PFLOCK Report

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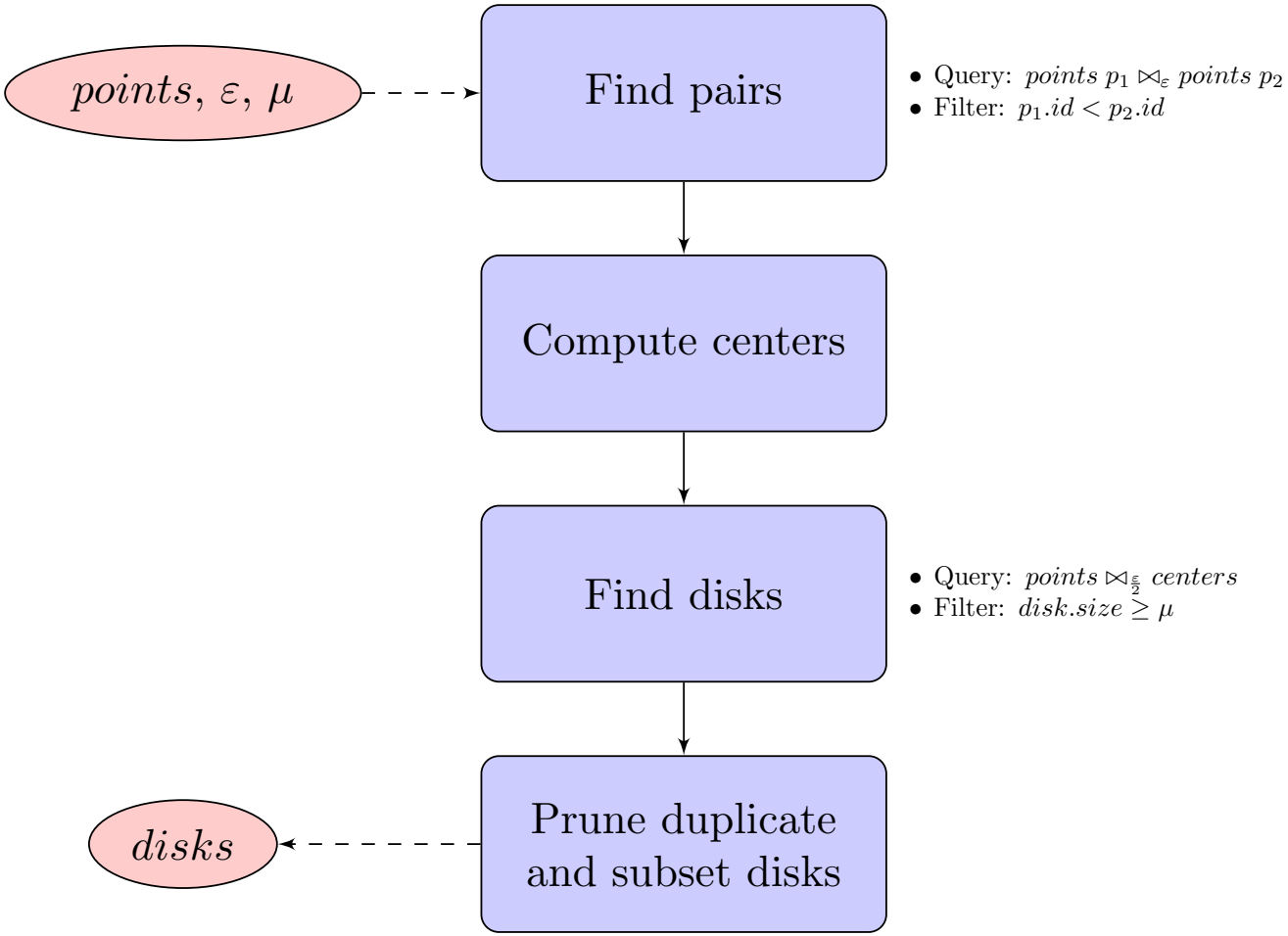
University of California, Riverside

September 28, 2023

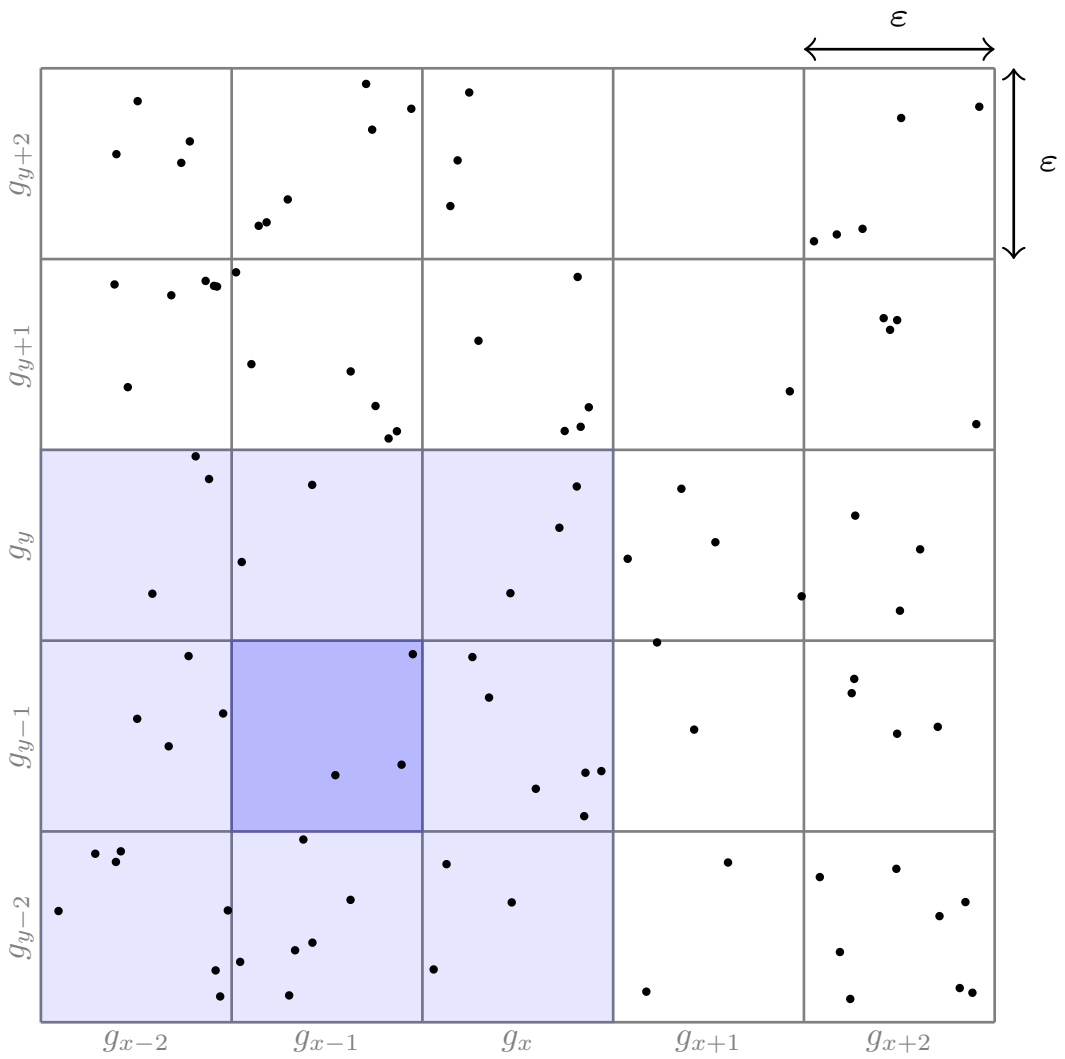
On the spatial domain

BFE overview...



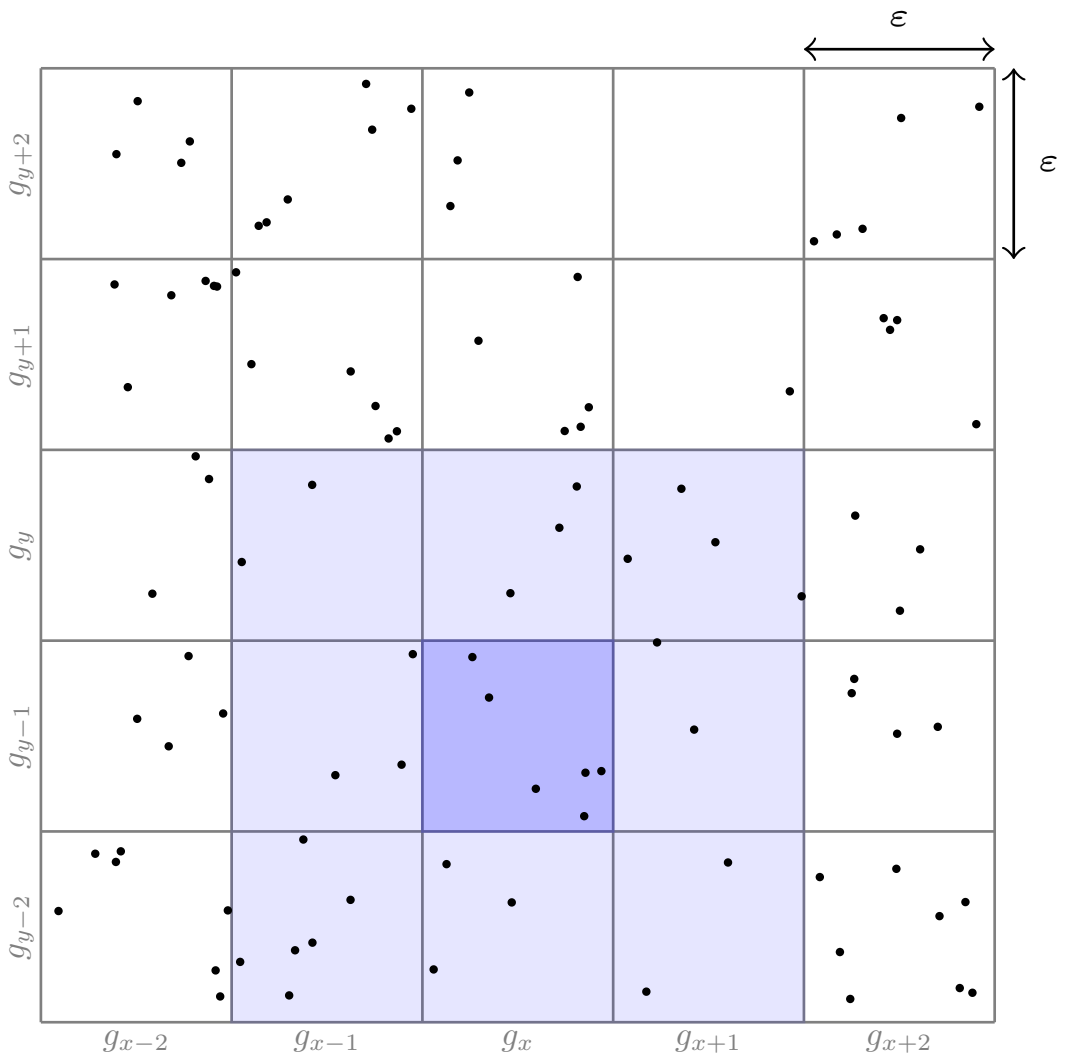
On the spatial domain

BFE overview...



On the spatial domain

BFE overview...



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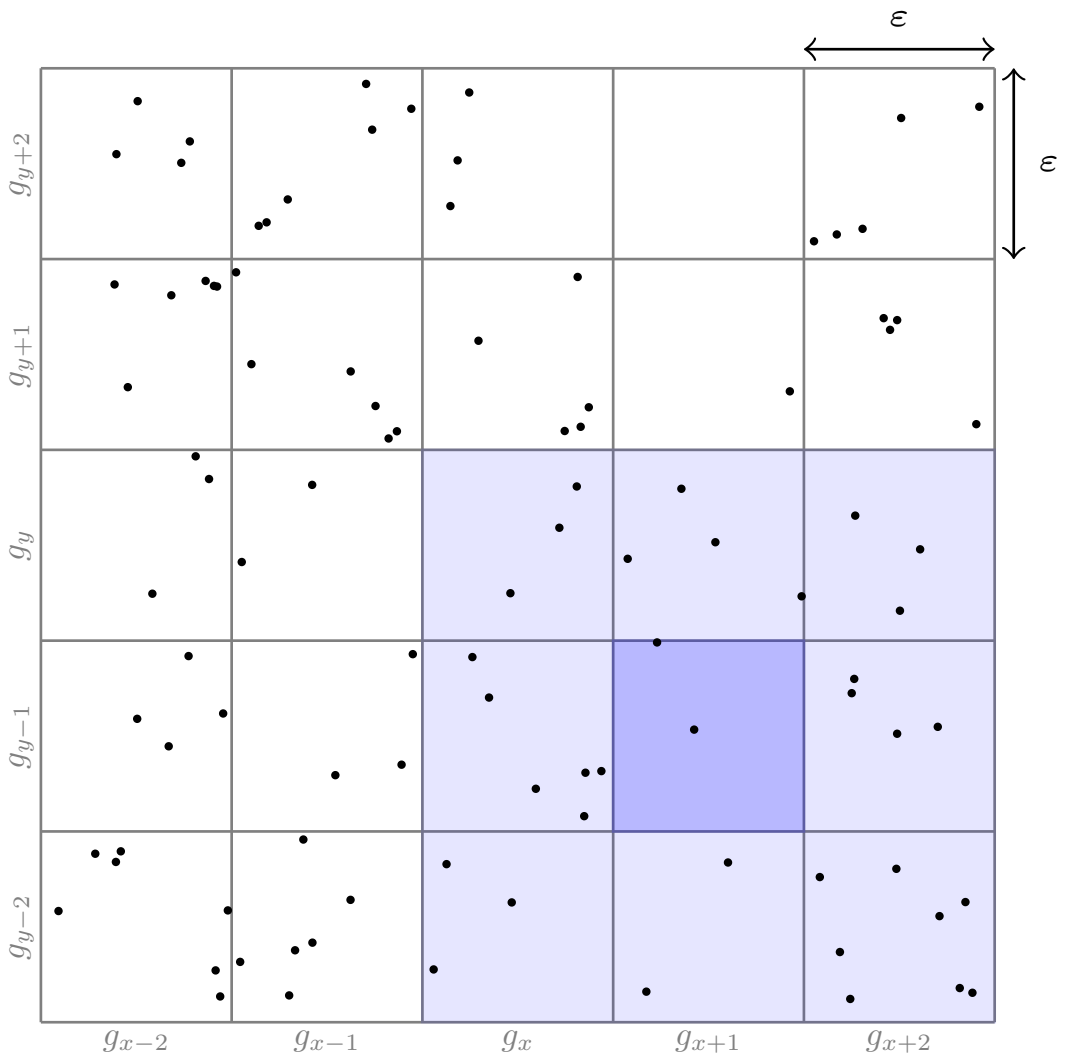
BFE overview...



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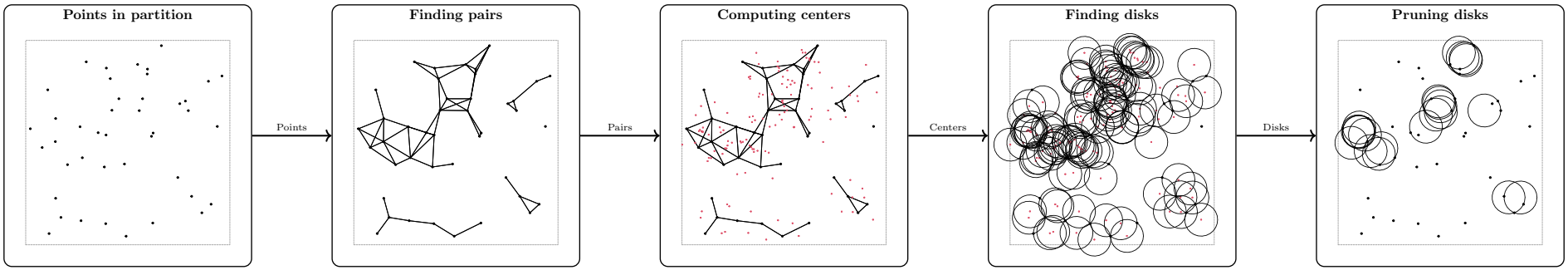
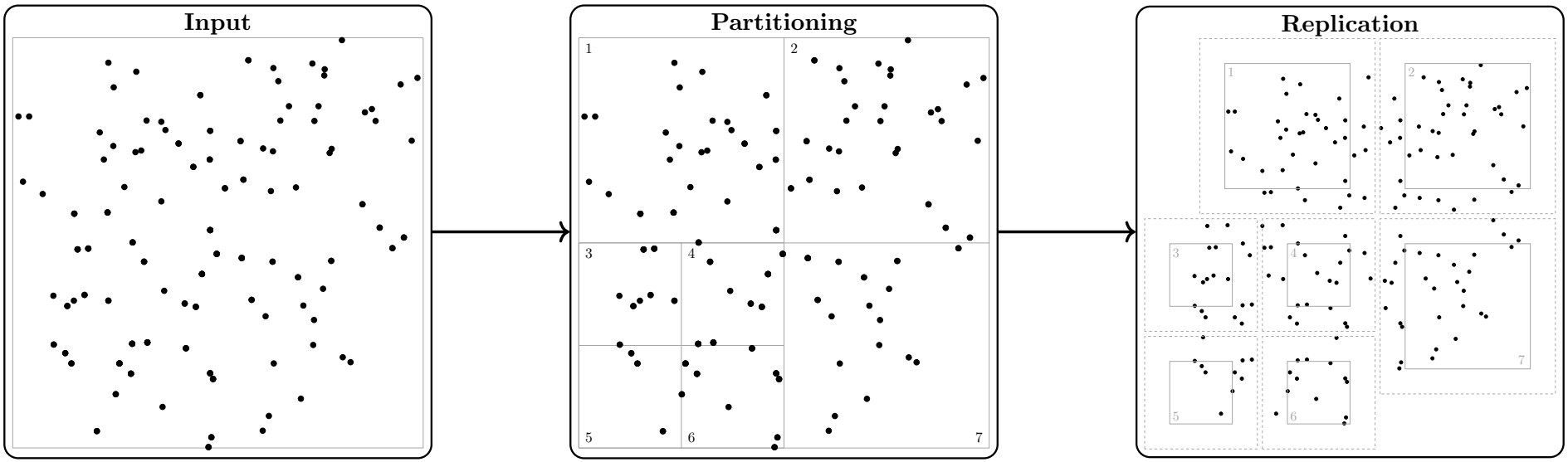
BFE overview...



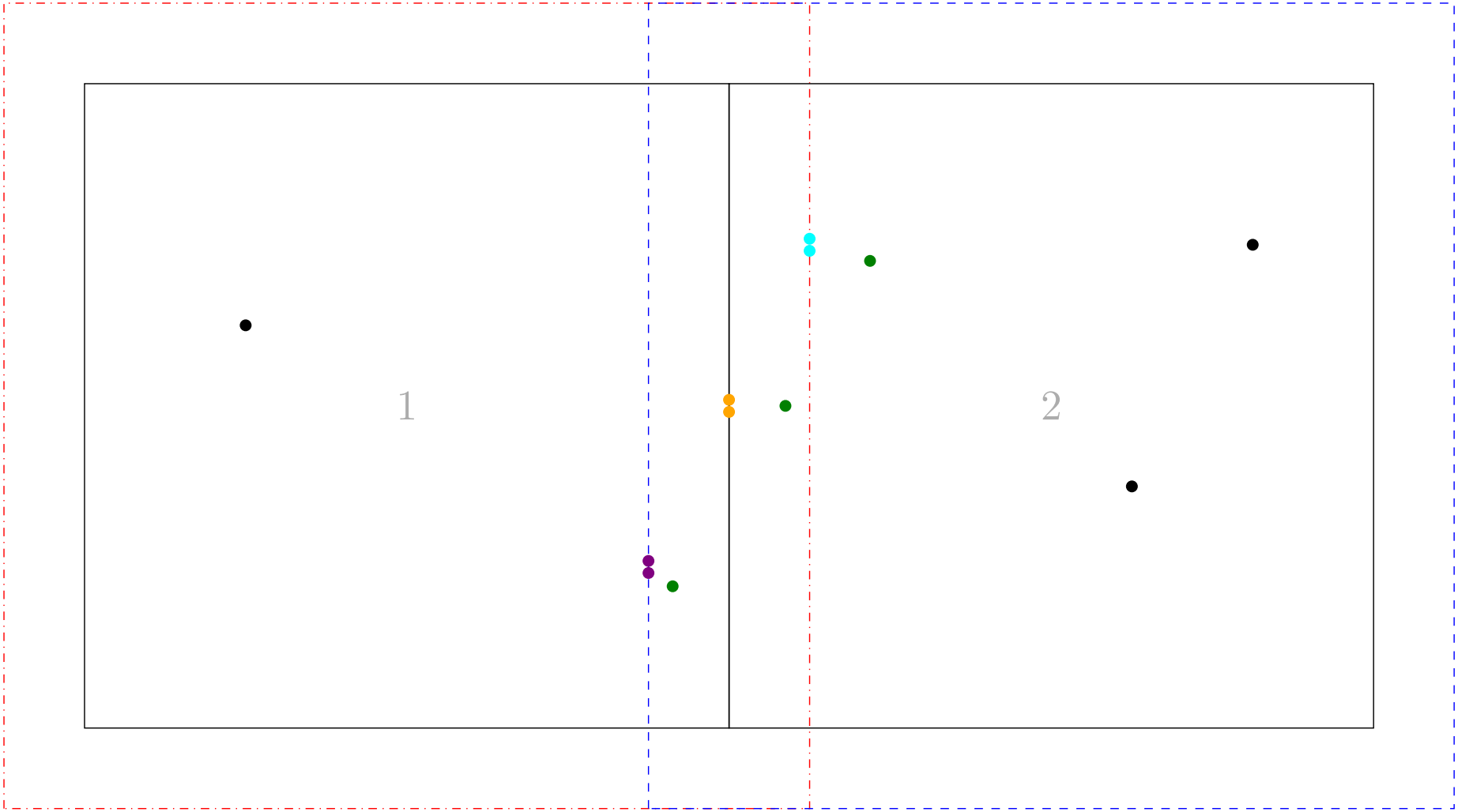
On the spatial domain

Parallel overview...



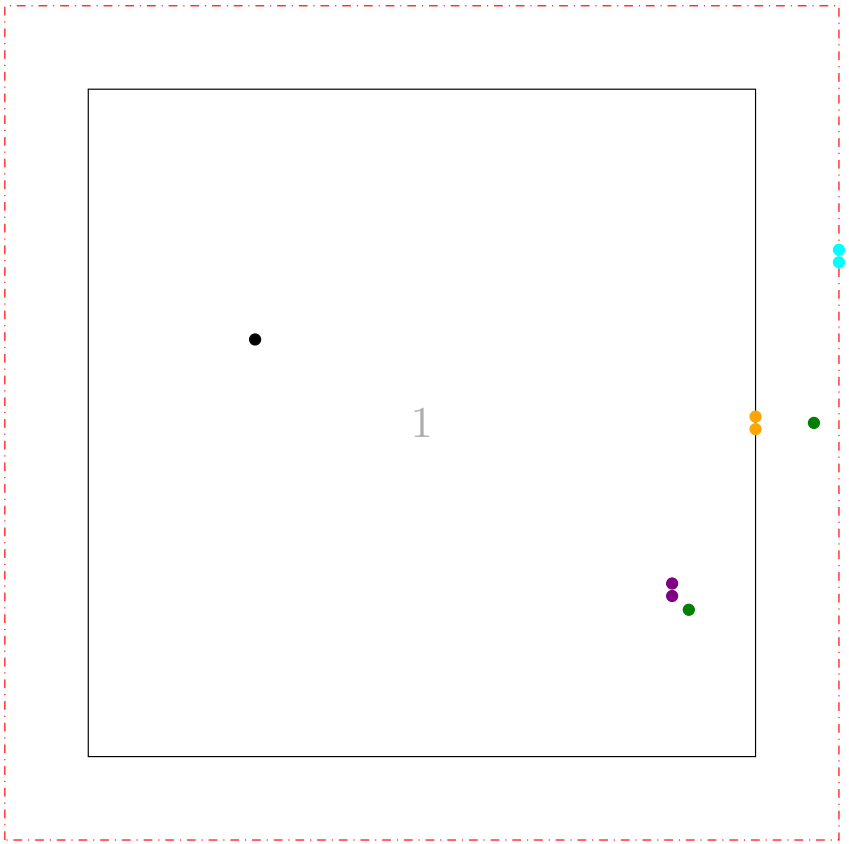
On the spatial domain

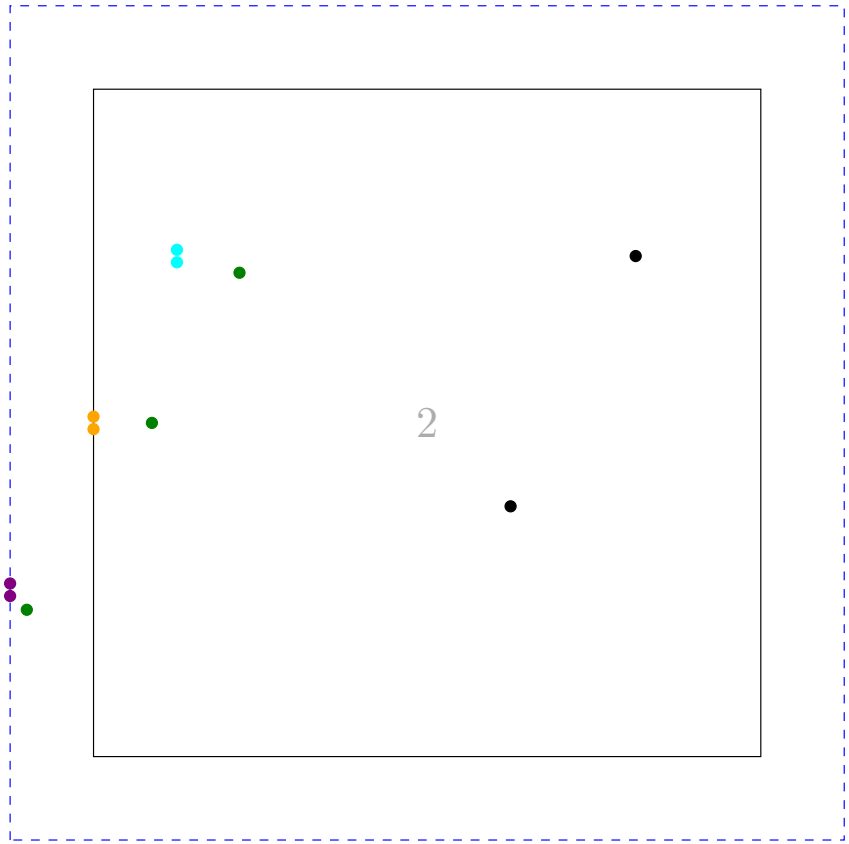
Parallel overview...



On the spatial domain

Parallel overview...





On the spatial domain

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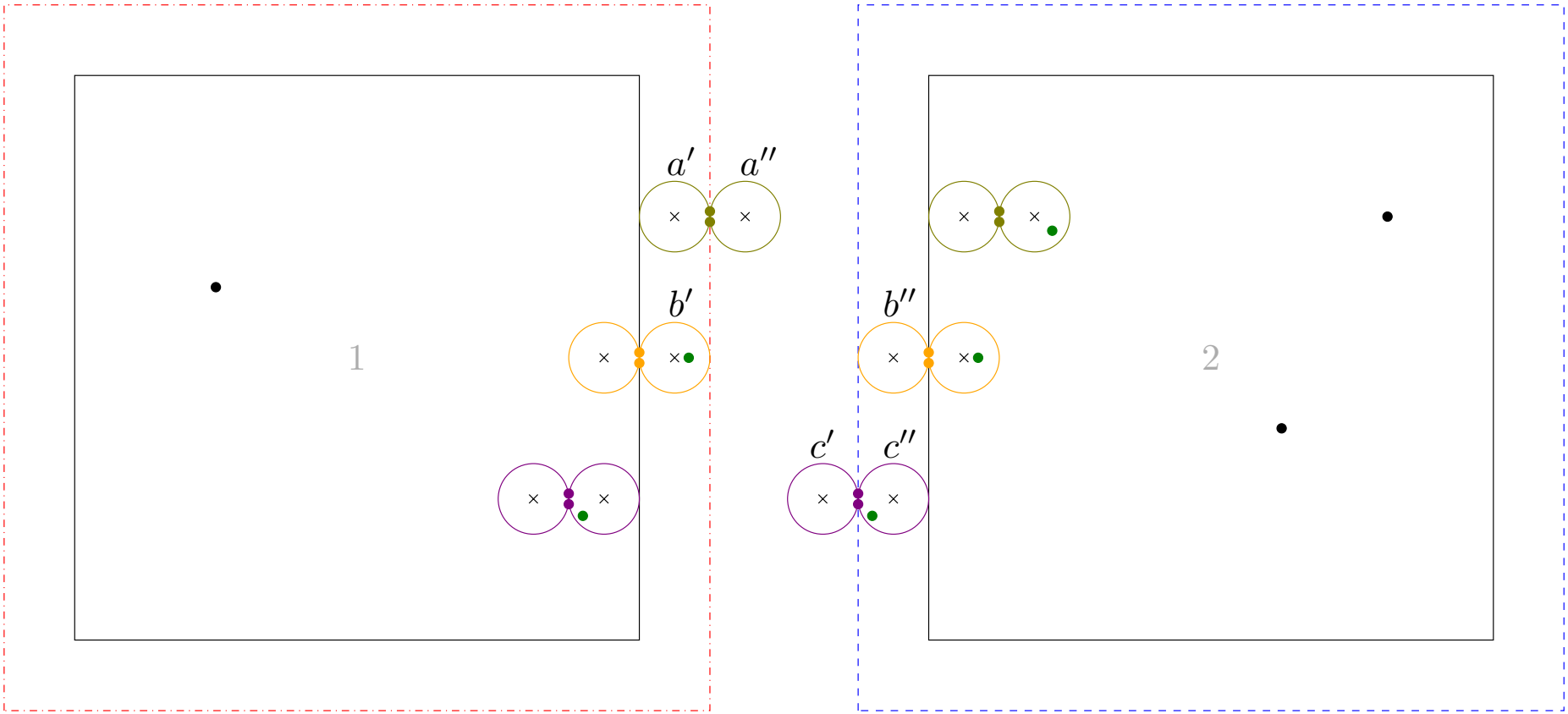

On the spatial domain

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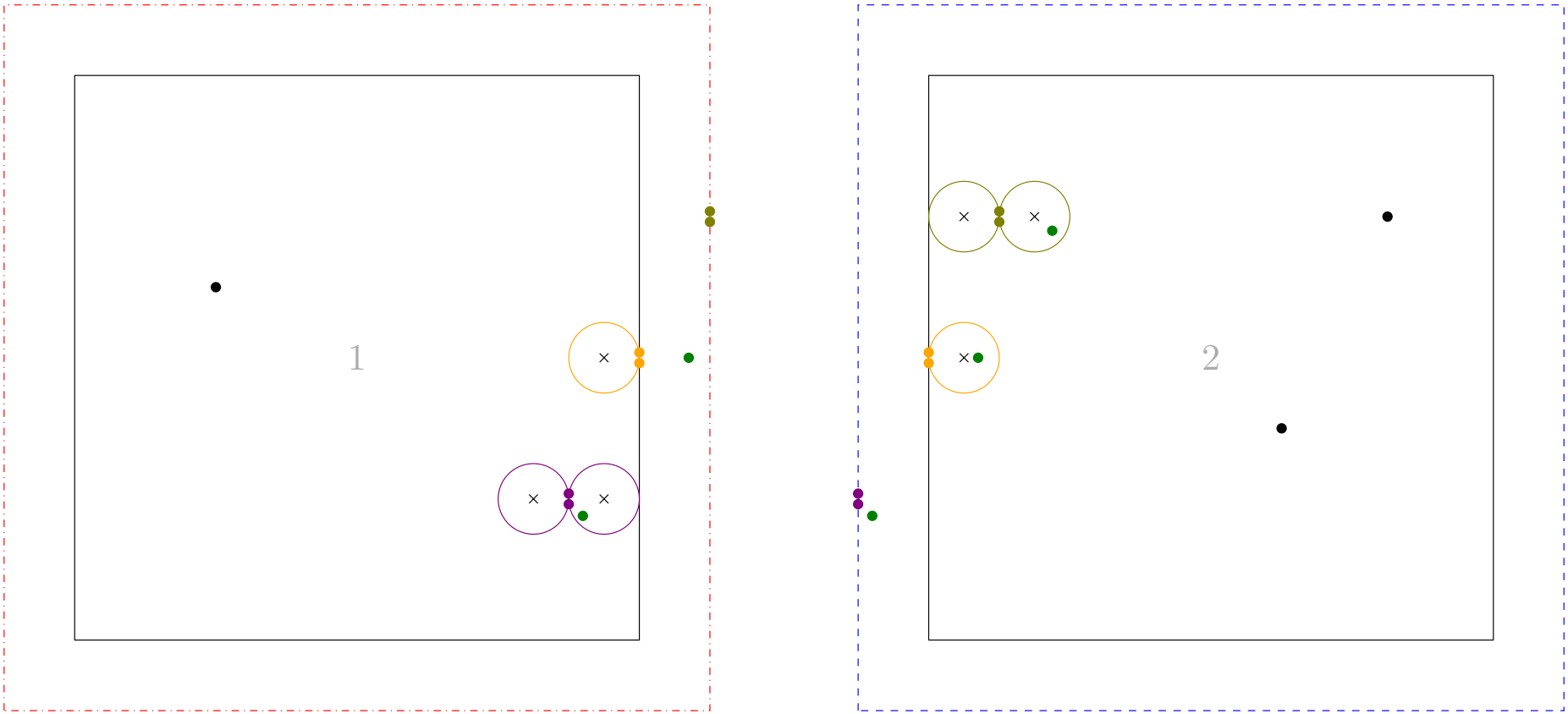
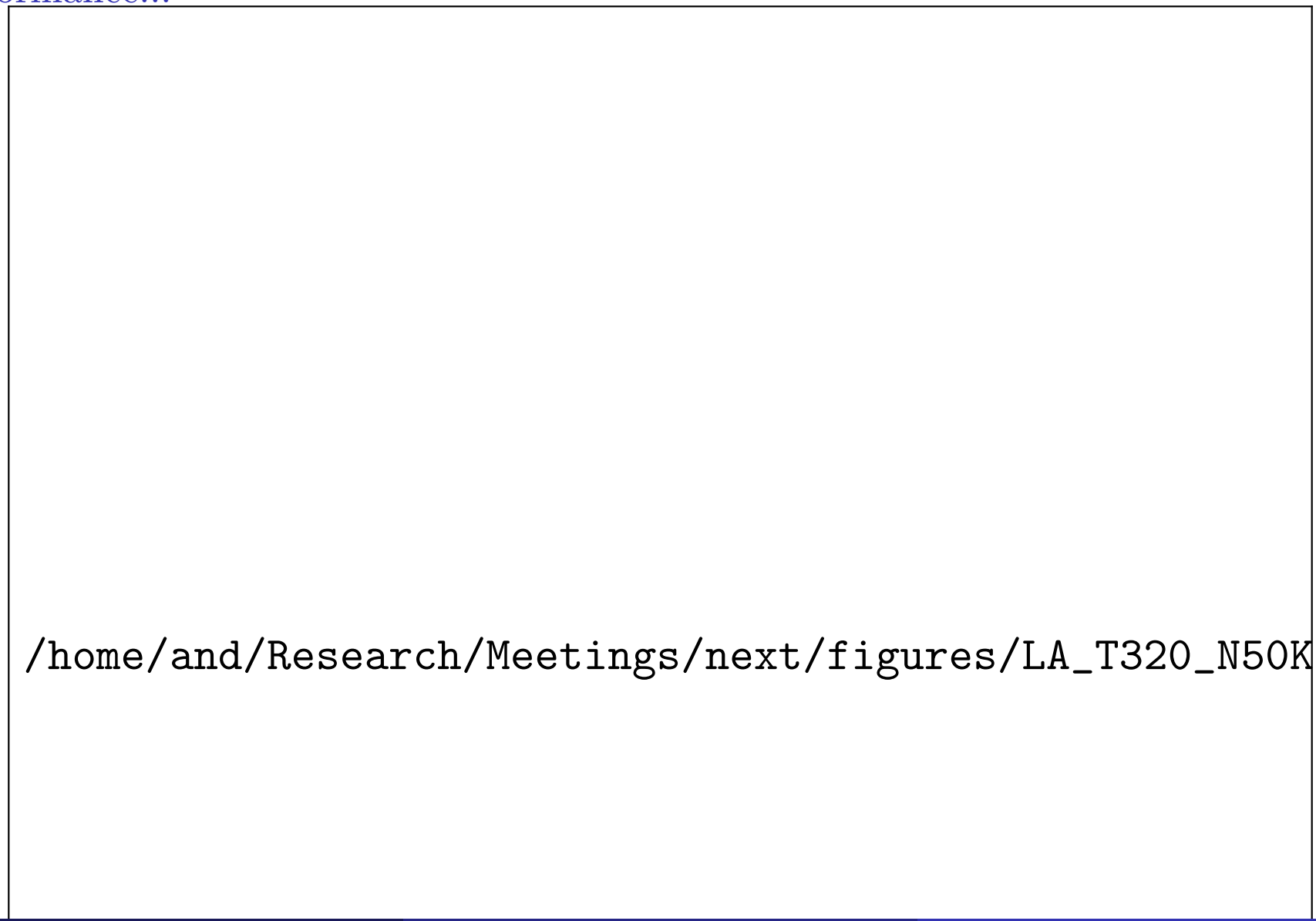


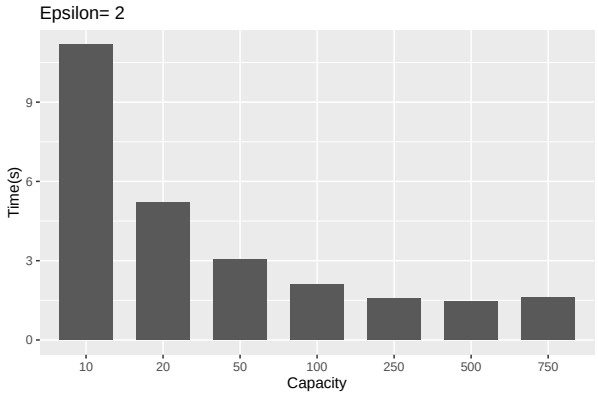
On the spatial domain

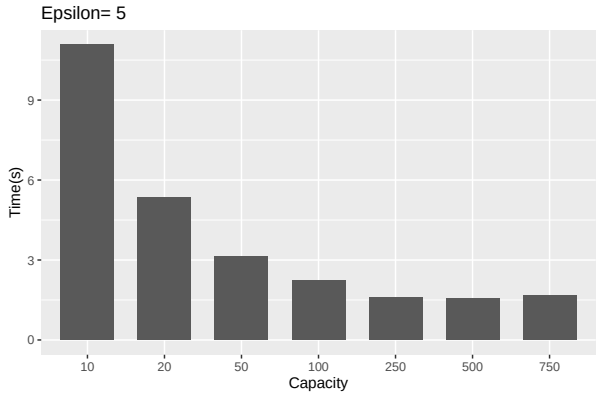
Performance...

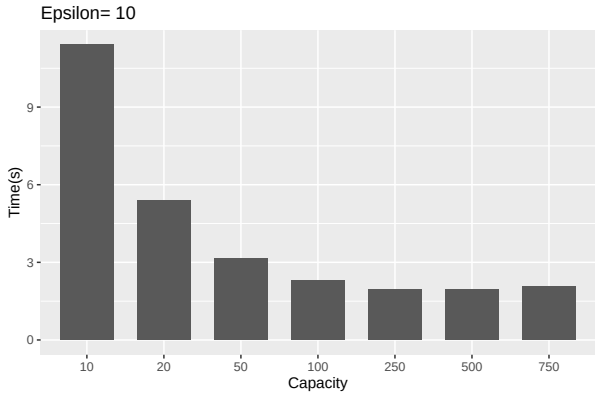


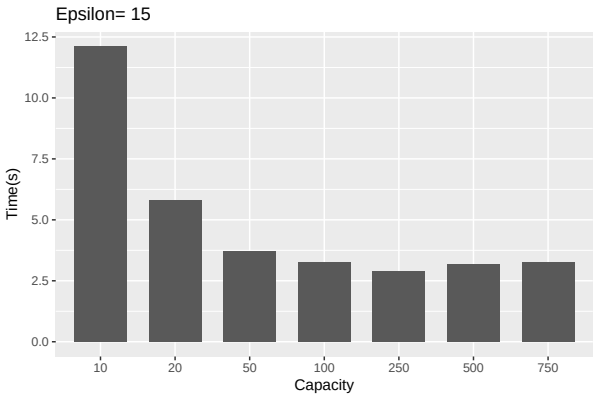
On the spatial domain

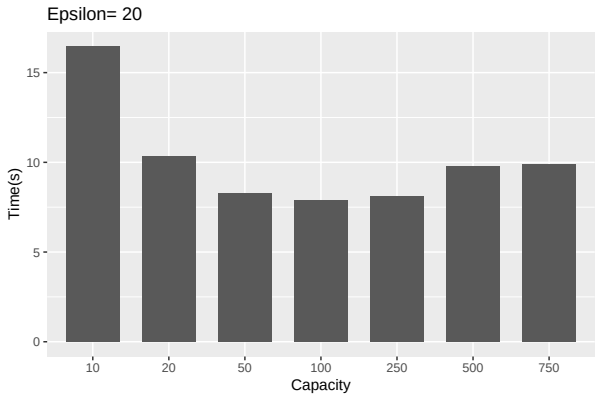
Performance...





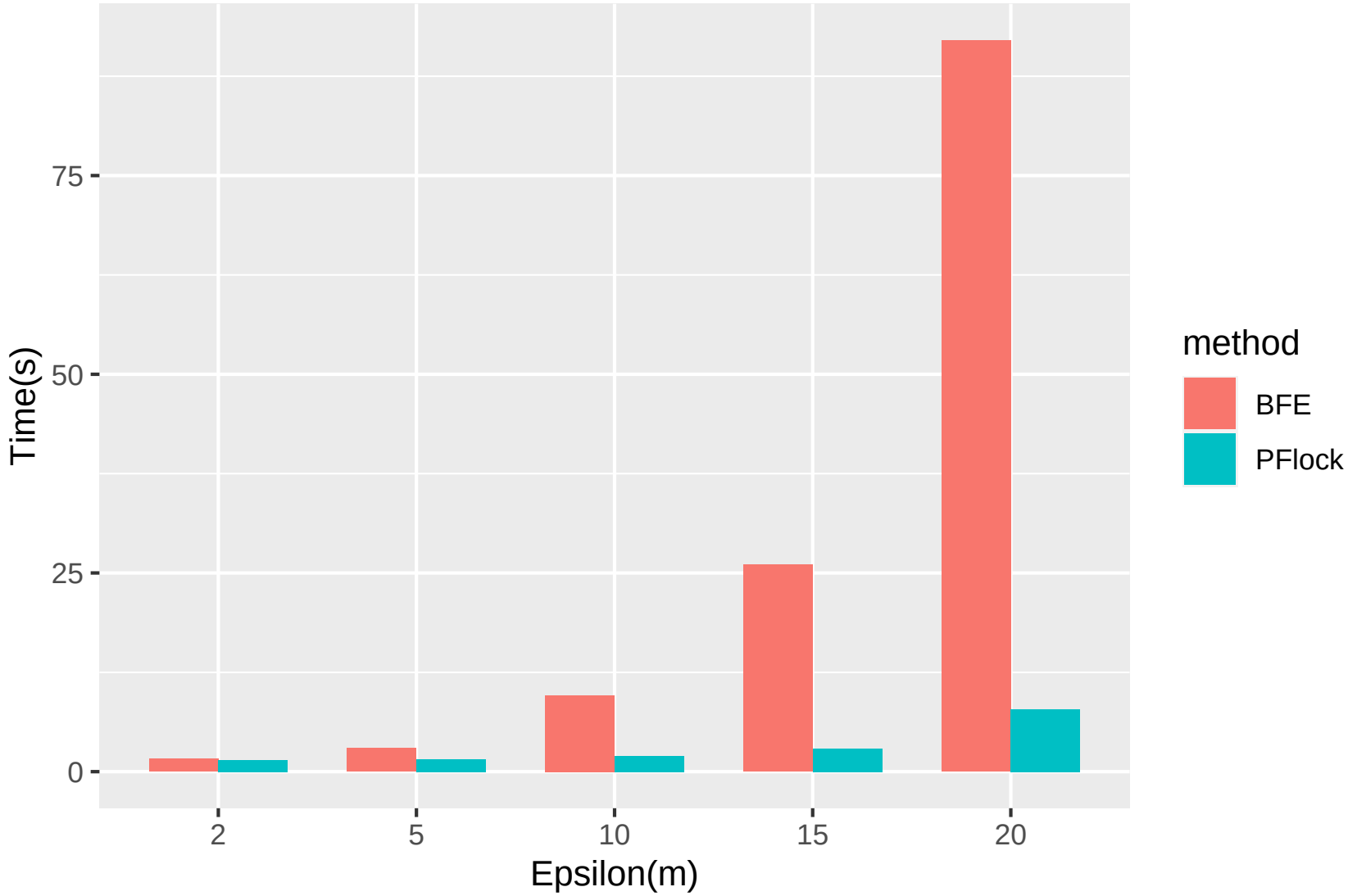






On the spatial domain

Performance...

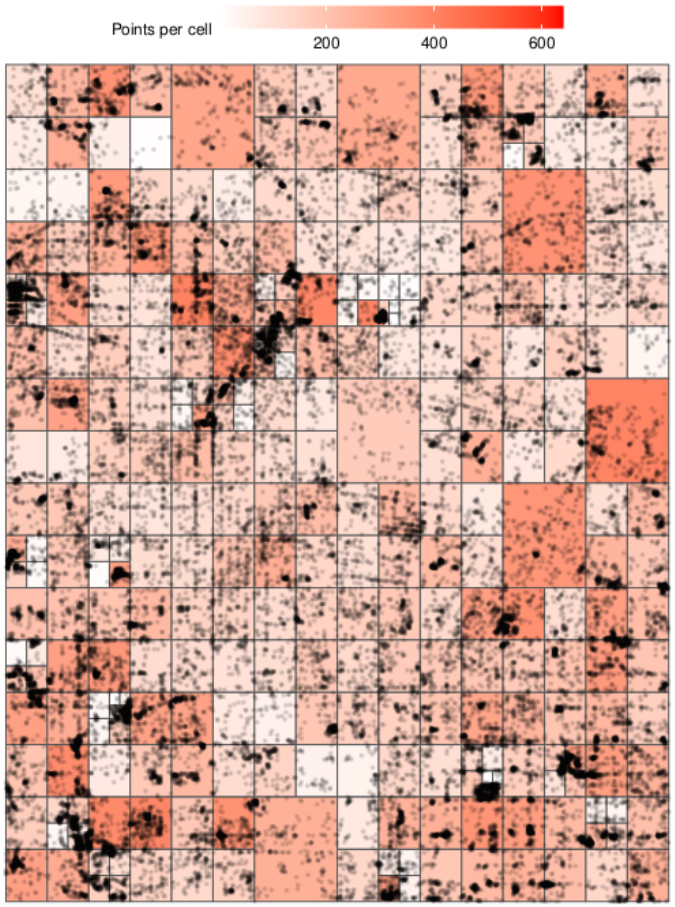


On the spatial domain

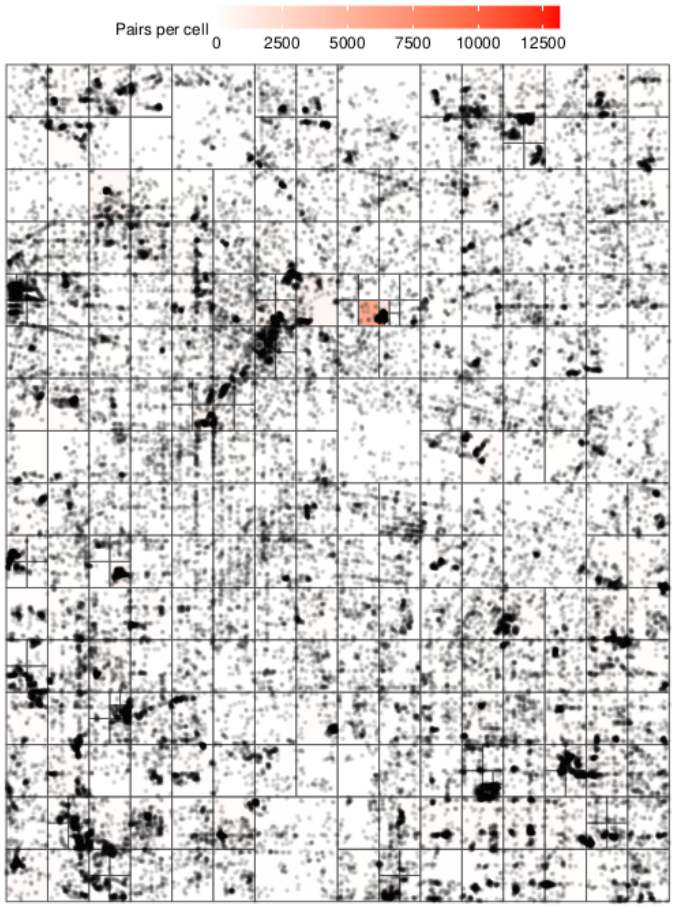
Density issues...

Time instant : 320 (capacity=400, leafs=316, epsilon=20).

	Min.	1st Qu.	Median	Mean	3rd Qu.	Max.
stats	3.00	105.25	160.00	173.25	229.25	639.00



	Min.	1st Qu.	Median	Mean	3rd Qu.	Max.
stats	0.00	12.00	45.00	346.30	120.25	13123.00

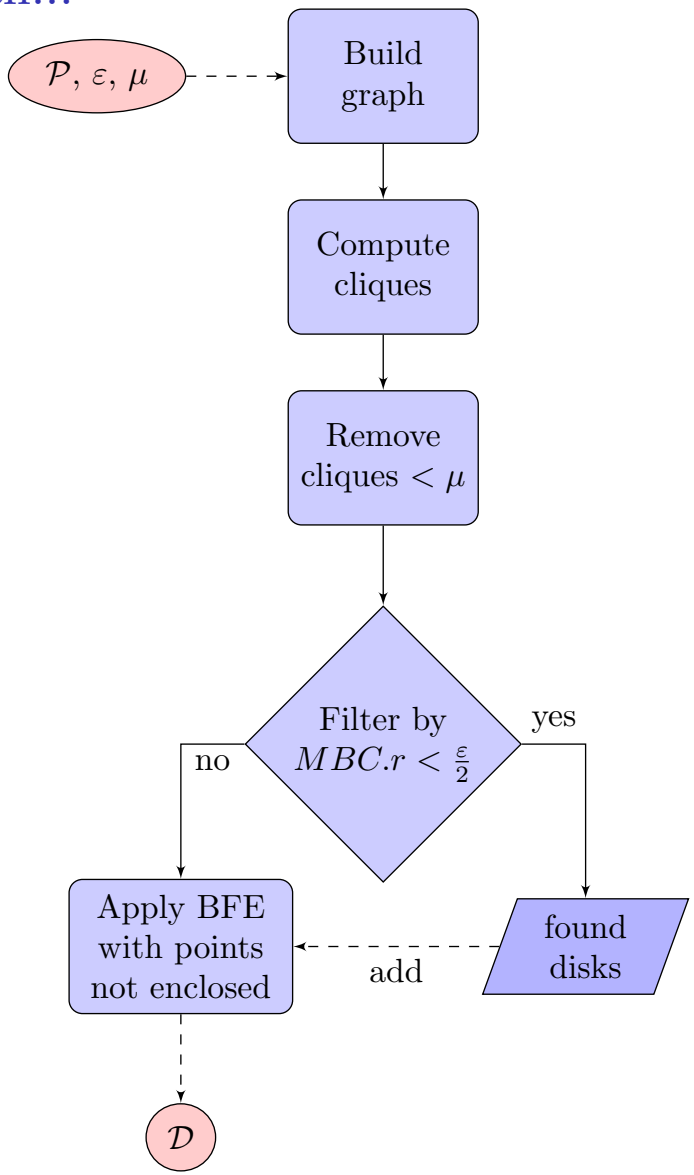


On the spatial domain

Density issues...

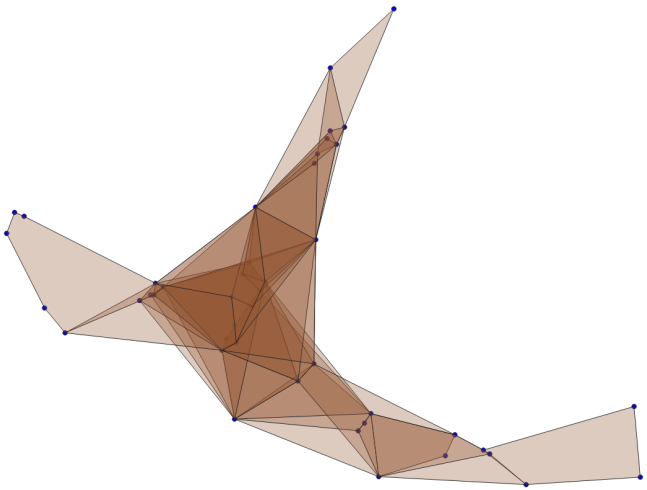
On the spatial domain

Cliques and MBCs approach...

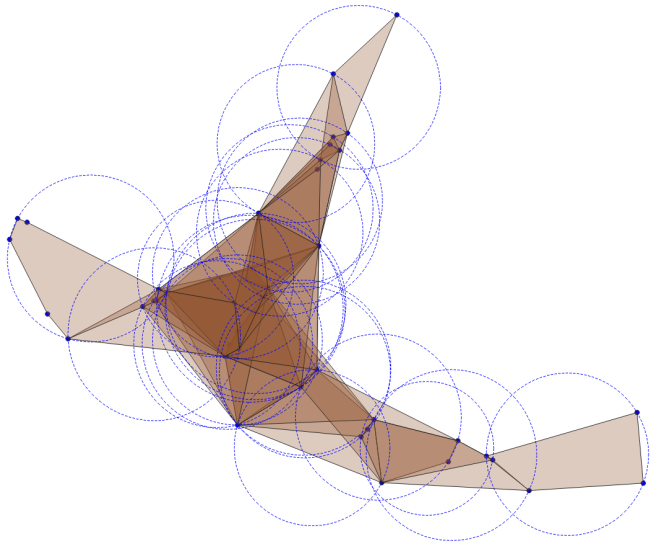


On the spatial domain

Cliques and MBCs approach...



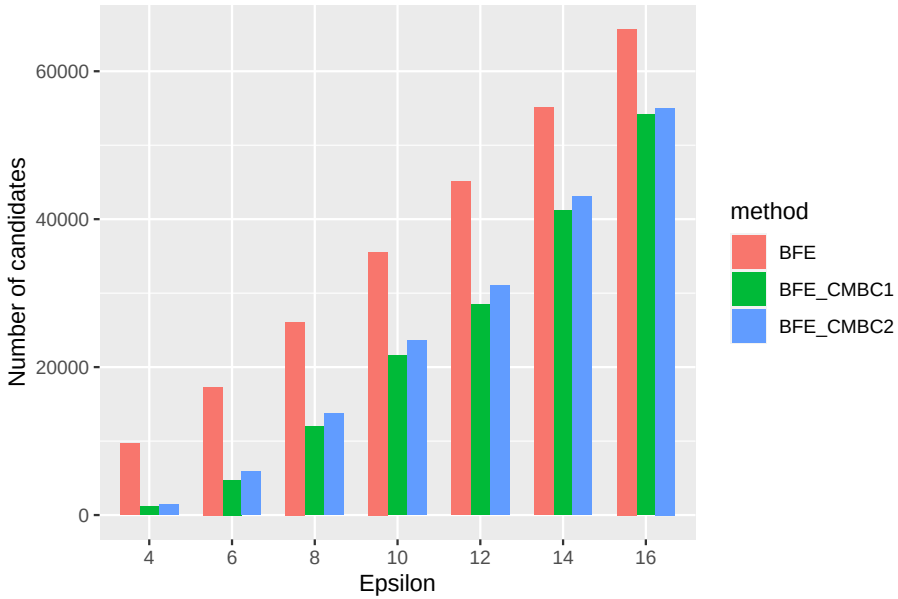
(a) Finding cliques...



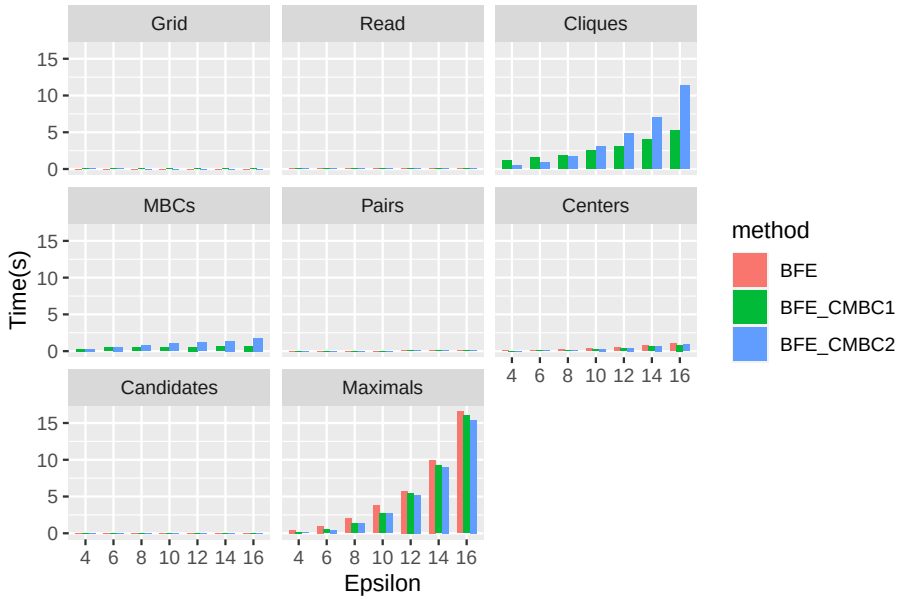
(b) Filtering by MBC...

On the spatial domain

CMBC performance (work in progress)...



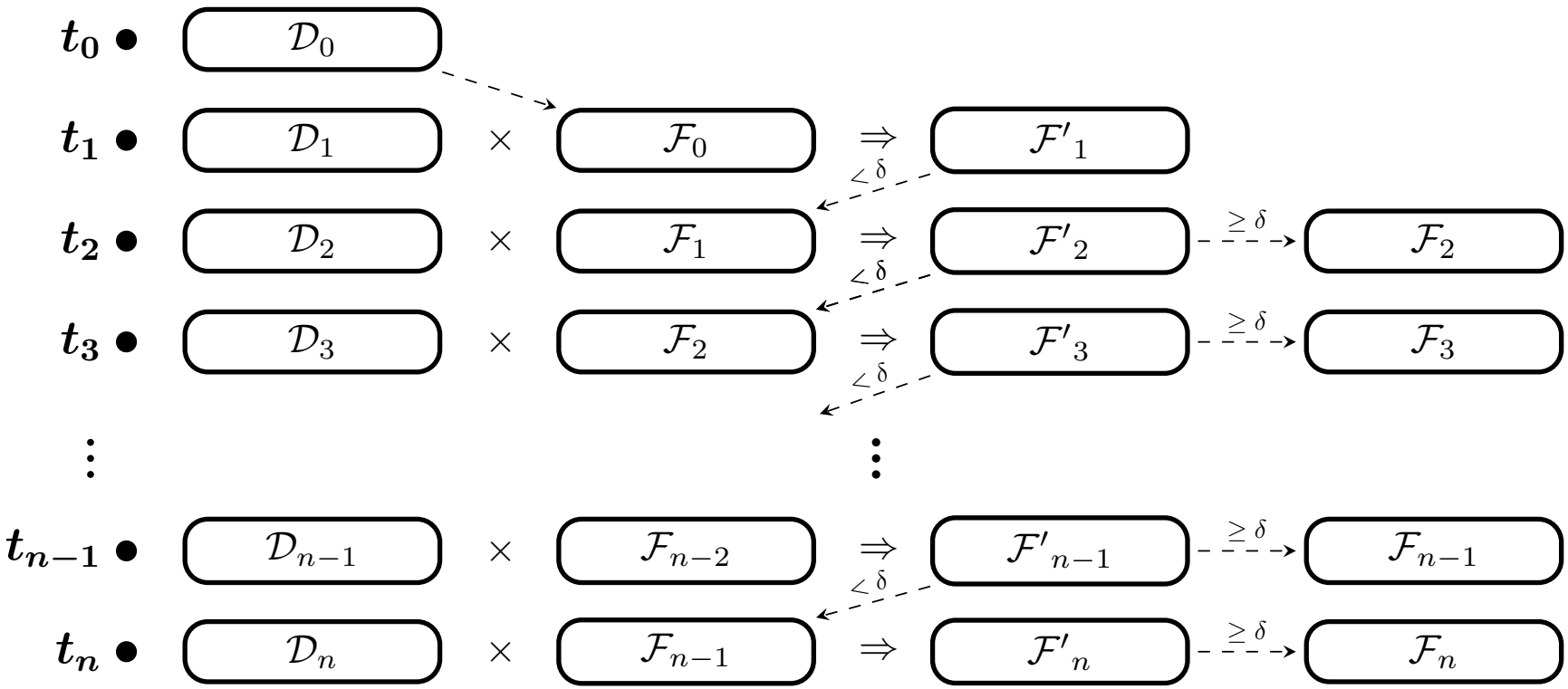
It reduces the number of candidates...



But it is quite costly...

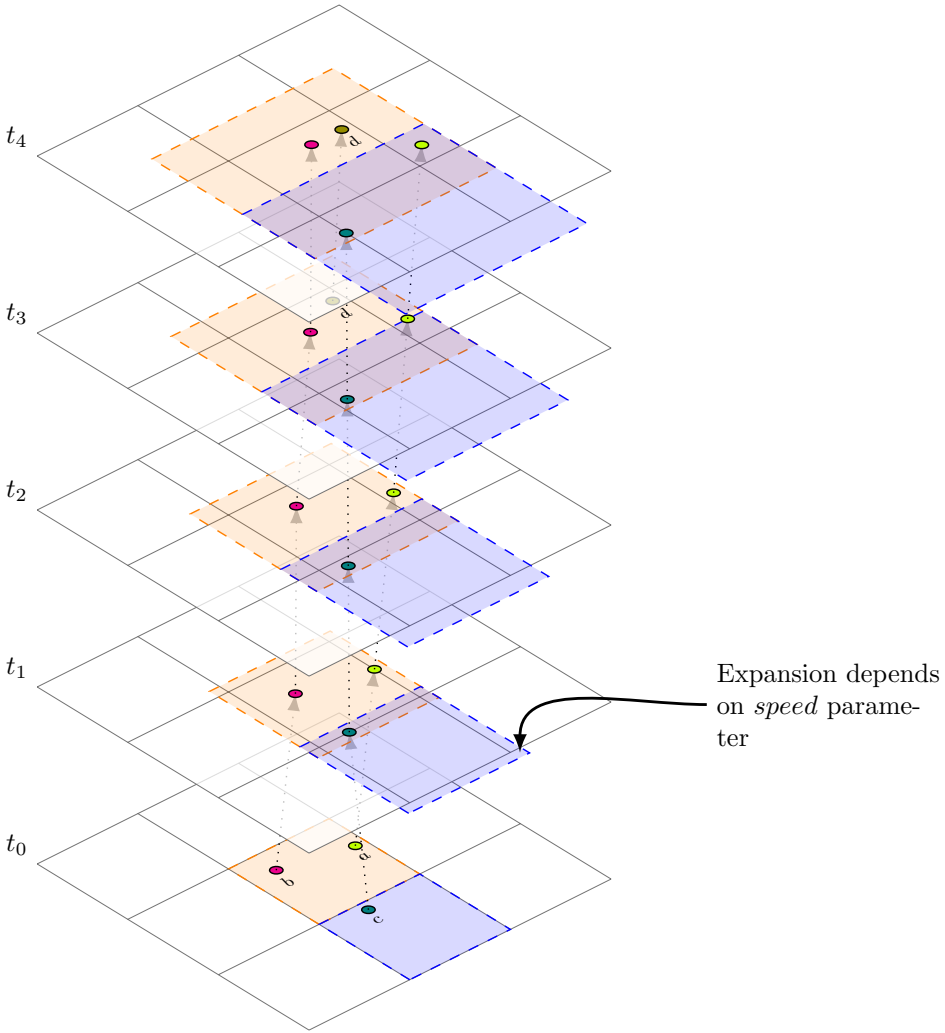
On the time domain

BFE overview...



On the time domain

Proposal...



What is next...

- Double check CMBC approach. If it prunes enough number of candidates it should gives us better times...
- Explore DBScan implementations[1] to use instead of cliques...
- Give a try to distribute the neighborhood (stencil) during the PFlock parallelization...
- Time domain implementation...

[1] https://link.springer.com/article/10.1007/s10115-016-1004-2