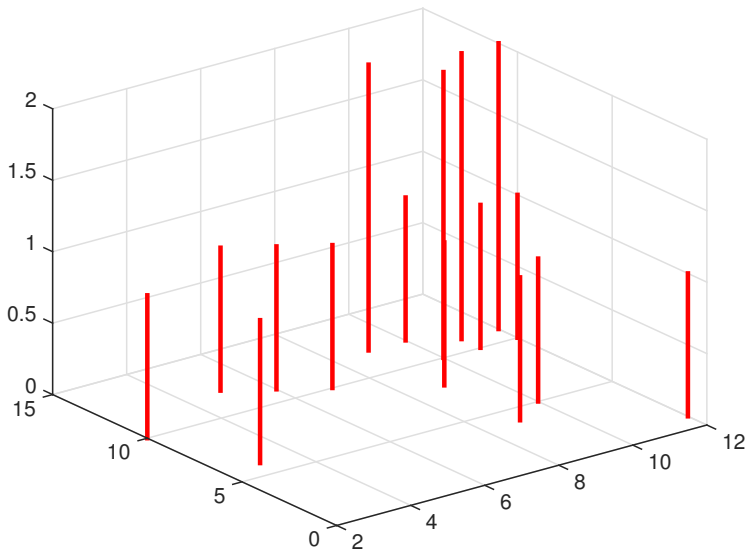




Edge exchangeable

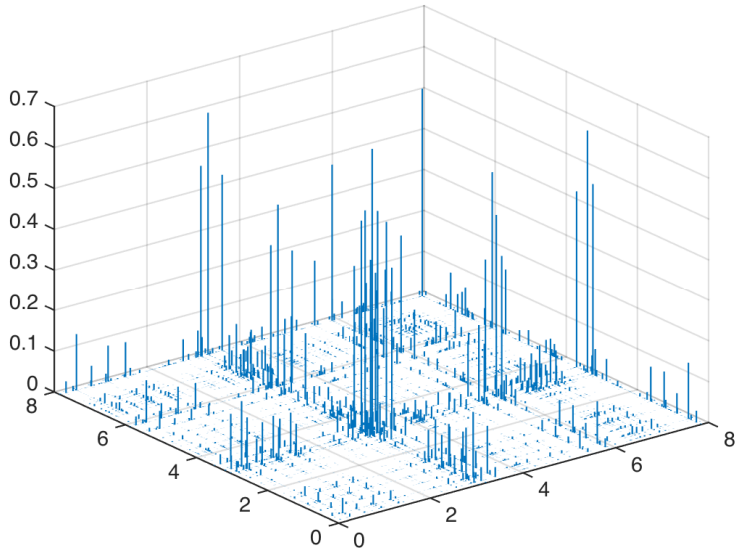
$\mathcal{E}_{D^*_\alpha} \sim \mathrm{NCRM}(\rho, \lambda_\alpha)$

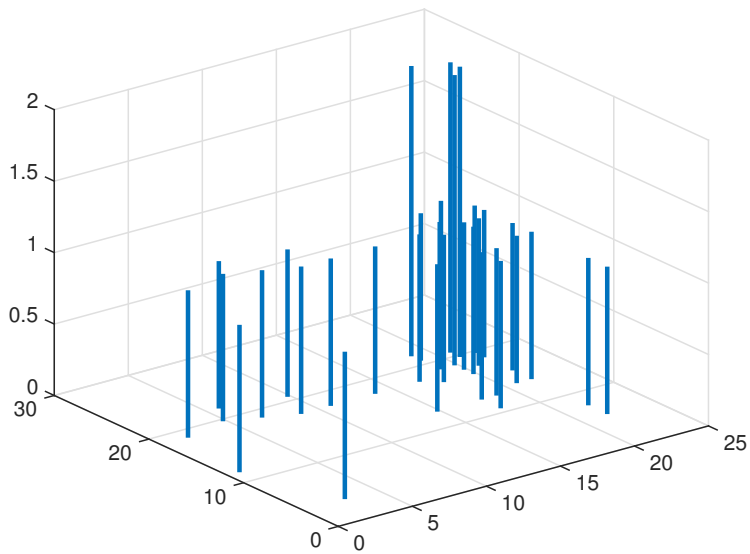




Exchangeable random measure

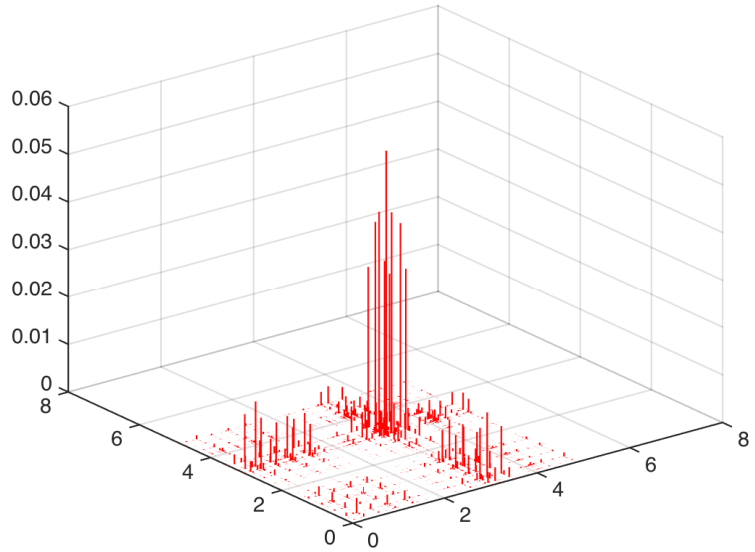
$$D_{\alpha+\epsilon} \mid D_\alpha \sim \mathrm{CRM}(\rho, \lambda_{[\alpha,\alpha+\epsilon]})$$

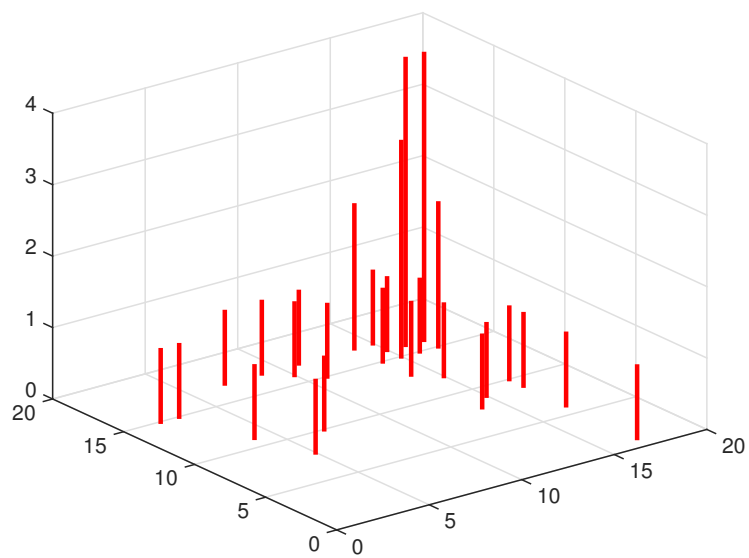




Edge exchangeable

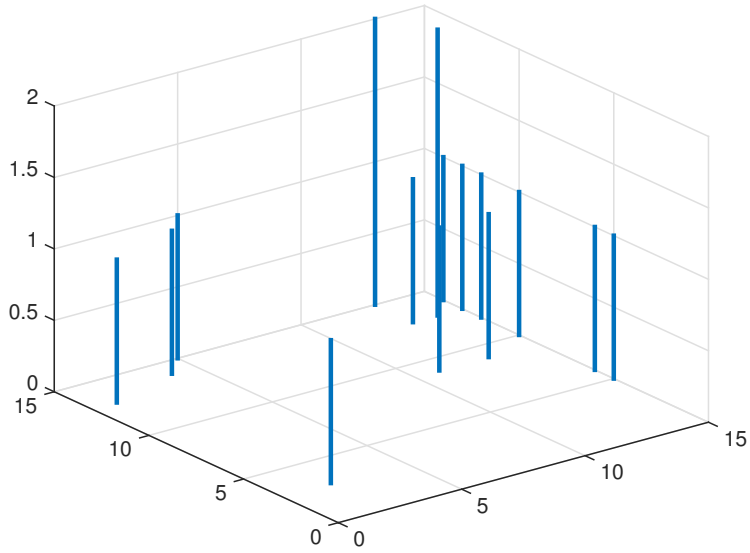
$$\mathcal{E}_{D^*_{\alpha+\epsilon}} \mid \mathcal{E}_{D^*_\alpha} \sim \mathrm{NCRM}(\rho, \lambda_\alpha)$$

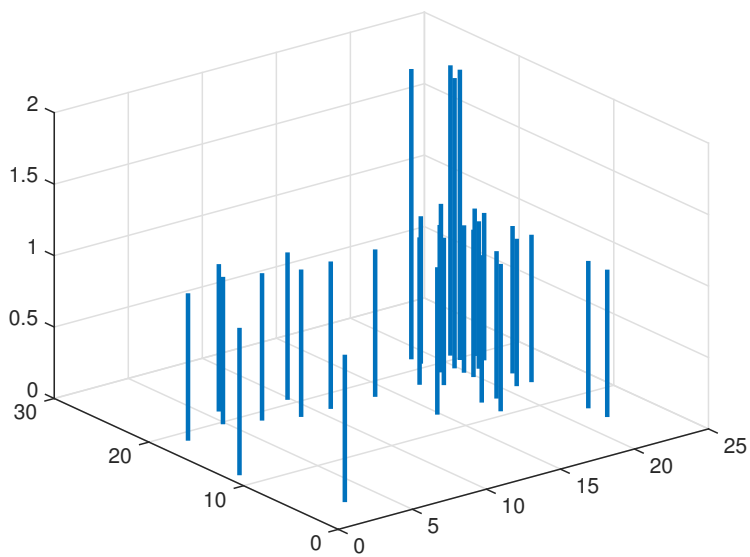




Exchangeable random measure

$$D_{\alpha+\epsilon} \mid D_\alpha \sim \mathrm{CRM}(\rho, \lambda_{[\alpha,\alpha+\epsilon]})$$





Edge exchangeable

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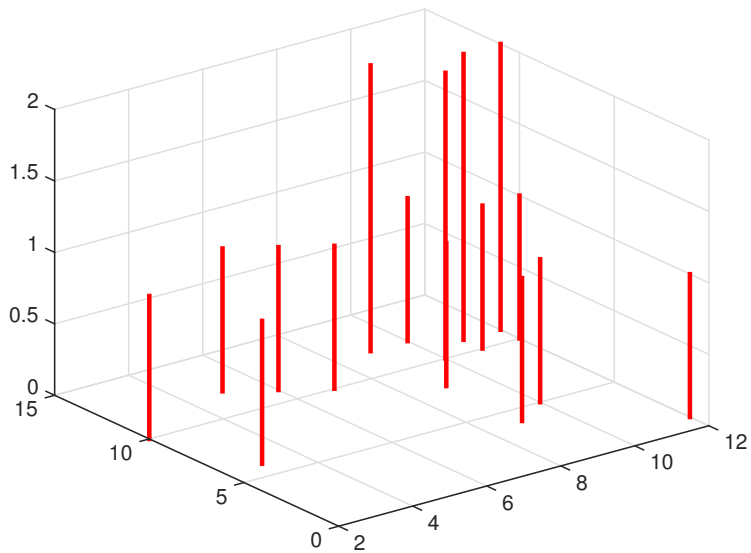

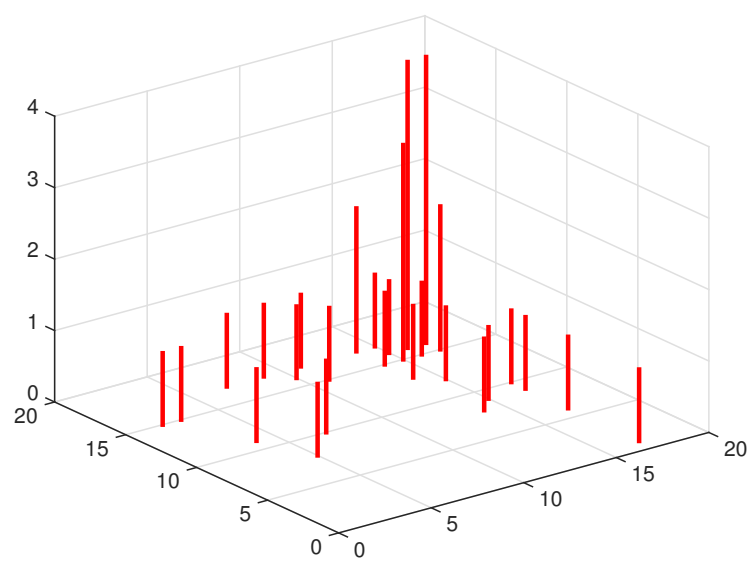

Exchangeable random measure

- Growth: by a random number of edges and vertices as α increases.
- Population of possible edges: grows with α.
- Inserts **no** additional edges between observed vertices w.p. 1.
- Caron and Fox (2017), Veitch and Roy (2015, 2016), Borgs et al. (2016), Janson (2016).

Edge exchangeable

- Growth: one edge at a time.
- Population of possible edges: fixed (possibly infinite).
- Inserts additional edges between observed vertices w.p. 1.
- Crane and Dempsey (2015, 2016), Williamson (2016), Cai et al. (2016), Janson (2017)

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